Enyclopedia of Historical Disciplines

Volume 1

Dave Reynolds

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by Dave Reynolds

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Chapter 1

Archaeology

Archaeology or **archeology** is the study of human activity through the recovery and analysis of material culture. Archaeology is often considered a branch of socio-cultural anthropology, but archaeologists also draw from biological, geological, and environmental systems through their study of the past. The archaeological record consists of artifacts, architecture, biofacts or ecofacts and cultural landscapes. Archaeology can be considered both a social science and a branch of the humanities. In Europe it is often viewed as either a discipline in its own right or a sub-field of other disciplines, while in North America archaeology is a sub-field of anthropology.

Archaeologists study human prehistory and history, from the development of the first stone tools at Lomekwi in East Africa 3.3 million years ago up until recent decades. Archaeology is distinct from palaeontology, which is the study of fossil remains. Archaeology is particularly important for learning about prehistoric societies, for which, by definition, there are no written records. Prehistory includes over 99% of the human past, from the Paleolithic until the advent of literacy in societies across the world. Archaeology has various goals, which range from understanding culture history to reconstructing past lifeways to documenting and explaining changes in human societies through time. Derived from the Greek, the term *archaeology* literally means “the study of ancient history.”

The discipline involves surveying, excavation and eventually analysis of data collected to learn more about the past. In broad scope, archaeology relies on cross-disciplinary research.

Archaeology developed out of antiquarianism in Europe during the 19th century, and has since become a discipline practiced across the world. Archaeology has been used by nation-states to create particular visions of the past. Since its early development, various specific sub-disciplines of archaeology have developed, including maritime archaeology, feminist archaeology and archaeoastronomy, and numerous different scientific techniques have been developed to aid archaeological investigation. Nonetheless, today, archaeologists face many problems, such as dealing with pseudoarchaeology, the looting of artifacts, a lack of public interest, and opposition to the excavation of human remains.

History

First instances of archaeology

In Ancient Mesopotamia, a foundation deposit of the Akkadian Empire ruler Naram-Sin (ruled circa 2200 BCE) was discovered and analysed by king Nabonidus, circa 550 BCE, who is thus known as the first archaeologist. Not only did he lead the first excavations which were to find the foundation deposits of the temples of Šamaš the sun god, the warrior goddess Anunitu (both located in Sippar), and the sanctuary that Naram-Sin built to the moon god, located in Harran, but he also had them restored to their former glory. He was also the first to date an archaeological artifact in his attempt to date Naram-Sin's

temple during his search for it. Even though his estimate was inaccurate by about 1,500 years, it was still a very good one considering the lack of accurate dating technology at the time.

Antiquarians

The science of archaeology (from Greekἀρχαιολογία, *archaiologia* from ἀρχαῖος, *arkhaios*, "ancient" and -λογία, *-logia*, "-logy") grew out of the older multi-disciplinary study known as antiquarianism. Antiquarians studied history with particular attention to ancient artifacts and manuscripts, as well as historical sites. Antiquarianism focused on the empirical evidence that existed for the understanding of the past, encapsulated in the motto of the 18th-century antiquary, Sir Richard Colt Hoare, "We speak from facts not theory". Tentative steps towards the systematization of archaeology as a science took place during the Enlightenment era in Europe in the 17th and 18th centuries.

In Imperial China during the Song dynasty (960-1279), figures such as Ouyang Xiu and Zhao Mingcheng established the tradition of Chinese epigraphy by investigating, preserving, and analyzing ancient Chinese bronze inscriptions from the Shang and Zhou periods. In his book published in 1088, Shen Kuo criticized contemporary Chinese scholars for attributing ancient bronze vessels as creations of famous sages rather than artisan commoners, and for attempting to revive them for ritual use without discerning their original functionality and purpose of manufacture. Such antiquarian pursuits waned after the Song period, were revived in the 17th century during the Qing dynasty, but were always considered a branch of

Chinese historiography rather than a separate discipline of archaeology.

In Renaissance Europe, philosophical interest in the remains of Greco-Roman civilization and the rediscovery of classical culture began in the late Middle Ages. Flavio Biondo, an Italian Renaissance humanist historian, created a systematic guide to the ruins and topography of ancient Rome in the early 15th century, for which he has been called an early founder of archaeology. Antiquarians of the 16th century, including John Leland and William Camden, conducted surveys of the English countryside, drawing, describing and interpreting the monuments that they encountered.

The OED first cites "archaeologist" from 1824; this soon took over as the usual term for one major branch of antiquarian activity. "Archaeology", from 1607 onwards, initially meant what we would call "ancient history" generally, with the narrower modern sense first seen in 1837.

First excavations

One of the first sites to undergo archaeological excavation was Stonehenge and other megalithic monuments in England. John Aubrey (1626–1697) was a pioneer archaeologist who recorded numerous megalithic and other field monuments in southern England. He was also ahead of his time in the analysis of his findings. He attempted to chart the chronological stylistic evolution of handwriting, medieval architecture, costume, and shield-shapes.

Excavations were also carried out by the Spanish military engineer Roque Joaquín de Alcubierre in the ancient towns of Pompeii and Herculaneum, both of which had been covered by ash during the Eruption of Mount Vesuvius in AD 79. These excavations began in 1748 in Pompeii, while in Herculaneum they began in 1738. The discovery of entire towns, complete with utensils and even human shapes, as well the unearthing of frescos, had a big impact throughout Europe.

However, prior to the development of modern techniques, excavations tended to be haphazard; the importance of concepts such as stratification and context were overlooked.

Development of archaeological method

The father of archaeological excavation was William Cunnington (1754–1810). He undertook excavations in Wiltshire from around 1798, funded by Sir Richard Colt Hoare. Cunnington made meticulous recordings of Neolithic and Bronze Agebarrows, and the terms he used to categorize and describe them are still used by archaeologists today.

One of the major achievements of 19th-century archaeology was the development of stratigraphy. The idea of overlapping strata tracing back to successive periods was borrowed from the new geological and paleontological work of scholars like William Smith, James Hutton and Charles Lyell. The application of stratigraphy to archaeology first took place with the excavations of prehistorical and Bronze Age sites. In the third and fourth decades of the 19th-century, archaeologists like Jacques Boucher de Perthes and Christian Jürgensen

Thomsen began to put the artifacts they had found in chronological order.

A major figure in the development of archaeology into a rigorous science was the army officer and ethnologist, Augustus Pitt Rivers, who began excavations on his land in England in the 1880s. His approach was highly methodical by the standards of the time, and he is widely regarded as the first scientific archaeologist. He arranged his artifacts by type or "typologically, and within types by date or "chronologically". This style of arrangement, designed to highlight the evolutionary trends in human artifacts, was of enormous significance for the accurate dating of the objects. His most important methodological innovation was his insistence that *all* artifacts, not just beautiful or unique ones, be collected and catalogued.

- William Flinders Petrie is another man who may legitimately be called the Father of Archaeology. His painstaking recording and study of artifacts, both in Egypt and later in Palestine, laid down many of the ideas behind modern archaeological recording; he remarked that "I believe the true line of research lies in the noting and comparison of the smallest details." Petrie developed the system of dating layers based on pottery and ceramic findings, which revolutionized the chronological basis of Egyptology. Petrie was the first to scientifically investigate the Great Pyramid in Egypt during the 1880s. He was also responsible for mentoring and training a whole generation of Egyptologists, including Howard Carter

who went on to achieve fame with the discovery of the tomb of 14th-century BC pharaoh Tutankhamun.

The first stratigraphic excavation to reach wide popularity with public was that of Hissarlik, on the site of ancient Troy, carried out by Heinrich Schliemann, Frank Calvert and Wilhelm Dörpfeld in the 1870s. These scholars individuated nine different cities that had overlapped with one another, from prehistory to the Hellenistic period. Meanwhile, the work of Sir Arthur Evans at Knossos in Crete revealed the ancient existence of an equally advanced Minoan civilization. The next major figure in the development of archaeology was Sir Mortimer Wheeler, whose highly disciplined approach to excavation and systematic coverage in the 1920s and 1930s brought the science on swiftly. Wheeler developed the grid system of excavation, which was further improved by his student Kathleen Kenyon. Archaeology became a professional activity in the first half of the 20th century, and it became possible to study archaeology as a subject in universities and even schools. By the end of the 20th century nearly all professional archaeologists, at least in developed countries, were graduates. Further adaptation and innovation in archaeology continued in this period, when maritime archaeology and urban archaeology became more prevalent and rescue archaeology was developed as a result of increasing commercial development.

Purpose

The purpose of archaeology is to learn more about past societies and the development of the human race. Over 99% of

the development of humanity has occurred within prehistoric cultures, who did not make use of writing, thereby no written records exist for study purposes. Without such written sources, the only way to understand prehistoric societies is through archaeology. Because archaeology is the study of past human activity, it stretches back to about 2.5 million years ago when we find the first stone tools – The Oldowan Industry. Many important developments in human history occurred during prehistory, such as the evolution of humanity during the Paleolithic period, when the hominins developed from the australopithecines in Africa and eventually into modern *Homo sapiens*. Archaeology also sheds light on many of humanity's technological advances, for instance the ability to use fire, the development of stone tools, the discovery of metallurgy, the beginnings of religion and the creation of agriculture. Without archaeology, we would know little or nothing about the use of material culture by humanity that pre-dates writing.

However, it is not only prehistoric, pre-literate cultures that can be studied using archaeology but historic, literate cultures as well, through the sub-discipline of historical archaeology. For many literate cultures, such as Ancient Greece and Mesopotamia, their surviving records are often incomplete and biased to some extent. In many societies, literacy was restricted to the elite classes, such as the clergy or the bureaucracy of court or temple. The literacy even of aristocrats has sometimes been restricted to deeds and contracts. The interests and world-view of elites are often quite different from the lives and interests of the populace. Writings that were produced by people more representative of the general population were unlikely to find their way into libraries and be preserved there for posterity. Thus, written records tend to

reflect the biases, assumptions, cultural values and possibly deceptions of a limited range of individuals, usually a small fraction of the larger population. Hence, written records cannot be trusted as a sole source. The material record may be closer to a fair representation of society, though it is subject to its own biases, such as sampling bias and differential preservation.

Often, archaeology provides the only means to learn of the existence and behaviors of people of the past. Across the millennia many thousands of cultures and societies and billions of people have come and gone of which there is little or no written record or existing records are misrepresentative or incomplete. Writing as it is known today did not exist in human civilization until the 4th millennium BC, in a relatively small number of technologically advanced civilizations. In contrast, *Homo sapiens* has existed for at least 200,000 years, and other species of *Homo* for millions of years (see Human evolution). These civilizations are, not coincidentally, the best-known; they are open to the inquiry of historians for centuries, while the study of pre-historic cultures has arisen only recently. Even within a literate civilization many events and important human practices are not officially recorded. Any knowledge of the early years of human civilization – the development of agriculture, cult practices of folk religion, the rise of the first cities – must come from archaeology.

In addition to their scientific importance, archaeological remains sometimes have political or cultural significance to descendants of the people who produced them, monetary value to collectors, or simply strong aesthetic appeal. Many people identify archaeology with the recovery of such aesthetic,

religious, political, or economic treasures rather than with the reconstruction of past societies.

This view is often espoused in works of popular fiction, such as Raiders of the Lost Ark, The Mummy, and King Solomon's Mines. When such unrealistic subjects are treated more seriously, accusations of pseudoscience are invariably levelled at their proponents *(see Pseudoarchaeology)*. However, these endeavours, real and fictional, are not representative of modern archaeology.

Theory

There is no one approach to archaeological theory that has been adhered to by all archaeologists. When archaeology developed in the late 19th century, the first approach to archaeological theory to be practiced was that of cultural-history archaeology, which held the goal of explaining why cultures changed and adapted rather than just highlighting the fact that they did, therefore emphasizing historical particularism. In the early 20th century, many archaeologists who studied past societies with direct continuing links to existing ones (such as those of Native Americans, Siberians, Mesoamericans etc.) followed the direct historical approach, compared the continuity between the past and contemporary ethnic and cultural groups. In the 1960s, an archaeological movement largely led by American archaeologists like Lewis Binford and Kent Flannery arose that rebelled against the established cultural-history archaeology. They proposed a "New Archaeology", which would be more "scientific" and "anthropological", with hypothesis testing and the scientific

method very important parts of what became known as processual archaeology.

In the 1980s, a new postmodern movement arose led by the British archaeologists Michael Shanks, Christopher Tilley, Daniel Miller, and Ian Hodder, which has become known as post-processual archaeology. It questioned processualism's appeals to scientific positivism and impartiality, and emphasized the importance of a more self-critical theoretical reflexivity. However, this approach has been criticized by processualists as lacking scientific rigor, and the validity of both processualism and post-processualism is still under debate. Meanwhile, another theory, known as historical processualism has emerged seeking to incorporate a focus on process and post-processual archaeology's emphasis of reflexivity and history.

Archaeological theory now borrows from a wide range of influences, including neo-evolutionary thought,[35]phenomenology, postmodernism, agency theory, cognitive science, structural functionalism, gender-based and feminist archaeology, and systems theory.

Methods

An archaeological investigation usually involves several distinct phases, each of which employs its own variety of methods. Before any practical work can begin, however, a clear objective as to what the archaeologists are looking to achieve must be agreed upon. This done, a site is surveyed to find out as much as possible about it and the surrounding area.

Second, an excavation may take place to uncover any archaeological features buried under the ground. And, third, the information collected during the excavation is studied and evaluated in an attempt to achieve the original research objectives of the archaeologists. It is then considered good practice for the information to be published so that it is available to other archaeologists and historians, although this is sometimes neglected.

Remote sensing

Before actually starting to dig in a location, remote sensing can be used to look where sites are located within a large area or provide more information about sites or regions. There are two types of remote sensing instruments—passive and active. Passive instruments detect natural energy that is reflected or emitted from the observed scene. Passive instruments sense only radiation emitted by the object being viewed or reflected by the object from a source other than the instrument. Active instruments emit energy and record what is reflected. Satellite imagery is an example of passive remote sensing. Here are two active remote sensing instruments:

Lidar (Light Detection and Ranging) A lidar uses a laser (light amplification by stimulated emission of radiation) to transmit a light pulse and a receiver with sensitive detectors to measure the backscattered or reflected light. Distance to the object is determined by recording the time between the transmitted and backscattered pulses and using the speed of light to calculate the distance travelled. Lidars can determine atmospheric profiles of aerosols, clouds, and other constituents of the atmosphere.

Laser altimeterA laser altimeter uses a lidar (see above) to measure the height of the instrument platform above the surface. By independently knowing the height of the platform with respect to the mean Earth's surface, the topography of the underlying surface can be determined.

Field survey

The archaeological project then continues (or alternatively, begins) with a field survey. Regional survey is the attempt to systematically locate previously unknown sites in a region. Site survey is the attempt to systematically locate features of interest, such as houses and middens, within a site. Each of these two goals may be accomplished with largely the same methods.

Survey was not widely practiced in the early days of archaeology. Cultural historians and prior researchers were usually content with discovering the locations of monumental sites from the local populace, and excavating only the plainly visible features there. Gordon Willey pioneered the technique of regional settlement pattern survey in 1949 in the Viru Valley of coastal Peru, and survey of all levels became prominent with the rise of processual archaeology some years later.

Survey work has many benefits if performed as a preliminary exercise to, or even in place of, excavation. It requires relatively little time and expense, because it does not require processing large volumes of soil to search out artifacts. (Nevertheless, surveying a large region or site can be expensive, so archaeologists often employ sampling methods.) As with other forms of non-destructive archaeology, survey

avoids ethical issues (of particular concern to descendant peoples) associated with destroying a site through excavation. It is the only way to gather some forms of information, such as settlement patterns and settlement structure. Survey data are commonly assembled into maps, which may show surface features and/or artifact distribution.

The simplest survey technique is surface survey. It involves combing an area, usually on foot but sometimes with the use of mechanized transport, to search for features or artifacts visible on the surface. Surface survey cannot detect sites or features that are completely buried under earth, or overgrown with vegetation. Surface survey may also include mini-excavation techniques such as augers, corers, and shovel test pits. If no materials are found, the area surveyed is deemed sterile.

Aerial survey is conducted using cameras attached to airplanes, balloons, UAVs, or even Kites. A bird's-eye view is useful for quick mapping of large or complex sites. Aerial photographs are used to document the status of the archaeological dig. Aerial imaging can also detect many things not visible from the surface. Plants growing above a buried man made structure, such as a stone wall, will develop more slowly, while those above other types of features (such as middens) may develop more rapidly. Photographs of ripening grain, which changes colour rapidly at maturation, have revealed buried structures with great precision. Aerial photographs taken at different times of day will help show the outlines of structures by changes in shadows. Aerial survey also employs ultraviolet, infrared, ground-penetrating radar wavelengths, LiDAR and thermography.

Geophysical survey can be the most effective way to see beneath the ground. Magnetometers detect minute deviations in the Earth's magnetic field caused by iron artifacts, kilns, some types of stone structures, and even ditches and middens. Devices that measure the electrical resistivity of the soil are also widely used. Archaeological features whose electrical resistivity contrasts with that of surrounding soils can be detected and mapped. Some archaeological features (such as those composed of stone or brick) have higher resistivity than typical soils, while others (such as organic deposits or unfired clay) tend to have lower resistivity.

Although some archaeologists consider the use of metal detectors to be tantamount to treasure hunting, others deem them an effective tool in archaeological surveying. Examples of formal archaeological use of metal detectors include musketball distribution analysis on English Civil War battlefields, metal distribution analysis prior to excavation of a 19th-century ship wreck, and service cable location during evaluation. Metal detectorists have also contributed to archaeology where they have made detailed records of their results and refrained from raising artifacts from their archaeological context. In the UK, metal detectorists have been solicited for involvement in the Portable Antiquities Scheme. Regional survey in underwater archaeology uses geophysical or remote sensing devices such as marine magnetometer, side-scan sonar, or sub-bottom sonar.

Excavation

Archaeological excavation existed even when the field was still the domain of amateurs, and it remains the source of the

majority of data recovered in most field projects. It can reveal several types of information usually not accessible to survey, such as stratigraphy, three-dimensional structure, and verifiably primary context.

Modern excavation techniques require that the precise locations of objects and features, known as their provenance or provenience, be recorded. This always involves determining their horizontal locations, and sometimes vertical position as well (also see Primary Laws of Archaeology). Likewise, their association, or relationship with nearby objects and features, needs to be recorded for later analysis. This allows the archaeologist to deduce which artifacts and features were likely used together and which may be from different phases of activity. For example, excavation of a site reveals its stratigraphy; if a site was occupied by a succession of distinct cultures, artifacts from more recent cultures will lie above those from more ancient cultures.

Excavation is the most expensive phase of archaeological research, in relative terms. Also, as a destructive process, it carries ethical concerns. As a result, very few sites are excavated in their entirety. Again the percentage of a site excavated depends greatly on the country and "method statement" issued. Sampling is even more important in excavation than in survey. Sometimes large mechanical equipment, such as backhoes (JCBs), is used in excavation, especially to remove the topsoil (overburden), though this method is increasingly used with great caution. Following this rather dramatic step, the exposed area is usually hand-cleaned with trowels or hoes to ensure that all features are apparent.

The next task is to form a site plan and then use it to help decide the method of excavation. Features dug into the natural subsoil are normally excavated in portions to produce a visible archaeological section for recording. A feature, for example a pit or a ditch, consists of two parts: the cut and the fill. The cut describes the edge of the feature, where the feature meets the natural soil. It is the feature's boundary. The fill is what the feature is filled with, and will often appear quite distinct from the natural soil. The cut and fill are given consecutive numbers for recording purposes. Scaled plans and sections of individual features are all drawn on site, black and white and colour photographs of them are taken, and recording sheets are filled in describing the context of each. All this information serves as a permanent record of the now-destroyed archaeology and is used in describing and interpreting the site.

Analysis

Once artifacts and structures have been excavated, or collected from surface surveys, it is necessary to properly study them. This process is known as post-excavation analysis, and is usually the most time-consuming part of an archaeological investigation. It is not uncommon for final excavation reports for major sites to take years to be published.

At a basic level of analysis, artifacts found are cleaned, catalogued and compared to published collections. This comparison process often involves classifying them typologically and identifying other sites with similar artifact assemblages. However, a much more comprehensive range of analytical techniques are available through archaeological science, meaning that artifacts can be dated and their

compositions examined. Bones, plants, and pollen collected from a site can all be analyzed using the methods of zooarchaeology, paleoethnobotany, palynology and stable isotopes while any texts can usually be deciphered.

These techniques frequently provide information that would not otherwise be known, and therefore they contribute greatly to the understanding of a site.

Computational and virtual archaeology

Computer graphics are now used to build virtual 3D models of sites, such as the throne room of an Assyrian palace or ancient Rome. Photogrammetry is also used as an analytical tool, and digital topographical models have been combined with astronomical calculations to verify whether or not certain structures (such as pillars) were aligned with astronomical events such as the sun's position at a solstice. Agent-based modeling and simulation can be used to better understand past social dynamics and outcomes. Data mining can be applied to large bodies of archaeological 'grey literature'.

Drones

Archaeologists around the world use drones to speed up survey work and protect sites from squatters, builders and miners. In Peru, small drones helped researchers produce three-dimensional models of Peruvian sites instead of the usual flat maps – and in days and weeks instead of months and years.

Drones costing as little as £650 have proven useful. In 2013, drones have flown over at least six Peruvian archaeological sites, including the colonial Andean town Machu Llacta 4,000 metres (13,000 ft) above sea level. The drones continue to have altitude problems in the Andes, leading to plans to make a drone blimp, employing open source software.

Jeffrey Quilter, an archaeologist with Harvard University said, "You can go up three metres and photograph a room, 300 metres and photograph a site, or you can go up 3,000 metres and photograph the entire valley."

In September 2014 drones weighing about 5 kg (11 lb) were used for 3D mapping of the above-ground ruins of the Greek city of Aphrodisias. The data are being analysed by the Austrian Archaeological Institute in Vienna.

Academic sub-disciplines

As with most academic disciplines, there are a very large number of archaeological sub-disciplines characterized by a specific method or type of material (e.g., lithic analysis, music, archaeobotany), geographical or chronological focus (e.g. Near Eastern archaeology, Islamic archaeology, Medieval archaeology), other thematic concern (e.g. maritime archaeology, landscape archaeology, battlefield archaeology), or a specific archaeological culture or civilization (e.g. Egyptology, Indology, Sinology).

Historical archaeology

Historical archaeology is the study of cultures with some form of writing.

In England, archaeologists have uncovered layouts of 14th century medieval villages, abandoned after crises such as the Black Death. In downtown New York City, archaeologists have exhumed the 18th century remains of the African Burial Ground. When remnants of the WWIISiegfried Line were being destroyed, emergency archaeological digs took place whenever any part of the line was removed, to further scientific knowledge and reveal details of the line's construction.

Ethnoarchaeology

Ethnoarchaeology is the ethnographic study of living people, designed to aid in our interpretation of the archaeological record. The approach first gained prominence during the processual movement of the 1960s, and continues to be a vibrant component of post-processual and other current archaeological approaches. Early ethnoarchaeological research focused on hunter-gatherer or foraging societies; today ethnoarchaeological research encompasses a much wider range of human behaviour.

Experimental archaeology

Experimental archaeology represents the application of the experimental method to develop more highly controlled observations of processes that create and impact the

archaeological record. In the context of the logical positivism of processualism with its goals of improving the scientific rigor of archaeological epistemologies the experimental method gained importance. Experimental techniques remain a crucial component to improving the inferential frameworks for interpreting the archaeological record.

Archaeometry

Archaeometry aims to systematize archaeological measurement. It emphasizes the application of analytical techniques from physics, chemistry, and engineering. It is a field of research that frequently focuses on the definition of the chemical composition of archaeological remains for source analysis. Archaeometry also investigates different spatial characteristics of features, employing methods such as space syntax techniques and geodesy as well as computer-based tools such as geographic information system technology. Rare earth elements patterns may also be used. A relatively nascent subfield is that of archaeological materials, designed to enhance understanding of prehistoric and non-industrial culture through scientific analysis of the structure and properties of materials associated with human activity.

Cultural resources management

Archaeology can be a subsidiary activity within Cultural resources management (CRM), also called Cultural heritage management (CHM) in the United Kingdom. CRM archaeologists frequently examine archaeological sites that are threatened by development. Today, CRM accounts for most of the

archaeological research done in the United States and much of that in western Europe as well. In the US, CRM archaeology has been a growing concern since the passage of the National Historic Preservation Act (NHPA) of 1966, and most taxpayers, scholars, and politicians believe that CRM has helped preserve much of that nation's history and prehistory that would have otherwise been lost in the expansion of cities, dams, and highways. Along with other statutes, the NHPA mandates that projects on federal land or involving federal funds or permits consider the effects of the project on each archaeological site.

The application of CRM in the United Kingdom is not limited to government-funded projects. Since 1990, PPG 16 has required planners to consider archaeology as a material consideration in determining applications for new development. As a result, numerous archaeological organizations undertake mitigation work in advance of (or during) construction work in archaeologically sensitive areas, at the developer's expense.

In England, ultimate responsibility of care for the historic environment rests with the Department for Culture, Media and Sport in association with English Heritage. In Scotland, Wales and Northern Ireland, the same responsibilities lie with Historic Scotland, Cadw and the Northern Ireland Environment Agency respectively.

In France, the Institut national du patrimoine (The National Institute of Cultural Heritage) trains curators specialized in archaeology. Their mission is to enhance the objects discovered. The curator is the link between scientific knowledge, administrative regulations, heritage objects and the public.

Among the goals of CRM are the identification, preservation, and maintenance of cultural sites on public and private lands, and the removal of culturally valuable materials from areas where they would otherwise be destroyed by human activity, such as proposed construction. This study involves at least a cursory examination to determine whether or not any significant archaeological sites are present in the area affected by the proposed construction. If these do exist, time and money must be allotted for their excavation. If initial survey and/or test excavations indicate the presence of an extraordinarily valuable site, the construction may be prohibited entirely.

Cultural resources management has, however, been criticized. CRM is conducted by private companies that bid for projects by submitting proposals outlining the work to be done and an expected budget. It is not unheard-of for the agency responsible for the construction to simply choose the proposal that asks for the least funding. CRM archaeologists face considerable time pressure, often being forced to complete their work in a fraction of the time that might be allotted for a purely scholarly endeavour. Compounding the time pressure is the vetting process of site reports that are required (in the US) to be submitted by CRM firms to the appropriate State Historic Preservation Office (SHPO). From the SHPO's perspective there is to be no difference between a report submitted by a CRM firm operating under a deadline, and a multi-year academic project. The end result is that for a Cultural Resource Management archaeologist to be successful, they must be able to produce academic quality documents at a corporate world pace.

The annual ratio of open academic archaeology positions (inclusive of post-doc, temporary, and non- tenure track appointments) to the annual number of archaeology MA/MSc and PhD students is disproportionate. Cultural Resource Management, once considered an intellectual backwater for individuals with "strong backs and weak minds," has attracted these graduates, and CRM offices are thus increasingly staffed by advance degreed individuals with a track record of producing scholarly articles but who also have extensive CRM field experience.

Protection

The protection of archaeological finds for the public from catastrophes, wars and armed conflicts is increasingly being implemented internationally. This happens on the one hand through international agreements and on the other hand through organizations that monitor or enforce protection. United Nations, UNESCO and Blue Shield International deal with the protection of cultural heritage and thus also archaeological sites. This also applies to the integration of United Nations peacekeeping. Blue Shield International has undertaken various fact-finding missions in recent years to protect archaeological sites during the wars in Libya, Syria, Egypt and Lebanon. The importance of archaeological finds for identity, tourism and sustainable economic growth is repeatedly emphasized internationally.

The President of Blue Shield International, Karl von Habsburg, said during a cultural property protection mission in Lebanon in April 2019 with the United Nations Interim Force in

Lebanon: “Cultural assets are part of the identity of the people who live in a certain place. If you destroy their culture, you also destroy their identity. Many people are uprooted, often have no prospects anymore and subsequently flee from their homeland."

Popular views of archaeology

Early archaeology was largely an attempt to uncover spectacular artifacts and features, or to explore vast and mysterious abandoned cities and was mostly done by upper class, scholarly men. This general tendency laid the foundation for the modern popular view of archaeology and archaeologists. Many of the public view archaeology as something only available to a narrow demographic. The job of archaeologist is depicted as a "romantic adventurist occupation". and as a hobby more than a job in the scientific community. Cinema audiences form a notion of "who archaeologists are, why they do what they do, and how relationships to the past are constituted", and is often under the impression that all archaeology takes place in a distant and foreign land, only to collect monetarily or spiritually priceless artifacts. The modern depiction of archaeology has incorrectly formed the public's perception of what archaeology is.

Much thorough and productive research has indeed been conducted in dramatic locales such as Copán and the Valley of the Kings, but the bulk of activities and finds of modern archaeology are not so sensational. Archaeological adventure stories tend to ignore the painstaking work involved in carrying out modern surveys, excavations, and data processing. Some

archaeologists refer to such off-the-mark portrayals as "pseudoarchaeology". Archaeologists are also very much reliant on public support; the question of exactly who they are doing their work for is often discussed.

Current issues and controversy

Public archaeology

Motivated by a desire to halt looting, curb pseudoarchaeology, and to help preserve archaeological sites through education and fostering public appreciation for the importance of archaeological heritage, archaeologists are mounting public-outreach campaigns. They seek to stop looting by combatting people who illegally take artifacts from protected sites, and by alerting people who live near archaeological sites of the threat of looting. Common methods of public outreach include press releases, the encouragement of school field trips to sites under excavation by professional archaeologists, and making reports and publications accessible outside of academia. Public appreciation of the significance of archaeology and archaeological sites often leads to improved protection from encroaching development or other threats.

One audience for archaeologists' work is the public. They increasingly realize that their work can benefit non-academic and non-archaeological audiences, and that they have a responsibility to educate and inform the public about archaeology. Local heritage awareness is aimed at increasing civic and individual pride through projects such as community excavation projects, and better public presentations of

archaeological sites and knowledge. The U.S.Dept. of Agriculture, Forest Service (USFS) operates a volunteer archaeology and historic preservation program called the Passport in Time (PIT). Volunteers work with professional USFS archaeologists and historians on national forests throughout the U.S. Volunteers are involved in all aspects of professional archaeology under expert supervision.

Television programs, web videos and social media can also bring an understanding of underwater archaeology to a broad audience. The *Mardi Gras* Shipwreck Project integrated a one-hour HD documentary, short videos for public viewing and video updates during the expedition as part of the educational outreach. Webcasting is also another tool for educational outreach. For one week in 2000 and 2001, live underwater video of the *Queen Anne's Revenge* Shipwreck Project was webcast to the Internet as a part of the *QAR DiveLive* educational program that reached thousands of children around the world. Created and co-produced by Nautilus Productions and Marine Grafics, this project enabled students to talk to scientists and learn about methods and technologies utilized by the underwater archaeology team.

In the UK, popular archaeology programs such as *Time Team* and *Meet the Ancestors* have resulted in a huge upsurge in public interest. Where possible, archaeologists now make more provisions for public involvement and outreach in larger projects than they once did, and many local archaeological organizations operate within the Community archaeology framework to expand public involvement in smaller-scale, more local projects. Archaeological excavation, however, is best undertaken by well-trained staff that can work quickly and

accurately. Often this requires observing the necessary health and safety and indemnity insurance issues involved in working on a modern building site with tight deadlines. Certain charities and local government bodies sometimes offer places on research projects either as part of academic work or as a defined community project. There is also a flourishing industry selling places on commercial training excavations and archaeological holiday tours.

Archaeologists prize local knowledge and often liaise with local historical and archaeological societies, which is one reason why Community archaeology projects are starting to become more common. Often archaeologists are assisted by the public in the locating of archaeological sites, which professional archaeologists have neither the funding, nor the time to do.

Archaeological Legacy Institute (ALI), is a registered 501[c] [3] non-profit, media and education corporation registered in Oregon in 1999. ALI founded a website, The Archaeology Channel to support the organization's mission "to nurturing and bringing attention to the human cultural heritage, by using media in the most efficient and effective ways possible."

Pseudoarchaeology

Pseudoarchaeology is an umbrella term for all activities that falsely claim to be archaeological but in fact violate commonly accepted and scientific archaeological practices. It includes much fictional archaeological work (discussed above), as well as some actual activity. Many non-fiction authors have ignored the scientific methods of processual archaeology, or the specific critiques of it contained in post-processualism.

An example of this type is the writing of Erich von Däniken. His 1968 book, *Chariots of the Gods?*, together with many subsequent lesser-known works, expounds a theory of ancient contacts between human civilization on Earth and more technologically advanced extraterrestrial civilizations. This theory, known as palaeocontact theory, or Ancient astronaut theory, is not exclusively Däniken's, nor did the idea originate with him. Works of this nature are usually marked by the renunciation of well-established theories on the basis of limited evidence, and the interpretation of evidence with a preconceived theory in mind.

Looting

Looting of archaeological sites is an ancient problem. For instance, many of the tombs of the Egyptian pharaohs were looted during antiquity. Archaeology stimulates interest in ancient objects, and people in search of artifacts or treasure cause damage to archaeological sites. The commercial and academic demand for artifacts unfortunately contributes directly to the illicit antiquities trade. Smuggling of antiquities abroad to private collectors has caused great cultural and economic damage in many countries whose governments lack the resources and or the will to deter it. Looters damage and destroy archaeological sites, denying future generations information about their ethnic and cultural heritage. Indigenous peoples especially lose access to and control over their 'cultural resources', ultimately denying them the opportunity to know their past.

In 1937, W. F. Hodge the Director of the Southwest Museum released a statement that the museum would no longer

purchase or accept collections from looted contexts. The first conviction of the transport of artifacts illegally removed from private property under the Archaeological Resources Protection Act (ARPA; Public Law 96-95; 93 Statute 721; 16 U.S.C. § 470aamm) was in 1992 in the State of Indiana.

Archaeologists trying to protect artifacts may be placed in danger by looters or locals trying to protect the artifacts from archaeologists who are viewed as looters by the locals.

Some historical archaeology sites are subjected to looting by metal detector hobbyists who search for artifacts using increasingly advanced technology. Efforts are underway among all major Archaeological organizations to increase education and legitimate cooperation between amateurs and professionals in the metal detecting community.

While most looting is deliberate, accidental looting can occur when amateurs, who are unaware of the importance of Archaeological rigor, collect artifacts from sites and place them into private collections.

Descendant peoples

In the United States, examples such as the case of Kennewick Man have illustrated the tensions between Native Americans and archaeologists, which can be summarized as a conflict between a need to remain respectful toward sacred burial sites and the academic benefit from studying them. For years, American archaeologists dug on Indian burial grounds and other places considered sacred, removing artifacts and human remains to storage facilities for further study. In some cases

human remains were not even thoroughly studied but instead archived rather than reburied. Furthermore, Western archaeologists' views of the past often differ from those of tribal peoples. The West views time as linear; for many natives, it is cyclic. From a Western perspective, the past is long-gone; from a native perspective, disturbing the past can have dire consequences in the present.

As a consequence of this, American Indians attempted to prevent archaeological excavation of sites inhabited by their ancestors, while American archaeologists believed that the advancement of scientific knowledge was a valid reason to continue their studies. This contradictory situation was addressed by the Native American Graves Protection and Repatriation Act (NAGPRA, 1990), which sought to reach a compromise by limiting the right of research institutions to possess human remains. Due in part to the spirit of postprocessualism, some archaeologists have begun to actively enlist the assistance of indigenous peoples likely to be descended from those under study.

Archaeologists have also been obliged to re-examine what constitutes an archaeological site in view of what native peoples believe to constitute sacred space. To many native peoples, natural features such as lakes, mountains or even individual trees have cultural significance. Australian archaeologists especially have explored this issue and attempted to survey these sites to give them some protection from being developed. Such work requires close links and trust between archaeologists and the people they are trying to help and at the same time study.

While this cooperation presents a new set of challenges and hurdles to fieldwork, it has benefits for all parties involved. Tribal elders cooperating with archaeologists can prevent the excavation of areas of sites that they consider sacred, while the archaeologists gain the elders' aid in interpreting their finds. There have also been active efforts to recruit aboriginal peoples directly into the archaeological profession.

Repatriation

A new trend in the heated controversy between First Nations groups and scientists is the repatriation of native artifacts to the original descendants. An example of this occurred on 21 June 2005, when community members and elders from a number of the 10 Algonquian nations in the Ottawa area convened on the Kitigan Zibi reservation near Maniwaki, Quebec, to inter ancestral human remains and burial goods—some dating back 6,000 years. It was not determined, however, if the remains were directly related to the Algonquin people who now inhabit the region. The remains may be of Iroquoian ancestry, since Iroquoian people inhabited the area before the Algonquin. Moreover, the oldest of these remains might have no relation at all to the Algonquin or Iroquois, and belong to an earlier culture who previously inhabited the area.

The remains and artifacts, including jewelry, tools and weapons, were originally excavated from various sites in the Ottawa Valley, including Morrison and the Allumette Islands. They had been part of the Canadian Museum of Civilization's research collection for decades, some since the late 19th century. Elders from various Algonquin communities conferred

on an appropriate reburial, eventually deciding on traditional redcedar and birchbark boxes lined with redcedar chips, muskrat and beaver pelts.

An inconspicuous rock mound marks the reburial site where close to 80 boxes of various sizes are buried. Because of this reburial, no further scientific study is possible. Although negotiations were at times tense between the Kitigan Zibi community and museum, they were able to reach agreement.

Kennewick Man is another repatriation candidate that has been the source of heated debate.

Chapter 2

Archontology

Archontology is the study of historical offices and important positions in state, international, political, religious and other organizations and societies. It includes chronology, succession of office holders, their biographies, and related records.

Background

Political science and history would be void and misunderstood without naming its chief actors. In many cases, these actors were those who either sat on the throne or enjoyed popular support at election or violently seized the power when circumstances permitted. There have always been those who held important state, public and party offices, those who wielded absolute power, those who were limited in their actions by law or tradition. This category colloquially known as "rulers" has been an object of studies in scientific chronology for long ages. An interest in studying the rulers emerged long before it became a part of history and chronology as academic disciplines. This distinctive interest in studying the chronologies of heads of states, governments, ministries and other offices may be rigorously defined as institutional chronology or even as archontology (from Greek, αρχων (archon), meaning *ruler*; used specifically for supreme magistrates, as in Athens, or even kings, as in the Cimmerian Bosporus).

Development of archontology

Institutional chronology as integral part of general chronology dates back to the times of first civilizations. One of the earliest efforts of ancient historians was aimed at compiling the chronology of contemporary rulers and their predecessors. The kinglists, found in most centers of the ancient civilizations (for an example, see the Sumerian kinglist), formed a basis for building more detailed historical accounts and served as a skeleton for further historical studies. It is difficult to imagine what history of Ancient Egypt we would have, if modern historians could not base their research on the tables of rulers by Manetho and the Abydos inscriptions. The history of Rome would be difficult to reconstruct if we did not have the availability of consular lists. The tradition of keeping records of rulers survived through the ages and became a part of modern history and chronology, but in fact it appears as a distinctive field of study and independent discipline closely related to political science and legal studies.

Historians and chronographers built the lists of kings, queens, presidents and other powerful leaders. Royal genealogies including information on reigns and pedigree became the first analytical works in institutional chronology. A 17th-century work of R. P. Anselme, *Histoire de la maison royale de France et des grands officiers de la Couronne* is an example of early studies focused on the heads of state and the holders of highest state offices.

The 19th and 20th centuries witnessed the appearance of general works attempting to compile the lists of rulers sorted

out by nations and time. The most massive example of such study is the work of Peter Truhart, *Regenten der Welt/Regents of Nations* a universal reference book for heads of states and governments of all nations of all times. It was published twice, in 1985 and in 2001, but is still riddled with errors resulting from the attempt by its author to include as much information as available regardless of its validity from the viewpoint of chronology. Works focused on a narrow scope of research enjoyed a far better success. The *Handbook of British Chronology*, a work continuously improved by its editors, serves as an excellent example of the combining of theoretical, historical and chronological methods.

A large number of studies closely related to the institutional chronology is represented by thematic works on rulers of different nations. These works may include documented information, but often deviate from the main course of archontology. Apparently in attempt to extend the limits of a target group, their authors often focus on curious but less important facts.

Contemporary archontology and genealogy receive the support of many enthusiasts interested in collecting the information related to the history of offices. Modern technical improvements should increase the sophistication of chronological analysis and turn institutional chronology into a more refined discipline. These fields not only offer opportunities for amateurs, but currently depend on their input, both as to facts and as to analysis and organization. However, the quality of studies has not yet dramatically improved. The process of collecting attracts many of those whose primary objectives were far from profound analysis and

extensive study. The majority of the studies currently being published leans towards an easier approach.

Approaches to archontology

Further development of archontology as academic discipline requires new approaches. More attention to the facts determining the dates of reigns and offices. What should be accepted as a sound reason for dating the beginning of a reign: the death of a predecessor, the proclamation by parliament, coronation? What does officially determine the premature end of an office holder's tenure: the date of his/her resignation, the date when the resignation was accepted by national legislature, the installation of a successor? Such questions are often neglected or noted only occasionally. Therefore, the study of political developments and national legal systems should be recognized as essential tool in determination of dates. Personal identification of "rulers" should be used by adding biographical details including full names, titles, precise dates and geographic locations of births and deaths.

Numerous studies contradict each other concerning even the most obvious dates. The reasons for such contradictions apparently lay in the fact that different authors were chiefly concerned with building consistent chronologies, which recorded each possible name and date, but failed to provide reasonable explanations for picking the dates and sometimes even for historical characters included in such records. In most of these works one can hardly find references to the primary sources including archival documents. A lack of

details and proper explanations diminishes the quality of reference works on institutional chronology.

The availability of quality studies in this field varies from country to country. It is very simple to learn the dates and mechanisms of changing presidents in the United States from 1789, but not every book may answer the question what preceded the inauguration of George Washington and what role the presidents of the Continental Congress played in 1774 - 1788. The history of Russia is covered in thousands of studies, but we still cannot name a book providing documented dates for its heads of government in the 20th century as a constituent republic of the Soviet Union. A number of gaps remain for historians to fill. This enterprise would not involve only the study of printed primary sources, but also a lot of work in the archives.

Archontology is not aimed at a simple collecting of dates and names, but combining them into detailed chronologies, where the changes of office holders are reasonably explained from the viewpoints of history, political science and law. This approach significantly boosts the value of the collected material and should help fill in the gaps existing in chronologies of national leaders. There is no carefully elaborated and universally accepted system for selecting and verifying chronological facts, but such a system would be extremely helpful to determine the criteria of selection for dates and names.

The lack of authoritative information results from many factors. It might seem to be easy, but verification of dates and creation of consecutive chronologies appears to be a challenging task. Lists of rulers used as appendices to

academic works are usually over-simplified and poorly verified. This may be the case because the verification requires consulting a great number of official periodicals and collections of legal statutes published in various countries. The tiny facts related to the changes in government are hidden deeply in the minutes of national parliaments and executive bodies.

An illustrative example of discovering new names for institutional chronology is the story of Wilhelm Pfannkuch, who was practically excluded from the list of rulers of Germany until the facts were found restoring his place in historical chronology. While Eduard David, the first president of the *Nationalversammlung* (7 February 1919 - 13 February 1919), was always considered as temporary head of state of Germany from 7 February 1919 to 11 February 1919, the name of Pfannkuch was omitted. The minutes of the *Nationalversammlung* for 6 February 1919 reveal that Pfannkuch indeed chaired the Nationalversammlung on 6 February 1919 and partly on 7 February 1919 as *Alterspräsident* (president by age). Thus in his capacity as head of the national constituent assembly, he briefly exercised the functions of head of state.

The study of national leadership chronologies may be enriched by attaching theoretical analysis of patterns found in political developments of different countries. Provisional governments, temporary substitutions of office holders, term definitions, authentic position titles, regencies – these topics form only a part of theoretical issues.

The works not focused on the institutional chronology tend to use colloquial terms and definitions, which partially distort the historical retrospective. Currently, most works on chronology of rulers and high state officials require extensive improvement as they appear as skeletons of names and dates, to which no flesh of facts is attached. A reader may find himself confused with thousands of unexplained dates and names, while different works continue to contradict each other, adding to the reader's confusion. The nations whose histories feature a rich variety of constitutional and unconstitutional changes of rulers are presented in the reference books in an impoverished form, because their institutional histories are not properly studied. It would not be a surprise to fail in finding the complete membership of a Nicaraguan governing junta in the mid-19th century, but we still lack definite works on many European governments. A great number of stand-ins and short-lived political bodies await inclusion in the works on institutional chronology. All these omissions might be done away with only if we applied a more thorough approach to these studies.

Theoretical principles of institutional chronology are still far from being clearly formulated. A researcher puzzled with two or more conflicting dates needs a definite guidance on what event makes the date valid from the viewpoint of institutional chronology or needs an alternative date backed by facts. A simple question as to when an office holder legally took possession of his or her office may raise a number of tough questions. A very interesting instance of this issue is the case of the Executive Directory of the French Republic in 1795 - 1799. Various works on the history of the Executive Directory give rather contradicting answers to a question as to when a

directory's member formally took his office. A detailed study showed that at least three different approaches might be applied to the precise determination of their terms of office. Out of 13 directors, the initial four members officially entered into exercising their duties upon constituting the Directory as an executive body, seven – upon their election, and two – on the dates fixed in a special law. Despite the fact that numerous works on the history of France in the 18th century have been published and continue being published, these difficulties remain largely unknown. As a result, one finds conflicting and confusing appearances of the respective dates in reference works.

A significant portion of sources for studying the institutional chronology consists of the archives of actual legislation. The collections of documents issued for the purpose of governing by the heads of states and governments, ministers, military leaders and others contain valuable information for studying authentic definitions used by the office holders, their self-styles and official parlance in general. Slightest changes in styles, frequently ignored in the works on general history, might be restored only by careful examination of heritage accumulated by the national governments. For instance, it is known that the colloquial use of the term tsar for the All-Russian Emperor in 1721–1917 is strictly incorrect, because in this period the term tsar was used in the sense of monarch only for subsidiary (and partially imaginary) polities (with the exception of Poland, at least from 1815 to 1830). The lack of proper definition for a ruler's style results in a distorted view of political development. The answers are often to be found exclusively in the study of legal documents.

Disciplinary aims and objectives

Besides purely academic interest, institutional chronology has a true practical meaning. It is used in many disciplines and can be utilized for different purposes. Definite and proven information on the terms of offices may be successfully used for dating the documents. The advantages of proven chronologies of office holders appear when reasonable defined terms of offices narrow the area of research. The right of signature pertinent to office holders and the dates of holding the office help determine the dates of issuing a document if such date was not found in original copy. The principle of using the rulers' names for year counting is known for many nations including ancient Rome and Greece, imperial China and Japan. The regnal years have an essential role for chronology of England and other European countries. Thus, only a neatly composed chronology of rulers may serve as a good basis for researchers.

The ultimate goals of institutional chronology cannot be achieved only by removing discrepancies and filling the gaps in the lists of rulers. As a matter of fact, these gaps cannot be reconciled unless some universal definitions and terms are accepted by researchers. The criteria for selection of persons to be included in archontological studies, the criteria for selection and verification of terms and dates, the ways of identification of rulers and office holders are still to be defined. Current approaches should go through reconsideration for further improvement and sophistication.

To become an independent academic discipline, archontology should focus on elaborating new standards and terminology for classification of rulers and officials. The existing chronologies, based on well established facts, may serve as a basis for archontological studies, but it should be extended, restructured and supplemented with theoretical information including historical, political and juridical aspects for changes in the forms of government and governmental succession. It is not necessarily that the studies should focus on the succession of office holders. The research on authentic titles, mechanisms for succession, classification of legal information, inauguration ceremonies and others may form an organic part of archontology.

While a universal improvement of records for all nations and ages could hardly be expected in the nearest future, the study of institutional chronologies for particular countries and supranational unions should be encouraged through sophistication of methods and approaches. The appearance of enriched, verified and documented chronologies recorded with the appropriate technical terminology would signify a real improvement in the development of this field of study and would help the general regeneration of archontology.

Chapter 3

Art History

Art history is the study of aesthetic objects and visual expression in historical and stylistic context. Traditionally, the discipline of art history emphasized painting, drawing, sculpture, architecture, ceramics and decorative arts, yet today, art history examines broader aspects of visual culture, including the various visual and conceptual outcomes related to an ever-evolving definition of art. Art history encompasses the study of objects created by different cultures around the world and throughout history that convey meaning, importance or serve usefulness primarily through visual representations.

As a discipline, art history is distinguished from art criticism, which is concerned with establishing a relative artistic value upon individual works with respect to others of comparable style or sanctioning an entire style or movement; and art theory or "philosophy of art", which is concerned with the fundamental nature of art. One branch of this area of study is aesthetics, which includes investigating the enigma of the sublime and determining the essence of beauty. Technically, art history is not these things, because the art historian uses historical method to answer the questions: How did the artist come to create the work?, Who were the patrons?, Who were their teachers?, Who was the audience?, Who were their disciples?, What historical forces shaped the artist's oeuvre and how did he or she and the creation, in turn, affect the course of artistic, political and social events? It is, however, questionable whether many questions of this kind can be

answered satisfactorily without also considering basic questions about the nature of art. The current disciplinary gap between art history and the philosophy of art (aesthetics) often hinders this inquiry.

Methodologies

Art history is an interdisciplinary practice that analyzes the various factors—cultural, political, religious, economic or artistic—which contribute to visual appearance of a work of art.

Art historians employ a number of methods in their research into the ontology and history of objects.

Art historians often examine work in the context of its time. At best, this is done in a manner which respects its creator's motivations and imperatives; with consideration of the desires and prejudices of its patrons and sponsors; with a comparative analysis of themes and approaches of the creator's colleagues and teachers; and with consideration of iconography and symbolism. In short, this approach examines the work of art in the context of the world within which it was created.

Art historians also often examine work through an analysis of form; that is, the creator's use of line, shape, color, texture and composition. This approach examines how the artist uses a two-dimensional picture plane or the three dimensions of sculptural or architectural space to create their art. The way these individual elements are employed results in representational or non-representational art. Is the artist imitating an object or can the image be found in nature? If so,

it is representational. The closer the art hews to perfect imitation, the more the art is *realistic*. Is the artist not imitating, but instead relying on symbolism or in an important way striving to capture nature's essence, rather than copy it directly? If so the art is non-representational—also called abstract. Realism and abstraction exist on a continuum. Impressionism is an example of a representational style that was not directly imitative, but strove to create an "impression" of nature. If the work is not representational and is an expression of the artist's feelings, longings and aspirations or is a search for ideals of beauty and form, the work is non-representational or a work of expressionism.

An iconographical analysis is one which focuses on particular design elements of an object. Through a close reading of such elements, it is possible to trace their lineage, and with it draw conclusions regarding the origins and trajectory of these motifs. In turn, it is possible to make any number of observations regarding the social, cultural, economic and aesthetic values of those responsible for producing the object.

Many art historians use critical theory to frame their inquiries into objects. Theory is most often used when dealing with more recent objects, those from the late 19th century onward. Critical theory in art history is often borrowed from literary scholars and it involves the application of a non-artistic analytical framework to the study of art objects. Feminist, Marxist, critical race, queer and postcolonial theories are all well established in the discipline. As in literary studies, there is an interest among scholars in nature and the environment, but the direction that this will take in the discipline has yet to be determined.

More recently, media and digital technology introduced possibilities of visual, spatial and experiential analyses. The relevant forms vary from movies, to interactive forms, including virtual environments, augmented environments, situated media, networked media, etc. The methods enabled by such techniques are in active development and promise to include qualitative approaches that can emphasize narrative, dramatic, emotional and ludic characteristics of history and art.

Timeline of prominent methods

Pliny the Elder and ancient precedents

The earliest surviving writing on art that can be classified as art history are the passages in Pliny the Elder's *Natural History* (c. AD 77-79), concerning the development of Greek sculpture and painting. From them it is possible to trace the ideas of Xenokrates of Sicyon (c. 280 BC), a Greek sculptor who was perhaps the first art historian. Pliny's work, while mainly an encyclopaedia of the sciences, has thus been influential from the Renaissance onwards. (Passages about techniques used by the painter Apelles c. (332-329 BC), have been especially well-known.) Similar, though independent, developments occurred in the 6th century China, where a canon of worthy artists was established by writers in the scholar-official class. These writers, being necessarily proficient in calligraphy, were artists themselves. The artists are described in the *Six Principles of Painting* formulated by Xie He.

Vasari and artists' biographies

While personal reminiscences of art and artists have long been written and read (see Lorenzo Ghiberti *Commentarii,* for the best early example), it was Giorgio Vasari, the Tuscan painter, sculptor and author of the *Lives of the Most Excellent Painters, Sculptors, and Architects*, who wrote the first true *history* of art. He emphasized art's progression and development, which was a milestone in this field. His was a personal and a historical account, featuring biographies of individual Italian artists, many of whom were his contemporaries and personal acquaintances. The most renowned of these was Michelangelo, and Vasari's account is enlightening, though biased in places.

Vasari's ideas about art were enormously influential, and served as a model for many, including in the north of Europe Karel van Mander's *Schilder-boeck* and Joachim von Sandrart's *Teutsche Akademie*. Vasari's approach held sway until the 18th century, when criticism was leveled at his biographical account of history.

Winckelmann and art criticism

Scholars such as Johann Joachim Winckelmann (1717–1768), criticized Vasari's "cult" of artistic personality, and they argued that the real emphasis in the study of art should be the views of the learned beholder and not the unique viewpoint of the charismatic artist. Winckelmann's writings thus were the beginnings of art criticism. His two most notable works that introduced the concept of art criticism were *Gedanken über die Nachahmung der griechischen Werke in der Malerei und*

Bildhauerkunst, published in 1755, shortly before he left for Rome (Fuseli published an English translation in 1765 under the title *Reflections on the Painting and Sculpture of the Greeks*), and *Geschichte der Kunst des Altertums* (*History of Art in Antiquity*), published in 1764 (this is the first occurrence of the phrase ‘history of art’ in the title of a book)". Winckelmann critiqued the artistic excesses of Baroque and Rococo forms, and was instrumental in reforming taste in favor of the more sober Neoclassicism. Jacob Burckhardt (1818–1897), one of the founders of art history, noted that Winckelmann was 'the first to distinguish between the periods of ancient art and to link the history of style with world history'. From Winckelmann until the mid-20th century, the field of art history was dominated by German-speaking academics. Winckelmann's work thus marked the entry of art history into the high-philosophical discourse of German culture.

Winckelmann was read avidly by Johann Wolfgang Goethe and Friedrich Schiller, both of whom began to write on the history of art, and his account of the Laocoön group occasioned a response by Lessing. The emergence of art as a major subject of philosophical speculation was solidified by the appearance of Immanuel Kant's *Critique of Judgment* in 1790, and was furthered by Hegel's *Lectures on Aesthetics*. Hegel's philosophy served as the direct inspiration for Karl Schnaase's work. Schnaase's *Niederländische Briefe* established the theoretical foundations for art history as an autonomous discipline, and his *Geschichte der bildenden Künste*, one of the first historical surveys of the history of art from antiquity to the Renaissance, facilitated the teaching of art history in German-speaking universities. Schnaase's survey was published

contemporaneously with a similar work by Franz Theodor Kugler.

Wölfflin and stylistic analysis

Heinrich Wölfflin (1864–1945), who studied under Burckhardt in Basel, is the "father" of modern art history. Wölfflin taught at the universities of Berlin, Basel, Munich, and Zurich. A number of students went on to distinguished careers in art history, including Jakob Rosenberg and Frida Schottmuller. He introduced a scientific approach to the history of art, focusing on three concepts. Firstly, he attempted to study art using psychology, particularly by applying the work of Wilhelm Wundt. He argued, among other things, that art and architecture are good if they resemble the human body. For example, houses were good if their façades looked like faces. Secondly, he introduced the idea of studying art through comparison. By comparing individual paintings to each other, he was able to make distinctions of style. His book *Renaissance and Baroque* developed this idea, and was the first to show how these stylistic periods differed from one another. In contrast to Giorgio Vasari, Wölfflin was uninterested in the biographies of artists. In fact he proposed the creation of an "art history without names." Finally, he studied art based on ideas of nationhood. He was particularly interested in whether there was an inherently "Italian" and an inherently "German" style. This last interest was most fully articulated in his monograph on the German artist Albrecht Dürer.

Riegl, Wickhoff, and the Vienna School

Contemporaneous with Wölfflin's career, a major school of art-historical thought developed at the University of Vienna. The first generation of the Vienna School was dominated by Alois Riegl and Franz Wickhoff, both students of Moritz Thausing, and was characterized by a tendency to reassess neglected or disparaged periods in the history of art. Riegl and Wickhoff both wrote extensively on the art of late antiquity, which before them had been considered as a period of decline from the classical ideal. Riegl also contributed to the revaluation of the Baroque.

The next generation of professors at Vienna included Max Dvořák, Julius von Schlosser, Hans Tietze, Karl Maria Swoboda, and Josef Strzygowski. A number of the most important twentieth-century art historians, including Ernst Gombrich, received their degrees at Vienna at this time. The term "Second Vienna School" (or "New Vienna School") usually refers to the following generation of Viennese scholars, including Hans Sedlmayr, Otto Pächt, and Guido Kaschnitz von Weinberg. These scholars began in the 1930s to return to the work of the first generation, particularly to Riegl and his concept of *Kunstwollen*, and attempted to develop it into a full-blown art-historical methodology. Sedlmayr, in particular, rejected the minute study of iconography, patronage, and other approaches grounded in historical context, preferring instead to concentrate on the aesthetic qualities of a work of art. As a result, the Second Vienna School gained a reputation for unrestrained and irresponsible formalism, and was furthermore colored by Sedlmayr's overt racism and

membership in the Nazi party. This latter tendency was, however, by no means shared by all members of the school; Pächt, for example, was himself Jewish, and was forced to leave Vienna in the 1930s.

Panofsky and iconography

Our 21st-century understanding of the symbolic content of art comes from a group of scholars who gathered in Hamburg in the 1920s. The most prominent among them were Erwin Panofsky, Aby Warburg, Fritz Saxl and Gertrud Bing. Together they developed much of the vocabulary that continues to be used in the 21st century by art historians. "Iconography"—with roots meaning "symbols from writing" refers to subject matter of art derived from written sources—especially scripture and mythology. "Iconology" is a broader term that referred to all symbolism, whether derived from a specific text or not. Today art historians sometimes use these terms interchangeably.

Panofsky, in his early work, also developed the theories of Riegl, but became eventually more preoccupied with iconography, and in particular with the transmission of themes related to classical antiquity in the Middle Ages and Renaissance. In this respect his interests coincided with those of Warburg, the son of a wealthy family who had assembled an impressive library in Hamburg devoted to the study of the classical tradition in later art and culture. Under Saxl's auspices, this library was developed into a research institute, affiliated with the University of Hamburg, where Panofsky taught.

Warburg died in 1929, and in the 1930s Saxl and Panofsky, both Jewish, were forced to leave Hamburg. Saxl settled in London, bringing Warburg's library with him and establishing the Warburg Institute. Panofsky settled in Princeton at the Institute for Advanced Study. In this respect they were part of an extraordinary influx of German art historians into the English-speaking academy in the 1930s. These scholars were largely responsible for establishing art history as a legitimate field of study in the English-speaking world, and the influence of Panofsky's methodology, in particular, determined the course of American art history for a generation.

Freud and psychoanalysis

- Heinrich Wölfflin was not the only scholar to invoke psychological theories in the study of art. Psychoanalyst Sigmund Freud wrote a book on the artist Leonardo da Vinci, in which he used Leonardo's paintings to interrogate the artist's psyche and sexual orientation. Freud inferred from his analysis that Leonardo was probably homosexual.

Though the use of posthumous material to perform psychoanalysis is controversial among art historians, especially since the sexual mores of Leonardo's time and Freud's are different, it is often attempted. One of the best-known psychoanalytic scholars is Laurie Schneider Adams, who wrote a popular textbook, *Art Across Time*, and a book *Art and Psychoanalysis*.

An unsuspecting turn for the history of art criticism came in 1914 when Sigmund Freud published a psychoanalytical interpretation of Michelangelo's Moses titled Der Moses des Michelangelo as one of the first psychology based analyses on a work of art. Freud first published this work shortly after reading Vasari's *Lives*. For unknown purposes, Freud originally published the article anonymously.

Jung and archetypes

Carl Jung also applied psychoanalytic theory to art. C.G. Jung was a Swiss psychiatrist, an influential thinker, and founder of analytical psychology. Jung's approach to psychology emphasized understanding the psyche through exploring the worlds of dreams, art, mythology, world religion and philosophy. Much of his life's work was spent exploring Eastern and Western philosophy, alchemy, astrology, sociology, as well as literature and the arts. His most notable contributions include his concept of the psychological archetype, the collective unconscious, and his theory of synchronicity. Jung believed that many experiences perceived as coincidence were not merely due to chance but, instead, suggested the manifestation of parallel events or circumstances reflecting this governing dynamic. He argued that a collective unconscious and archetypal imagery were detectable in art. His ideas were particularly popular among American Abstract expressionists in the 1940s and 1950s. His work inspired the surrealist concept of drawing imagery from dreams and the unconscious.

Jung emphasized the importance of balance and harmony. He cautioned that modern humans rely too heavily on science and

logic and would benefit from integrating spirituality and appreciation of the unconscious realm. His work not only triggered analytical work by art historians, but it became an integral part of art-making. Jackson Pollock, for example, famously created a series of drawings to accompany his psychoanalytic sessions with his Jungian psychoanalyst, Dr. Joseph Henderson. Henderson who later published the drawings in a text devoted to Pollock's sessions realized how powerful the drawings were as a therapeutic tool.

The legacy of psychoanalysis in art history has been profound, and extends beyond Freud and Jung. The prominent feminist art historian Griselda Pollock, for example, draws upon psychoanalysis both in her reading into contemporary art and in her rereading of modernist art. With Griselda Pollock's reading of French feminist psychoanalysis and in particular the writings of Julia Kristeva and Bracha L. Ettinger, as with Rosalind Krauss readings of Jacques Lacan and Jean-François Lyotard and Catherine de Zegher's curatorial rereading of art, Feminist theory written in the fields of French feminism and Psychoanalysis has strongly informed the reframing of both men and women artists in art history.

Marx and ideology

During the mid-20th century, art historians embraced social history by using critical approaches. The goal was to show how art interacts with power structures in society. One critical approach that art historians used was Marxism. Marxist art history attempted to show how art was tied to specific classes, how images contain information about the economy, and how images can make the status quo seem natural (ideology).

Marcel Duchamp and Dada Movement jump started the Anti-art style. Various artist did not want to create artwork that everyone was conforming to at the time. These two movements helped other artist to create pieces that were not viewed as traditional art. Some examples of styles that branched off the anti-art movement would be Neo-Dadaism, Surrealism, and Constructivism. These styles and artist did not want to surrender to traditional ways of art. This way of thinking provoked political movements such as the Russian Revolution and the communist ideals.

Artist Isaak Brodsky work of art 'Shock-worker from Dneprstroi' in 1932 shows his political involvement within art. This piece of art can be analysed to show the internal troubles Soviet Russia was experiencing at the time. Perhaps the best-known Marxist was Clement Greenberg, who came to prominence during the late 1930s with his essay "Avant-Garde and Kitsch". In the essay Greenberg claimed that the avant-garde arose in order to defend aesthetic standards from the decline of taste involved in consumer society, and seeing kitsch and art as opposites. Greenberg further claimed that avant-garde and Modernist art was a means to resist the leveling of culture produced by capitalist propaganda. Greenberg appropriated the German word 'kitsch' to describe this consumerism, although its connotations have since changed to a more affirmative notion of leftover materials of capitalist culture. Greenberg later became well known for examining the formal properties of modern art.

Meyer Schapiro is one of the best-remembered Marxist art historians of the mid-20th century. Although he wrote about numerous time periods and themes in art, he is best

remembered for his commentary on sculpture from the late Middle Ages and early Renaissance, at which time he saw evidence of capitalism emerging and feudalism declining.

Arnold Hauser wrote the first Marxist survey of Western Art, entitled *The Social History of Art*. He attempted to show how class consciousness was reflected in major art periods. The book was controversial when published during the 1950s since it makes generalizations about entire eras, a strategy now called "vulgar Marxism".

Marxist Art History was refined in the department of Art History at UCLA with scholars such as T.J. Clark, O.K. Werckmeister, David Kunzle, Theodor W. Adorno, and Max Horkheimer. T.J. Clark was the first art historian writing from a Marxist perspective to abandon vulgar Marxism. He wrote Marxist art histories of several impressionist and realist artists, including Gustave Courbet and Édouard Manet. These books focused closely on the political and economic climates in which the art was created.

Feminist art history

Linda Nochlin's essay "Why Have There Been No Great Women Artists?" helped to ignite feminist art history during the 1970s and remains one of the most widely read essays about female artists. This was then followed by a 1972 College Art Association Panel, chaired by Nochlin, entitled "Eroticism and the Image of Woman in Nineteenth-Century Art". Within a decade, scores of papers, articles, and essays sustained a growing momentum, fueled by the Second-wave feminist movement, of critical discourse surrounding women's

interactions with the arts as both artists and subjects. In her pioneering essay, Nochlin applies a feminist critical framework to show systematic exclusion of women from art training, arguing that exclusion from practicing art as well as the canonical history of art was the consequence of cultural conditions which curtailed and restricted women from art producing fields. The few who did succeed were treated as anomalies and did not provide a model for subsequent success. Griselda Pollock is another prominent feminist art historian, whose use of psychoanalytic theory is described above.

While feminist art history can focus on any time period and location, much attention has been given to the Modern era. Some of this scholarship centers on the feminist art movement, which referred specifically to the experience of women. Often, feminist art history offers a critical "re-reading" of the Western art canon, such as Carol Duncan's re-interpretation of Les Demoiselles d'Avignon. Two pioneers of the field are Mary Garrard and Norma Broude. Their anthologies *Feminism and Art History: Questioning the Litany*, *The Expanding Discourse: Feminism and Art History*, and *Reclaiming Feminist Agency: Feminist Art History After Postmodernism* are substantial efforts to bring feminist perspectives into the discourse of art history. The pair also co-founded the Feminist Art History Conference.

Barthes and semiotics

As opposed to iconography which seeks to identify meaning, semiotics is concerned with how meaning is created. Roland Barthes's connoted and denoted meanings are paramount to this examination. In any particular work of art, an interpretation depends on the identification of denoted

meaning—the recognition of a visual sign, and the connoted meaning—the instant cultural associations that come with recognition. The main concern of the semiotic art historian is to come up with ways to navigate and interpret connoted meaning.

Semiotic art history seeks to uncover the codified meaning or meanings in an aesthetic object by examining its connectedness to a collective consciousness. Art historians do not commonly commit to any one particular brand of semiotics but rather construct an amalgamated version which they incorporate into their collection of analytical tools. For example, Meyer Schapiro borrowed Saussure's differential meaning in effort to read signs as they exist within a system. According to Schapiro, to understand the meaning of frontality in a specific pictorial context, it must be differentiated from, or viewed in relation to, alternate possibilities such as a profile, or a three-quarter view. Schapiro combined this method with the work of Charles Sanders Peirce whose object, sign, and interpretant provided a structure for his approach. Alex Potts demonstrates the application of Peirce's concepts to visual representation by examining them in relation to the *Mona Lisa*. By seeing the *Mona Lisa*, for example, as something beyond its materiality is to identify it as a sign. It is then recognized as referring to an object outside of itself, a woman, or *Mona Lisa*. The image does not seem to denote religious meaning and can therefore be assumed to be a portrait. This interpretation leads to a chain of possible interpretations: who was the sitter in relation to Leonardo da Vinci? What significance did she have to him? Or, maybe she is an icon for all of womankind. This chain of interpretation, or “unlimited semiosis” is endless; the art historian's job is to place boundaries on possible

interpretations as much as it is to reveal new possibilities. Semiotics operates under the theory that an image can only be understood from the viewer's perspective. The artist is supplanted by the viewer as the purveyor of meaning, even to the extent that an interpretation is still valid regardless of whether the creator had intended it. Rosalind Krauss espoused this concept in her essay “In the Name of Picasso.” She denounced the artist's monopoly on meaning and insisted that meaning can only be derived after the work has been removed from its historical and social context. Mieke Bal argued similarly that meaning does not even exist until the image is observed by the viewer. It is only after acknowledging this that meaning can become opened up to other possibilities such as feminism or psychoanalysis.

Museum studies and collecting

Aspects of the subject which have come to the fore in recent decades include interest in the patronage and consumption of art, including the economics of the art market, the role of collectors, the intentions and aspirations of those commissioning works, and the reactions of contemporary and later viewers and owners. Museum studies, including the history of museum collecting and display, is now a specialized field of study, as is the history of collecting.

New materialism

Scientific advances have made possible much more accurate investigation of the materials and techniques used to create works, especially infra-red and x-ray photographic techniques

which have allowed many underdrawings of paintings to be seen again. Proper analysis of pigments used in paint is now possible, which has upset many attributions. Dendrochronology for panel paintings and radio-carbon dating for old objects in organic materials have allowed scientific methods of dating objects to confirm or upset dates derived from stylistic analysis or documentary evidence. The development of good colour photography, now held digitally and available on the internet or by other means, has transformed the study of many types of art, especially those covering objects existing in large numbers which are widely dispersed among collections, such as illuminated manuscripts and Persian miniatures, and many types of archaeological artworks.

Concurrent to those technological advances, art historians have shown increasing interest in new theoretical approaches to the nature of artworks as objects. Thing theory, actor–network theory, and object-oriented ontology have played an increasing role in art historical literature.

Nationalist art history

The making of art, the academic history of art, and the history of art museums are closely intertwined with the rise of nationalism. Art created in the modern era, in fact, has often been an attempt to generate feelings of national superiority or love of one's country. Russian art is an especially good example of this, as the Russian avant-garde and later Soviet art were attempts to define that country's identity.

Most art historians working today identify their specialty as the art of a particular culture and time period, and often such cultures are also nations. For example, someone might specialize in the 19th-century German or contemporary Chinese art history. A focus on nationhood has deep roots in the discipline. Indeed, Vasari's *Lives of the Most Excellent Painters, Sculptors, and Architects* is an attempt to show the superiority of Florentine artistic culture, and Heinrich Wölfflin's writings (especially his monograph on Albrecht Dürer) attempt to distinguish Italian from German styles of art.

Many of the largest and most well-funded art museums of the world, such as the Louvre, the Victoria and Albert Museum, and the National Gallery of Art in Washington are state-owned. Most countries, indeed, have a national gallery, with an explicit mission of preserving the cultural patrimony owned by the government—regardless of what cultures created the art—and an often implicit mission to bolster that country's own cultural heritage. The National Gallery of Art thus showcases art made in the United States, but also owns objects from across the world.

Divisions by period

The discipline of art history is traditionally divided into specializations or concentrations based on eras and regions, with further sub-division based on media. Thus, someone might specialize in "19th-century German architecture" or in "16th-century Tuscan sculpture." Sub-fields are often included under a specialization. For example, the Ancient Near East,

Greece, Rome, and Egypt are all typically considered special concentrations of Ancient art. In some cases, these specializations may be closely allied (as Greece and Rome, for example), while in others such alliances are far less natural (Indian art versus Korean art, for example).

Non-Western or global perspectives on art have become increasingly predominant in the art historical canon since the 1980s.

"Contemporary art history" refers to research into the period from the 1960s until today reflecting the break from the assumptions of modernism brought by artists of the neo-avant-garde and a continuity in contemporary art in terms of practice based on conceptualist and post-conceptualist practices.

Professional organizations

In the United States, the most important art history organization is the College Art Association. It organizes an annual conference and publishes the *Art Bulletin* and *Art Journal*. Similar organizations exist in other parts of the world, as well as for specializations, such as architectural history and Renaissance art history. In the UK, for example, the Association of Art Historians is the premiere organization, and it publishes a journal titled *Art History*.

Chapter 4

Chronology

Chronology is the science of arranging events in their order of occurrence in time. Consider, for example, the use of a timeline or sequence of events. It is also "the determination of the actual temporal sequence of past events".

Chronology is a part of periodization. It is also a part of the discipline of history including earth history, the earth sciences, and study of the geologic time scale.

Related fields

Chronology is the science of locating historical events in time. It relies upon chronometry, which is also known as timekeeping, and historiography, which examines the writing of history and the use of historical methods. Radiocarbon dating estimates the age of formerly living things by measuring the proportion of carbon-14isotope in their carbon content. Dendrochronology estimates the age of trees by correlation of the various growth rings in their wood to known year-by-year reference sequences in the region to reflect year-to-year climatic variation. Dendrochronology is used in turn as a calibration reference for radiocarbon dating curves.

Calendar and era

The familiar terms *calendar* and *era* (within the meaning of a coherent system of numbered calendar years) concern two complementary fundamental concepts of chronology. For example, during eight centuries the calendar belonging to the Christian era, which era was taken in use in the 8th century by Bede, was the Julian calendar, but after the year 1582 it was the Gregorian calendar. Dionysius Exiguus (about the year 500) was the founder of that era, which is nowadays the most widespread dating system on earth. An epoch is the date (year usually) when an era begins.

Ab Urbe condita era

Ab Urbe condita is Latin for "from the founding of the City (Rome)", traditionally set in 753 BC. It was used to identify the Roman year by a few Roman historians. Modern historians use it much more frequently than the Romans themselves did; the dominant method of identifying Roman years was to name the two consuls who held office that year. Before the advent of the modern critical edition of historical Roman works, AUC was indiscriminately added to them by earlier editors, making it appear more widely used than it actually was.

It was used systematically for the first time only about the year 400, by the Iberian historian Orosius. Pope Boniface IV, in about the year 600, seems to have been the first who made a connection between these this era and Anno Domini. (AD 1 = AUC 754.)

Astronomical era

Dionysius Exiguus' Anno Domini era (which contains only calendar years *AD*) was extended by Bede to the complete Christian era (which contains, in addition all calendar years *BC*, but no *year zero*). Ten centuries after Bede, the French astronomers Philippe de la Hire (in the year 1702) and Jacques Cassini (in the year 1740), purely to simplify certain calculations, put the Julian Dating System (proposed in the year 1583 by Joseph Scaliger) and with it an astronomical era into use, which contains a leap year zero, which precedes the year 1 (AD).

Prehistory

While of critical importance to the historian, methods of determining chronology are used in most disciplines of science, especially astronomy, geology, paleontology and archaeology.

In the absence of written history, with its chronicles and king lists, late 19th century archaeologists found that they could develop relative chronologies based on pottery techniques and styles. In the field of Egyptology, William Flinders Petrie pioneered sequence dating to penetrate pre-dynastic Neolithic times, using groups of contemporary artefacts deposited together at a single time in graves and working backwards methodically from the earliest historical phases of Egypt. This method of dating is known as seriation.

Known wares discovered at strata in sometimes quite distant sites, the product of trade, helped extend the network of

chronologies. Some cultures have retained the name applied to them in reference to characteristic forms, for lack of an idea of what they called themselves: "The Beaker People" in northern Europe during the 3rd millennium BCE, for example. The study of the means of placing pottery and other cultural artifacts into some kind of order proceeds in two phases, classification and typology: Classification creates categories for the purposes of description, and typology seeks to identify and analyse changes that allow artifacts to be placed into sequences.

Laboratory techniques developed particularly after mid-20th century helped constantly revise and refine the chronologies developed for specific cultural areas. Unrelated dating methods help reinforce a chronology, an axiom of corroborative evidence. Ideally, archaeological materials used for dating a site should complement each other and provide a means of cross-checking. Conclusions drawn from just one unsupported technique are usually regarded as unreliable.

Synchronism

The fundamental problem of chronology is to synchronize events. By synchronizing an event it becomes possible to relate it to the current time and to compare the event to other events. Among historians, a typical need is to synchronize the reigns of kings and leaders in order to relate the history of one country or region to that of another. For example, the Chronicon of Eusebius (325 A.D.) is one of the major works of historical synchronism. This work has two sections. The first contains narrative chronicles of nine different kingdoms: Chaldean, Assyrian, Median, Lydian, Persian, Hebrew, Greek,

Peloponnesian, Asian, and Roman. The second part is a long table synchronizing the events from each of the nine kingdoms in parallel columns.

By comparing the parallel columns, the reader can determine which events were contemporaneous, or how many years separated two different events. To place all the events on the same time scale, Eusebius used an Anno Mundi (A.M.) era, meaning that events were dated from the supposed beginning of the world as computed from the Book of Genesis in the Hebrew Pentateuch. According to the computation Eusebius used, this occurred in 5199 B.C. The Chronicon of Eusebius was widely used in the medieval world to establish the dates and times of historical events. Subsequent chronographers, such as George Syncellus (died circa 811), analyzed and elaborated on the Chronicon by comparing with other chronologies. The last great chronographer was Joseph Justus Scaliger (1540-1609) who reconstructed the lost Chronicon and synchronized all of ancient history in his two major works, *De emendatione temporum* (1583) and *Thesaurus temporum* (1606). Much of modern historical datings and chronology of the ancient world ultimately derives from these two works. Scaliger invented the concept of the Julian Day which is still used as the standard unified scale of time for both historians and astronomers.

In addition to the literary methods of synchronism used by traditional chronographers such as Eusebius, Syncellus and Scaliger, it is possible to synchronize events by archaeological or astronomical means. For example, the Eclipse of Thales, described in the first book of Herodotus can potentially be used to date the Lydian War because the eclipse took place

during the middle of an important battle in that war. Likewise, various eclipses and other astronomical events described in ancient records can be used to astronomically synchronize historical events. Another method to synchronize events is the use of archaeological findings, such as pottery, to do sequence dating.

Chapter 5

Cultural and Diplomatic History

Cultural history

Cultural history combines the approaches of anthropology and history to look at popular cultural traditions and cultural interpretations of historical experience. It examines the records and narrative descriptions of past matter, encompassing the continuum of events (occurring in succession and leading from the past to the present and even into the future) about a culture.

Cultural history records and interprets past events involving human beings through the social, cultural, and political milieu of or relating to the arts and manners that a group favors. Jacob Burckhardt (1818–1897) helped found cultural history as a discipline. Cultural history studies and interprets the record of human societies by denoting the various distinctive ways of living built up by a group of people under consideration. Cultural history involves the aggregate of past cultural activity, such as ceremony, class in practices, and the interaction with locales.

Description

Many current cultural historians claim it to be a new approach, but cultural history was referred to by nineteenth-

century historians such as the Swiss scholar of Renaissance history Jacob Burckhardt.

Cultural history overlaps in its approaches with the French movements of *histoire des mentalités* (Philippe Poirrier, 2004) and the so-called new history, and in the U.S. it is closely associated with the field of American studies. As originally conceived and practiced by 19th Century Swiss historian Jakob Burckhardt concerning the Italian Renaissance, cultural history was oriented to the study of a particular historical period in its entirety, with regard not only for its painting, sculpture, and architecture, but for the economic basis underpinning society, and the social institutions of its daily life as well. Echoes of Burkhardt's approach in the 20th century can be seen in Johan Huizinga's *The Waning of the Middle Ages* (1919).

Most often the focus is on phenomena shared by non-elite groups in a society, such as: carnival, festival, and public rituals; performance traditions of tale, epic, and other verbal forms; cultural evolutions in human relations (ideas, sciences, arts, techniques); and cultural expressions of social movements such as nationalism. Also examines main historical concepts as power, ideology, class, culture, cultural identity, attitude, race, perception and new historical methods as narration of body. Many studies consider adaptations of traditional culture to mass media (television, radio, newspapers, magazines, posters, etc.), from print to film and, now, to the Internet (culture of capitalism). Its modern approaches come from art history, Annales, Marxist school, microhistory and new cultural history.

Common theoretical touchstones for recent cultural history have included: Jürgen Habermas's formulation of the public sphere in *The Structural Transformation of the Bourgeois Public Sphere*; Clifford Geertz's notion of 'thick description' (expounded in, for example, *The Interpretation of Cultures*); and the idea of memory as a cultural-historical category, as discussed in Paul Connerton's *How Societies Remember*.

Historiography and the French Revolution

The area where new-style cultural history is often pointed to as being almost a paradigm is the 'revisionist' history of the French Revolution, dated somewhere since François Furet's massively influential 1978 essay *Interpreting the French Revolution*. The 'revisionist interpretation' is often characterized as replacing the allegedly dominant, allegedly Marxist, 'social interpretation' which locates the causes of the Revolution in class dynamics. The revisionist approach has tended to put more emphasis on 'political culture'. Reading ideas of political culture through Habermas' conception of the public sphere, historians of the Revolution in the past few decades have looked at the role and position of cultural themes such as gender, ritual, and ideology in the context of pre-revolutionary French political culture. Historians who might be grouped under this umbrella are Roger Chartier, Robert Darnton, Patrice Higonnet, Lynn Hunt, Keith Baker, Joan Landes, Mona Ozouf, and Sarah Maza. Of course, these scholars all pursue fairly diverse interests, and perhaps too much emphasis has been placed on the paradigmatic nature of the new history of the French Revolution. Colin Jones, for example, is no stranger to cultural history, Habermas, or Marxism, and has persistently argued that the Marxist

interpretation is not dead, but can be revivified; after all, Habermas' logic was heavily indebted to a Marxist understanding. Meanwhile, Rebecca Spang has also recently argued that for all its emphasis on difference and newness, the 'revisionist' approach retains the idea of the French Revolution as a watershed in the history of (so-called) modernity and that the problematic notion of 'modernity has itself attracted scant attention.

Cultural studies

Cultural studies is an academic discipline popular among a diverse group of scholars. It combines political economy, geography, sociology, social theory, literary theory, film/video studies, cultural anthropology, philosophy, and art history/criticism to study cultural phenomena in various societies. Cultural studies researchers often concentrate on how a particular phenomenon relates to matters of ideology, nationality, ethnicity, social class, and/or gender. The term was coined by Richard Hoggart in 1964 when he founded the Birmingham Centre for Contemporary Cultural Studies. It has since become strongly associated with Stuart Hall, who succeeded Hoggart as Director.

Cultural history in popular culture

The BBC has produced and broadcast a number of educational television programmes on different aspects of human cultural

history: in 1969 *Civilisation*, in 1973 *The Ascent of Man*, in 1985 *The Triumph of the West* and in 2012 *Andrew Marr's History of the World*.

Diplomatic history

Diplomatic history deals with the history of international relations between states. Diplomatic history can be different from international relations in that the former can concern itself with the foreign policy of one state while the latter deals with relations between two or more states. Diplomatic history tends to be more concerned with the history of diplomacy, but international relations concern more with current events and creating a model intended to shed explanatory light on international politics.

Historiography

Ranke

In the 5th century BCE Thucydides was highly concerned with the relations among states. However Leopold von Ranke (1795-1886), the leading German historian of the 19th century CE, codified the modern form of diplomatic history. Ranke wrote largely on the history of Early Modern Europe, using the diplomatic archives of the European powers (particularly the Venetians) to construct a detailed understanding of the history of Europe *wie es eigentlich gewesen* ("as it actually happened"). Ranke saw diplomatic history as the most important kind of

history to write because of his idea of the "Primacy of Foreign Affairs" (*Primat der Aussenpolitik*), arguing that the concerns of international relations drive the internal development of the state. Ranke's understanding of diplomatic history relied on using as sources the large number of official documents produced by modern western governments; he argued that historians should examine such sources in an objective and neutral spirit.

20th century scholars

In the early 20th centuries, work by prominent diplomatic historians such as Charles Webster, Harold Temperley, Alfred Pribram, R.H. Lord and B.E. Schmitt were mostly concerned with the events such as the Napoleonic Wars, the Congress of Vienna and the origins of the Franco-German War. A notable event in diplomatic history occurred in 1910 when the French government start to publish all of the archives relating to the war of 1870. The Bolsheviks in Russia published key secret papers from the Allies in 1918.

Ranke's understanding of the dominance of foreign policy, and hence an emphasis on diplomatic history, remained the dominant paradigm in historical writing through the first half of the twentieth century. This emphasis, combined with the effects of the War Guilt Clause in the Treaty of Versailles (1919) which ended the First World War, led to a huge amount of historical writing on the subject of the origins of the war of 1914, with the involved governments printing huge, carefully edited, collections of documents and numerous historians writing multi-volume histories of the origins of the war. In the interwar period, most diplomatic historians tended to blame all

of the Great Powers of 1914 for the First World War, arguing that the war was in effect everybody's responsibility. In general, the early works in this vein fit fairly comfortably into Ranke's emphasis on *Aussenpolitik*.

Historian Muriel Chamberlain notes that after the First World War:

- diplomatic history replaced constitutional history as the flagship of historical investigation, at once the most important, most exact and most sophisticated of historical studies.

She adds that after 1945, the trend reversed, allowing political, intellectual and social history to displace diplomatic history.

For the first half of the 20th century, most diplomatic history working within the narrow confines of the *Primat der Aussenpolitik* approach was very narrowly concerned with foreign-policy making elites with little reference to broader historical forces. The most notable exceptions to this tendency were A. J. P. Taylor and William Medlicott in Britain, Pierre Renouvin in France, and William L. Langer in the United States, who examined economic and domestic political forces.

Causes of World War Two

Sir Winston Churchill's multi-volume *The Second World War*, especially the first volume *The Gathering Storm* (1948) set the framework and the interpretation for much later historiography. His interpretation, echoing his own position before the war, that World War II was caused by the mad

ambitions of Adolf Hitler; Churchill damned the cowardly and weak-willed British and French leaders who used appeasement in a futile effort to avoid the war. Churchill did not consider the argument that the alternative to appeasement was a premature war that Germany would win in 1938. The British historian A. J. P. Taylor's 1961 book *The Origins of the Second World War* challenged Churchill's viewpoint and argued that Hitler had no master-plan for conquering the world. Instead he was an ordinary statesman –-an opportunistic leader seizing whatever chances he had for expansionism. The fact that a world war started over Poland in 1939 was due to diplomatic miscalculation by all the countries concerned, instead of being a case of German aggression. British historians such as D.C. Watt, Paul Kennedy, George Peden and David Dilks argued that appeasement was not an aberration, and that it was an old British tradition which in this case flowed from numerous structural, economic and military factors. Historians such as Christopher Thorne and Harry Hinsley abandoned the previous focus on individual leaders to discuss the broader societal influences such as public opinion and narrower ones like intelligence on diplomatic relations. In recent years the debates regarding the 1930s have continued, but new approaches are in use, such as an analysis in terms of Britain's national identity.

French approaches

A group of French historians centered around Pierre Renouvin (1893-1974) and his *protégés* Jean-Baptiste Duroselle and Maurice Baumont started a new type of international history in the 1950s that included taking into account what Renouvin called *forces profondes* (profound forces) such as the influence

of domestic politics on French foreign policy. However, Renouvin and his followers still followed the concept of *la décadence* with Renouvin arguing that French society under the Third Republic was “sorely lacking in initiative and dynamism” and Baumont arguing that French politicians had allowed "personal interests" to override "any sense of the general interest". In 1979, Duroselle's book *La Décadence* offered a total condemnation of the entire Third Republic as weak, cowardly and degenerate.

Fischer debate on World War One

At the same time, in 1961 when the German historian Fritz Fischer published *Griff nach der Weltmacht*, which established that Germany had caused the First World War led to the fierce "Fischer Controversy" that tore apart the West German historical profession. One result of Fischer's book was the rise in the *Primat der Innenpolitik* (Primacy of Domestic Politics) approach. As a result of the rise of the *Primat der Innenpolitik*school, diplomatic historians increasing started to pay attention to domestic politics. In the 1970s, the conservative German historian Andreas Hillgruber, together with his close associate Klaus Hildebrand, was involved in a very acrimonious debate with the leftish German historian Hans-Ulrich Wehler over the merits of the *Primat der Aussenpolitik* ("primacy of foreign politics") and *Primat der Innenpolitik* ("primacy of domestic politics") schools. Hillgruber and Hildebrand made a case for the traditional *Primat der Aussenpolitik* approach to diplomatic history with the stress on examining the records of the relevant foreign ministry and studies of the foreign policy decision-making elite. Wehler, who favored the *Primat der Innenpolitik* approach, for his part

contended that diplomatic history should be treated as a sub-branch of social history, calling for theoretically-based research, and argued that the real focus should be on the study of the society in question. Moreover, under the influence of the *Primat der Innenpolitik* approach, diplomatic historians in the 1960s, 70s and 80s start to borrow models from the social sciences.

Mason-Overy debate on internal pressures inside Nazi Germany

A notable example of the *Primat der Innenpolitik* approach was the claim by the British Marxist historian Timothy Mason who claimed that the launch of World War II in 1939 was best understood as a "barbaric variant of social imperialism". Mason argued that "Nazi Germany was always bent *at some time* upon a major war of expansion". However, Mason argued that the timing of such a war was determined by domestic political pressures, especially as relating to a failing economy, and had nothing to do with what Hitler wanted. In Mason's view in the period between 1936 and 1941, it was the state of the German economy, and not Hitler's "will" or "intentions" that was the most important determinate on German decision-making on foreign policy. Mason argued that the Nazi leaders were deeply haunted by the November Revolution of 1918, and was most unwilling to see any fall in working class living standards out of the fear that it might provoke another November Revolution. According to Mason, by 1939, the "overheating" of the German economy caused by rearmament, the failure of various rearmament plans produced by the shortages of skilled workers, industrial unrest caused by the

breakdown of German social policies, and the sharp drop in living standards for the German working class forced Hitler into going to war at a time and place not of his choosing. Mason contended that when faced with the deep socio-economic crisis the Nazi leadership had decided to embark upon a ruthless “smash and grab” foreign policy of seizing territory in Eastern Europe which could be pitilessly plundered to support living standards in Germany. Mason's theory of a "Flight into war" being imposed on Hitler generated much controversy, and in the 1980s he conducted a series of debates with economic historian Richard Overy over this matter. Overy maintained the decision to attack Poland was not caused by structural economic problems, but rather was the result of Hitler wanting a localized war at that particular time in history. For Overy, a major problem with the Mason thesis was that it rested on the assumption that in a way unrecorded by the records, that information was passed on to Hitler about the *Reich*'s economic problems. Overy argued that there was a major difference between economic pressures inducted by the problems of the Four Year Plan, and economic motives to seize raw materials, industry and foreign reserve of neighboring states as a way of accelerating the Four Year Plan. Moreover, Overy asserted that the repressive capacity of the German state as a way of dealing with domestic unhappiness was somewhat downplayed by Mason.

Japanese-American relations

In addition, because World War II was a global war, diplomatic historians start to focus on Japanese-American relations to understand why Japan had attacked the United States in 1941. This in turn led diplomatic historians to start to abandon the

previous Euro-centric approach in favor of a more global approach. A sign of the changing times was the rise to prominence of such diplomatic historians such as the Japanese historian Chihiro Hosoya, the British historian Ian Nish, and the American historian Akira Iriye, which was the first time that Asian specialists became noted diplomatic historians.

Vietnam war and revisionism

The Cold War and decolonization greatly added the tendency to a more global diplomatic history. The Vietnam War led to the rise of a revisionist school in the United States, which led many American historians such as Gabriel Kolko and William Appleman Williams to reject traditional diplomatic history in favor of a *Primat der Innenpolitik* approach that saw a widespread examination of the influence of American domestic politics together with various social, economic and cultural forces on foreign-policy making. In general, the American Cold War revisionists tended to focus on American foreign policy decision-making with respect to the genesis of the Cold War in the 1940s and on how the United States became involved in Vietnam in the 1960s. Starting in the 1960s, a ferocious debate has taken place within Cold War historiography between the advocates of the “orthodox” school which saw the Cold War as a case of Soviet aggression such as Vojtech Mastny against the proponents of the “revisionist” school which saw the Cold War as a case of American aggression. Latterly, a third school known as "neo-orthodox" whose most prominent member is the American historian John Lewis Gaddis has emerged, which holds through the United States

borne some responsibility for the Cold War, the lion's share of the responsibility goes to the Soviet Union.

Recent trends

In Europe diplomatic history fell out of favor in the late Cold War era. Since the collapse of communism in 1989–91, however, there has been a renaissance, led especially by historians of the early modern era, in the history of diplomacy. The new approach differs from previous perspectives by the wholesale incorporation of perspectives from political science, sociology, the history of mentalities, and cultural history.

In the U.S. since the 1980s, the discipline of diplomatic history has become more relevant to and better integrated with the mainstream of the academic history profession. It has taken the lead in internationalization of American historical studies. Since it explores the interaction of domestic and international forces, the field has become increasingly important for its study of culture and identity and the exploration of political ideologies as applied to foreign affairs. There have been major influences from other new approaches such as Orientalism and globalism, as well as gender and racial history. The history of human rights has become important as well. Despite all these innovations, however, the core endeavor of diplomatic history remains the study of the state interacting with other states, which is also a key to its broadening appeal, since considerations of America's superpower status is essential to understanding the world internationally.

In the early 1980s, historian Jeffrey Kimball surveyed the ideological preferences of 109 active diplomatic historians in

the United States as well as 54 active military historians. He reports that:

- Of historians in the field of diplomatic history, 7% are Socialist, 19% are Other, 53% are Liberal, 11% are None and 10% Conservative. Of military historians, 0% are Socialist, 8% are Other, 35% are Liberal, 18% are None and 40% are Conservative.

Historical studies

In Europe, diplomatic history fell out of favor in the late Cold War era. Since the collapse of communism, there has been a renaissance, led especially by historians of the early modern era, in the history of diplomacy. The new approach differs from previous perspectives by the wholesale incorporation of perspectives from political science, sociology, the history of mentalities, and cultural history.

In the U.S. since 1980, the discipline of diplomatic history has become more relevant to and integrated with the mainstream of the historiographic profession, having been in the forefront of the internationalization of American historical studies. As a field that explores the meeting of domestic and international forces, the study of US foreign relations has become increasingly important for its examination of both the study of culture and identity and the exploration of political ideologies. Particularly shaped by the influence of studies of Orientalism and globalism, gender studies, race, and considerations of national identity, diplomatic history was often at the cutting edge of historical research. Despite such innovations, however,

the core endeavor of diplomatic history remains the study of the state, which is also a key to its broadening appeal, since considerations of US state power are essential to understanding the world internationally.

Prominent diplomatic historians

- Henry Brooks Adams, (1838–1918), US 1800–1816
- Henry Adams, U.S.
- Charles A. Beard, (1874–1948), revisionist history of coming of World War II
- Michael Beschloss, (born 1955) World War II; Cold War
- Samuel Flagg Bemis, U.S.
- Charles Howard Carter (1927-1990), Western Europe 1590-1635
- Winston Churchill, World War I; World War II
- Gordon A. Craig, (1913–2005) Germany
- Robert Dallek, 1930s to 1960s U.S.
- Jean-Baptiste Duroselle (1917-1994), 20th century Europe
- Herbert Feis (1893 – 1972), World War II; International trade
- Orlando Figes, (born 1957), Russian
- John Lewis Gaddis, Cold War
- Lloyd Gardner, 20th century U.S.
- Felix Gilbert, Renaissance
- George Peabody Gooch, (1873–1968), English historian of Modern Diplomacy
- Andreas Hillgruber, 20c Germany
- Akira Iriye (b. 1934) U.S. - Japan

- George F. Kennan, Russia
- Paul Kennedy, 19th and 20th century
- Henry Kissinger, (Born 1923); Nineteenth and twentieth century
- Walter LaFeber, 20th century U.S.
- William L. Langer, (1896–1977), US historian, World and diplomatic history
- John Lukacs, World War II
- Thomas J. McCormick, U.S.
- Walter A. McDougall, U.S. and European diplomatic history.
- Margaret MacMillan 20th century
- Charles S. Maier, 20th-century Europe
- William McNeill, world history
- Garrett Mattingly, Early modern Europe
- Arno J. Mayer, World War I
- Lewis Bernstein Namier, coming of World War II
- Geoffrey Parker, (born 1943) early modern
- Bradford Perkins, (1925–2008) Anglo-American relationships
- Leopold von Ranke, (1795–1886), European
- Pierre Renouvin, (1893–1974), 1815 to 1945
- Paul W. Schroeder, modern Europe
- Jean Edward Smith, Cold War
- Justin Harvey Smith, Mexican–American War
- Hew Strachan, World War I
- David Tal (historian), Israel
- A.J.P. Taylor, (1906–1990), Modern Europe, World Wars
- Harold Temperley, (1879–1939), British
- Arnold J. Toynbee, (1889–1975), 20th century
- Voltaire, (1694–1778), European

- Charles Webster, (1886–1961) British
- Gerhard Weinberg, World War Two, Germany
- John Wheeler-Bennett, British and German
- William Appleman Williams, American
- Randall Woods, 20th century U.S.
- Ernest Llewellyn Woodward, (1890–1971), British
- Karl W. Schweizer (1946-)18th century Britain/Europe
- Sergio Romano (writer) (1929), Italy and Russia

Chapter 6

Economic and Environmental History

Economic history

Economic history is the academic study of economies or economic events of the past. Research is conducted using a combination of historical methods, statistical methods and the application of economic theory to historical situations and institutions. The field can encompass a wide variety of topics, including equality, finance, technology, labour, and business. It emphasizes historicizing the economy itself, analyzing it as a dynamic force and attempting to provide insights into the way it is structured and conceived.

Using both quantitative data and qualitative sources, economic historians emphasize understanding the historical context in which major economic events take place. They often focus on the institutional dynamics of systems of production, labor, and capital, as well as the economy's impact on society, culture, and language. Scholars of the discipline may approach their analysis from the perspective of different schools of economic thought, such as mainstream economics, Marxian economics, the Chicago school of economics, and Keynesian economics.

Sub-disciplines of the field include financial and business history history, which overlaps with areas of social history

such as demographic and labor history. The quantitative (econometric) study of economic history is also known as cliometrics. Historians have recently re-engaged with the study of economic history in a new field calling itself history of capitalism.

Early history of the discipline

Arnold Toynbee made the case for combining economics and history in his pioneering study of the Industrial Revolution. Toynbee declared, "I believe economics today is much too dissociated from history. Smith and Malthus had historical minds. However, Ricardo – who set the pattern of modern textbooks – had a mind that was entirely unhistorical." There were several advantages in combining economics and history according to Toynbee. To begin with, it improved economic understanding. "We see abstract propositions in a new light when studying them in relation to historical facts. Propositions become more vivid and truthful." Meanwhile, studying history with economics makes history easier to understand. Economics teaches us to look out for the right facts in reading history and makes matters such as introducing enclosures, machinery, or new currencies more intelligible. Economics also teaches careful deductive reasoning. "The habits of mind it instils are even more valuable than the knowledge of principles it gives. Without these habits, the mass of their materials can overwhelm students of historical facts."

In late-nineteenth-century Germany, scholars at a number of universities, led by Gustav von Schmoller, developed the historical school of economic history. It argued that there were

no universal truths in history, emphasizing the importance of historical context without quantitative analysis. This historical approach dominated German and French scholarship for most of the 20th century. The historical school of economics included other economists such as Max Weber and Joseph Schumpeter who reasoned that careful analysis of human actions, cultural norms, historical context, and mathematical support was key to historical analysis. The approach was spread to Great Britain by William Ashley (University of Oxford) and dominated British economic history for much of the 20th century. Britain's first professor in the subject was George Unwin at the University of Manchester. Meanwhile, in France, economic history was heavily influenced by the Annales School from the early 20th century to the present. It exerts a worldwide influence through its journal *Annales. Histoire, Sciences Sociales.*

Treating economic history as a discrete academic discipline has been a contentious issue for many years. Academics at the London School of Economics and the University of Cambridge had numerous disputes over the separation of economics and economic history in the interwar era. Cambridge economists believed that pure economics involved a component of economic history and that the two were inseparably entangled. Those at the LSE believed that economic history warranted its own courses, research agenda and academic chair separated from mainstream economics. In the initial period of the subject's development, the LSE position of separating economic history from economics won out. Many universities in the UK developed independent programmes in economic history rooted in the LSE model. Indeed, the Economic History Society had its

inauguration at LSE in 1926 and the University of Cambridge eventually established its own economic history programme.

In the United States, the field of economic history was largely subsumed into other fields of economics following the cliometric revolution of the 1960s. To many it became seen as a form of applied economics rather than a stand-alone discipline. Cliometrics, also known as the New Economic History, refers to the systematic use of economic theory and econometric techniques to the study of economic history. The term was originally coined by Jonathan R. T. Hughes and Stanley Reiter and refers to Clio, who was the muse of history and heroic poetry in Greek mythology. One of the most famous cliometric economic historians is Douglass North, who argued that it is the task of economic history to elucidate the historical dimensions of economies through time. Cliometricians argue their approach is necessary because the application of theory is crucial in writing solid economic history, while historians generally oppose this view warning against the risk of generating anachronisms.

Early cliometrics was a type of counterfactual history. However, counterfactualism was not its distinctive feature; it combines neoclassical economics with quantitative methods in order to explain human choices based on constraints. Some have argued that cliometrics had its heyday in the 1960s and 1970s and that it is now neglected by economists and historians. In response to North and Robert Fogel's Nobel Memorial Prize in Economics in 1993, Harvard University economist Claudia Goldin argued that:

economic history is not a handmaiden of economics but a distinct field of scholarship. Economic history was a scholarly discipline long before it became cliometrics. Its practitioners were economists and historians studying the histories of economies... The new economic history, or cliometrics, formalized economic history in a manner similar to the injection of mathematical models and statistics into the rest of economics.

The relationship between economic history, economics and history has long been the subject of intense discussion, and the debates of recent years echo those of early contributors. There has long been a school of thought among economic historians that splits economic history—the study of how economic phenomena evolved in the past—from historical economics—testing the generality of economic theory using historical episodes. US economic historian Charles P. Kindleberger explained this position in his 1990 book *Historical Economics: Art or Science?*. Economic historian Robert Skidelsky (University of Cambridge) argued that economic theory often employs ahistorical models and methodologies that do not take into account historical context. Yale University economist Irving Fisher already wrote in 1933 on the relationship between economics and economic history in his "Debt-Deflation Theory of Great Depressions":

The study of dis-equilibrium may proceed in either of two ways. We may take as our unit for study an actual historical case of great dis-equilibrium, such as, say, the panic of 1873; or we may take as our unit for study any constituent tendency, such as, say, deflation, and discover its general laws, relations to, and combinations with, other tendencies. The former study

revolves around events, or facts; the latter, around tendencies. The former is primarily economic history; the latter is primarily economic science. Both sorts of studies are proper and important. Each helps the other. The panic of 1873 can only be understood in light of the various tendencies involved—deflation and other; and deflation can only be understood in the light of various historical manifestations—1873 and other.

Scope and focus of the discipline today

The past three decades have witnessed the widespread closure of separate economic history departments and programmes in the UK and the integration of the discipline into either history or economics departments. Only the LSE retains a separate economic history department and stand-alone undergraduate and graduate programme in economic history. Cambridge, Glasgow, LSE, Oxford, Queen's, and Warwick together train the vast majority of economic historians coming through the British higher education system today, but do so as part of economics or history degrees. Meanwhile, there have never been specialist economic history graduate programs at universities anywhere in the US. However, economic history remains a special field component of leading economics PhD programs, including University of California, Berkeley, Harvard University, Northwestern University, Princeton University, the University of Chicago and Yale University.

Despite the pessimistic view on the state of the discipline espoused by many of its practitioners, economic history

remains an active field of social scientific inquiry. Indeed, it has seen something of a resurgence in interest since 2000, perhaps driven by research conducted at universities in continental Europe rather than the UK and the US.

Part of the growth in economic history is driven by the continued interest in big policy-relevant questions on the history of economic growth and development. MIT economist Peter Temin noted that development economics is intricately connected with economic history, as it explores the growth of economies with different technologies, innovations, and institutions. Studying economic growth has been popular for years among economists and historians who have sought to understand why some economies have grown faster than others. Some of the early texts in the field include Walt Whitman Rostow's *The Stages of Economic Growth: A Non-Communist Manifesto* (1971) which described how advanced economies grow after overcoming certain hurdles and advancing to the next stage in development. Another economic historian, Alexander Gerschenkron, complicated this theory with works on how economies develop in non-Western countries, as discussed in *Economic Backwardness in Historical Perspective: A Book of Essays* (1962). A more recent work is Daron Acemoglu and James A. Robinson's *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* (2012) which pioneered a new field of persistence studies, emphasizing the path-dependent stages of growth. Other notable books on the topic include Kenneth Pomeranz's *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (2000) and David S. Landes's *The Wealth and Poverty of Nations: Why Some are So Rich and Some So Poor* (1998).

In recent decades, and notably since the global financial crisis of 2007–2008, scholars have recently become more interested in a field which may be called *new* new economic history. Scholars have tended to move away from narrowly quantitative studies toward institutional, social, and cultural history affecting the evolution of economies. The focus of these studies is frequently on "persistence", as past events are linked to present outcomes. Columbia University economist Charles Calomiris argued that this new field showed 'how historical (path-dependent) processes governed changes in institutions and markets.' However, this trend has been criticized, most forcefully by Francesco Boldizzoni, as a form of economic imperialism "extending the neoclassical explanatory model to the realm of social relations."

Conversely, economists in other specializations have started to write a new kind of economic history which makes use of historical data to understand the present day. A major development in this genre was the publication of Thomas Piketty's *Capital in the Twenty-First Century* (2013). The book described the rise in wealth and income inequality since the 18th century, arguing that large concentrations of wealth lead to social and economic instability. Piketty also advocated a system of global progressive wealth taxes to correct rising inequality. The book was selected as a *New York Times* best seller and received numerous awards. The book was well received by some of the world's major economists, including Paul Krugman, Robert Solow, and Ben Bernanke. Books in response to Piketty's book include *After Piketty: The Agenda for Economics and Inequality*, by Heather Boushey, J. Bradford DeLong, and Marshall Steinbaum (eds.) (2017), *Pocket Piketty* by Jesper Roine (2017), and *Anti-Piketty: Capital for the 21st*

Century, by Jean-Philippe Delsol, Nicolas Lecaussin, Emmanuel Martin (2017). One economist argued that Piketty's book was "Nobel-Prize worthy" and noted that it had changed the global discussion on how economic historians study inequality. It has also sparked new conversations in the disciplines of public policy.

In addition to the mainstream in economic history, there is a parallel development in the field influenced by Karl Marx and Marxian economics. Marx used historical analysis to interpret the role of class and class as a central issue in history. He debated with the "classical" economists (a term he coined), including Adam Smith and David Ricardo. In turn, Marx's legacy in economic history has been to critique the findings of neoclassical economists. Marxist analysis also confronts economic determinism, the theory that economic relationships are the foundation of political and societal institutions. Marx abstracted the idea of a "capitalist mode of production" as a way of identifying the transition from feudalism to capitalism. This has influenced some scholars, such as Maurice Dobb, to argue that feudalism declined because of peasants' struggles for freedom and the growing inefficiency of feudalism as a system of production. In turn, in what was later coined the Brenner debate, Paul Sweezy, a Marxian economist, challenged Dobs *definition of feudalism and its focus only on western Europe.*

History of capitalism

A new field calling itself the "history of capitalism" has emerged in US history departments since about the year 2000.

It includes many topics traditionally associated with the field of economic history, such as insurance, banking and regulation, the political dimension of business, and the impact of capitalism on the middle classes, the poor and women and minorities. The field has particularly focused on the contribution of slavery to the rise of the US economy in the nineteenth century. The field utilizes the existing research of business history, but has sought to make it more relevant to the concerns of history departments in the United States, including by having limited or no discussion of individual business enterprises. Historians of capitalism have countered these critiques, citing the issues with economic history. As University of Chicago professor of history Jonathan Levy states, "modern economic history began with industrialization and urbanization, and, even then, environmental considerations were subsidiary, if not nonexistent."

Scholars have critiqued the history of capitalism because it does not focus on systems of production, circulation, and distribution. Some have criticized its lack of social scientific methods and its ideological biases. As a result, a new academic journal, *Capitalism: A Journal of History and Economics*, was founded at the University of Pennsylvania under the direction of Marc Flandreau (University of Pennsylvania), Julia Ott (The New School, New York) and Francesca Trivellato (Institute for Advanced Study, Princeton) to widen the scope of the field. The journal's goal is to bring together "historians and social scientists interested in the material and intellectual aspects of modern economic life."

Academic journals and societies

The first journal specializing in the field of economic history was *The Economic History Review*, founded in 1927, as the main publication of the Economic History Society. The first journal featured a publication by Professor Sir William Ashley, the first Professor of Economic History in the English-speaking world, who described the emerging field of economic history. The discipline existed alongside long-standing fields such as political history, religious history, and military history as one that focused on humans' interactions with 'visible happenings'. He continued, '[economic history] primarily and unless expressly extended, the history of actual human practice with respect to the material basis of life. The visible happenings with regard-to use the old formula-to "the production, distribution, and consumption of wealth" form our wide enough field'.

Later, the Economic History Association established another academic journal, *The Journal of Economic History*, in 1941 as a way of expanding the discipline in the United States. The first president of the Economic History Association, Edwin F. Gay, described the aim of economic history was to provide new perspectives in the economics and history disciplines: 'An adequate equipment with two skills, that of the historian and the economist, is not easily acquired, but experience shows that it is both necessary and possible'. Other related academic journals have broadened the lens with which economic history is studied. These interdisciplinary journals include the *Business History Review*, *European Review of Economic History*, *Enterprise and Society*, and *Financial History Review*.

The *International Economic History Association*, an association of close to 50 member organizations, recognizes some of the major academic organizations dedicated to study of economic history: the Business History Conference, Economic History Association, Economic History Society, European Association of Business Historians, and the International Social History Association.

Nobel Memorial Prize-winning economic historians

- Simon Kuznets won the Nobel Memorial Prize in Economic Sciences ("the Nobel Memorial Prize") in 1971 "for his empirically founded interpretation of economic growth which has led to new and deepened insight into the economic and social structure and process of development".
- John Hicks, whose early writing was on the field of economic history, won the Nobel Memorial Prize in 1972 his contributions to general equilibrium theory and welfare theory.
- Arthur Lewis won the Nobel Memorial Prize in 1979 for his contributions in the field of economic development through historical context.
- Milton Friedman won the Nobel Memorial Prize in 1976 for "his achievements in the fields of consumption analysis, monetary history and theory and for his demonstration of the complexity of stabilization policy".

- Robert Fogel and Douglass North won the Nobel Memorial Prize in 1993 for "having renewed research in economic history by applying economic theory and quantitative methods in order to explain economic and institutional change".
- Merton Miller, who started his academic career teaching economic history at the LSE, won the Nobel Memorial Prize in 1990 with Harry Markowitz and William F. Sharpe.

Notable works of economic history

Foundational works

- Milton Friedman and Anna Schwartz, *A Monetary History of the United States, 1867–1960* (1963)
- Friedrich Hayek, *The Road to Serfdom* (1944)
- Karl Marx, *Capital: A Critique of Political Economy* (1867)
- Karl Polanyi, *The Great Transformation: Origins of Our Time* (1944)
- David Ricardo, *On the Principles of Political Economy and Taxation* (1817)
- Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776)

General

- Robert C. Allen, *Global Economic History: A Very Short Introduction* (2011)
- Gregory Clark, *A Farewell to Alms: A Brief Economic History of the World* (2007)
- Kevin O'Rourke and Ronald Findlay, *Power and Plenty: Trade, War, and the World Economy in the Second Millennium* (2007)
- Robert Heilbroner, *The Worldly Philosophers: The Lives, Times and Ideas of the Great Economic Thinkers* (1953)

Ancient economies

- Moses Finley, *The Ancient Economy* (1973)
- Walter Scheidel, *The Great Leveler: Violence and the History of Inequality from the Stone Age to the Twenty-First Century* (2017)
- Peter Temin, *The Roman Market Economy* (2012)

Economic growth and development

- Daron Acemoglu and James A. Robinson, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* (2012)
- Alexander Gerschenkron, *Economic Backwardness in Historical Perspective: A Book of Essays* (1962)
- Robert J. Gordon, *The Rise and Fall of American Growth: The U.S. Standard of Living Since the Civil War* (2016)

- David S. Landes, *The Wealth and Poverty of Nations: Why Some are So Rich and Some So Poor* (1998)
- Joel Mokyr, *The Lever of Riches: Technological Creativity and Economic Progress* (1990)
- Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (2000)
- Walt Whitman Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (1971)
- Jeffrey Sachs, *The End of Poverty: Economic Possibilities for Our Time* (2005)
- Amartya Sen, *Development as Freedom* (1999)

History of money

- Christine Desan, *Making Money: Coin, Currency, and the Coming of Capitalism* (2014)
- William N. Goetzmann, *Money Changes Everything: How Finance Made Civilization Possible* (2016)
- David Graeber, *Debt: The First 5000 Years* (2011)

Business history

- David Cannadine, *Mellon: An American Life* (2006)
- Alfred D. Chandler Jr., *The Visible Hand: The Managerial Revolution in American Business* (1977)
- Ron Chernow, *The House of Morgan: An American Banking Dynasty and the Rise of Modern Finance* (1990)
- Ron Chernow, *Titan: The Life of John D. Rockefeller, Sr.* (1998)

- William D. Cohan, *Money and Power: How Goldman Sachs Came to Rule the World*
- Naomi Lamoreaux, *The Great Merger Movement in American Business, 1895–1904* (1985)
- David Nasaw, *Andrew Carnegie* (2006)
- Jean Strouse, *Morgan: American Financier* (1999)

Financial history

- Liaquat Ahamed, *Lords of Finance: The Bankers Who Broke the World* (2009)
- Mark Blyth, *Austerity: The History of a Dangerous Idea* (2013)
- Charles W. Calomiris and Stephen H. Haber, *Fragile by Design: The Political Origins of Banking Crises and Scarce Credit* (2014)
- Barry Eichengreen, *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System* (2010)
- Barry Eichengreen, *Globalizing Capital: A History of the International Monetary System* (1996)
- Niall Ferguson, *The Ascent of Money: A Financial History of the World* (2008)
- Harold James, *International Monetary Cooperation Since Bretton Woods* (1996)
- Carmen M. Reinhart and Kenneth S. Rogoff, *This Time Is Different: Eight Centuries of Financial Folly* (2009)
- Benn Steil, *The Battle of Bretton Woods: John Maynard Keynes, Harry Dexter White, and the Making of a New World Order* (2013)

- Adam Tooze, *The Wages of Destruction: The Making and Breaking of the Nazi Economy* (2006)

Globalization and inequality

- Sven Beckert, *Empire of Cotton: A Global History* (2014)
- William J. Bernstein, *A Splendid Exchange: How Trade Shaped the World from Prehistory to Today* (2008)
- Niall Ferguson, *The Cash Nexus: Money and Power in the Modern World, 1700-2000* (2001)
- Robert Fogel and Stanley L. Engerman, *Time on the Cross: The Economics of American Negro Slavery* (1974)
- Claudia Goldin, *Understanding the Gender Gap: An Economic History of American Women* (1990)
- Harold James, *The End of Globalization: Lessons from the Great Depression* (2009)
- Thomas Piketty, *Capital in the Twenty-First Century* (2013)
- Thomas Piketty, *The Economics of Inequality* (2015)
- Thomas Piketty, *Capital and Ideology* (2020)
- Emmanuel Saez and Gabriel Zucman, *The Triumph of Injustice: How the Rich Dodge Taxes and How to Make Them Pay* (2019)
- Jeffrey G. Williamson and Kevin O'Rourke, *Globalization and History: The Evolution of a Nineteenth-century Atlantic Economy* (1999)
- Gabriel Zucman, *The Hidden Wealth of Nations: The Scourge of Tax Havens* (2015)

Notable economic historians

Moses Abramovitz

- Jeremy Adelman
- Robert Allen
- T. S. Ashton
- Correlli Barnett
- Jörg Baten
- Maxine Berg
- Jean-François Bergier
- Ben Bernanke
- Francesco Boldizzoni
- Leah Boustan
- Fernand Braudel
- Rondo Cameron
- Sydney Checkland
- Carlo M. Cipolla
- John Clapham
- Gregory Clark
- Thomas C. Cochran
- Nicholas Crafts
- Louis Cullen
- Peter Davies (economic historian)
- Brad DeLong
- Melissa Dell
- Barry Eichengreen
- Stanley Engerman
- Charles Feinstein
- Niall Ferguson
- Ronald Findlay

- Moses Israel Finley
- Irving Fisher
- Brian Fitzpatrick
- Roderick Floud
- Robert Fogel
- Milton Friedman
- Celso Furtado
- Alexander Gerschenkron
- Claudia Goldin
- Jack Goldstone
- John Habakkuk
- Earl J. Hamilton
- Eli Heckscher
- Eric Hobsbawm
- Susan Howson
- Leo Huberman
- Jane Humphries
- Harold James
- Geoffrey Jones
- Ibn Khaldun
- Charles P. Kindleberger
- John Komlos
- Nikolai Kondratiev
- Simon Kuznets
- Emmanuel Le Roy Ladurie
- Naomi Lamoreaux
- David Landes
- Tim Leunig
- Friedrich List
- Robert Sabatino Lopez
- Angus Maddison
- Peter Mathias

- Ellen McArthur
- Deirdre McCloskey
- Jacob (Kobi) Metzer
- Joel Mokyr
- Douglass North
- Nathan Nunn
- Avner Offer
- Cormac Ó Gráda
- Patrick K. O'Brien
- Thomas Piketty
- Henri Pirenne
- Karl Polanyi
- Erik S. Reinert
- Christina Romer
- W. W. Rostow
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- Joseph Schumpeter
- Anna Jacobson Schwartz
- Larry Schweikart
- Ram Sharan Sharma
- Robert Skidelsky
- Adam Smith
- Graeme Snooks
- Richard H. Steckel
- R. H. Tawney
- Peter Temin
- Adam Tooze
- Francesca Trivellato
- Eberhard Wächtler
- Jeffrey Williamson
- Tony Wrigley

- Jan Luiten van Zanden

Environmental history

Environmental history is the study of human interaction with the natural world over time, emphasising the active role nature plays in influencing human affairs and vice versa.

Environmental history first emerged in the United States out of the environmental movement of the 1960s and 1970s, and much of its impetus still stems from present-day global environmental concerns. The field was founded on conservation issues but has broadened in scope to include more general social and scientific history and may deal with cities, population or sustainable development. As all history occurs in the natural world, environmental history tends to focus on particular time-scales, geographic regions, or key themes. It is also a strongly multidisciplinary subject that draws widely on both the humanities and natural science.

The subject matter of environmental history can be divided into three main components. The first, nature itself and its change over time, includes the physical impact of humans on the Earth's land, water, atmosphere and biosphere. The second category, how humans use nature, includes the environmental consequences of increasing population, more effective technology and changing patterns of production and consumption. Other key themes are the transition from nomadic hunter-gatherer communities to settled agriculture in the neolithic revolution, the effects of colonial expansion and settlements, and the environmental and human consequences

of the industrial and technological revolutions. Finally, environmental historians study how people think about nature - the way attitudes, beliefs and values influence interaction with nature, especially in the form of myths, religion and science.

Origin of name and early works

In 1967, Roderick Nash published "*Wilderness and the American Mind*", a work that has become a classic text of early environmental history. In an address to the *Organization of American Historians* in 1969 (published in 1970) Nash used the expression "environmental history", although 1972 is generally taken as the date when the term was first coined. The 1959 book by Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920*, while being a major contribution to American political history, is now also regarded as a founding document in the field of environmental history. Hays is Professor Emeritus of History at the University of Pittsburgh. Alfred W. Crosby's book *The Columbian Exchange* (1972) is another key early work of environmental history.

Historiography

Brief overviews of the historiography of environmental history have been published by J. R. McNeill, Richard White, and J. Donald Hughes. In 2014 Oxford University Press published a volume of 25 essays in *The Oxford Handbook of Environmental History*.

Definition

There is no universally accepted definition of environmental history. In general terms it is a history that tries to explain why our environment is like it is and how humanity has influenced its current condition, as well as commenting on the problems and opportunities of tomorrow. Donald Worster's widely quoted 1988 definition states that environmental history is the "interaction between human cultures and the environment in the past". In 2001, J. Donald Hughes defined the subject as the “study of human relationships through time with the natural communities of which they are a part in order to explain the processes of change that affect that relationship”. and, in 2006, as "history that seeks understanding of human beings as they have lived, worked and thought in relationship to the rest of nature through the changes brought by time". "As a method, environmental history is the use of ecological analysis as a means of understanding human history...an account of changes in human societies as they relate to changes in the natural environment”. Environmental historians are also interested in "what people think about nature, and how they have expressed those ideas in folk religions, popular culture, literature and art”. In 2003, J. R. McNeill defined it as "the history of the mutual relations between humankind and the rest of nature".

Subject matter

Traditional historical analysis has over time extended its range of study from the activities and influence of a few significant people to a much broader social, political, economic, and

cultural analysis. Environmental history further broadens the subject matter of conventional history. In 1988, Donald Worster stated that environmental history "attempts to make history more inclusive in its narratives" by examining the "*role and place of nature in human life*", and in 1993, that "Environmental history explores the ways in which the biophysical world has influenced the course of human history and the ways in which people have thought about and tried to transform their surroundings". *The interdependency of human and environmental factors in the creation of landscapes is expressed through the notion of the cultural landscape. Worster also questioned the scope of the discipline, asking: "*We study humans and nature; therefore can anything human or natural be outside our enquiry?"

Environmental history is generally treated as a subfield of history. But some environmental historians challenge this assumption, arguing that while traditional history is human history – the story of people and their institutions, "humans cannot place themselves outside the principles of nature". In this sense, they argue that environmental history is a version of human history within a larger context, one less dependent on anthropocentrism (even though anthropogenic change is at the center of its narrative).

Dimensions

J. Donald Hughes responded to the view that environmental history is "*light on theory*" or lacking theoretical structure by viewing the subject through the lens of three "dimensions": nature and culture, history and science, and scale. This

advances beyond Worster's recognition of three broad clusters of issues to be addressed by environmental historians although both historians recognize that the emphasis of their categories might vary according to the particular study as, clearly, some studies will concentrate more on society and human affairs and others more on the environment.

Themes

Several themes are used to express these historical dimensions. A more traditional historical approach is to analyse the transformation of the globe's ecology through themes like the separation of man from nature during the neolithic revolution, imperialism and colonial expansion, exploration, agricultural change, the effects of the industrial and technological revolution, and urban expansion. More environmental topics include human impact through influences on forestry, fire, climate change, sustainability and so on. According to Paul Warde, "*the increasingly sophisticated history of colonization and migration can take on an environmental aspect, tracing the pathways of ideas and species around the globe and indeed is bringing about an increased use of such analogies and 'colonial' understandings of processes within European history.*" The importance of the colonial enterprise in Africa, the Caribbean and Indian Ocean has been detailed by Richard Grove. Much of the literature consists of case-studies targeted at the global, national and local levels.

Scale

Although environmental history can cover billions of years of history over the whole Earth, it can equally concern itself with local scales and brief time periods. Many environmental historians are occupied with local, regional and national histories. Some historians link their subject exclusively to the span of human history – "*every time period in human history*" while others include the period before human presence on Earth as a legitimate part of the discipline. Ian Simmons's *Environmental History of Great Britain* covers a period of about 10,000 years. There is a tendency to difference in time scales between natural and social phenomena: the causes of environmental change that stretch back in time may be dealt with socially over a comparatively brief period.

Although at all times environmental influences have extended beyond particular geographic regions and cultures, during the 20th and early 21st centuries anthropogenic environmental change has assumed global proportions, most prominently with climate change but also as a result of settlement, the spread of disease and the globalization of world trade.

History

The questions of environmental history date back to antiquity, including Hippocrates, the father of medicine, who asserted that different cultures and human temperaments could be related to the surroundings in which peoples lived in *Airs, Waters, Places*. Scholars as varied as Ibn Khaldun and

Montesquieu found climate to be a key determinant of human behavior. During the Enlightenment, there was a rising awareness of the environment and scientists addressed themes of sustainability via natural history and medicine. However, the origins of the subject in its present form are generally traced to the 20th century.

In 1929 a group of French historians founded the journal *Annales*, in many ways a forerunner of modern environmental history since it took as its subject matter the reciprocal global influences of the environment and human society. The idea of the impact of the physical environment on civilizations was espoused by this Annales School to describe the long term developments that shape human history by focusing away from political and intellectual history, toward agriculture, demography, and geography. Emmanuel Le Roy Ladurie, a pupil of the Annales School, was the first to really embrace, in the 1950s, environmental history in a more contemporary form. One of the most influential members of the Annales School was Lucien Febvre (1878–1956), whose 1922 book *A Geographical Introduction to History* is now a classic in the field.

The most influential empirical and theoretical work in the subject has been done in the United States where teaching programs first emerged and a generation of trained environmental historians is now active. In the United States environmental history as an independent field of study emerged in the general cultural reassessment and reform of the 1960s and 1970s along with environmentalism, "conservation history", and a gathering awareness of the global scale of some environmental issues. This was in large part a reaction to the way nature was represented in history at the time, which

“portrayed the advance of culture and technology as releasing humans from dependence on the natural world and providing them with the means to manage it [and] celebrated human mastery over other forms of life and the natural environment, and expected technological improvement and economic growth to accelerate”. Environmental historians intended to develop a post-colonial historiography that was "*more inclusive in its narratives*".

Moral and political inspiration

Moral and political inspiration to environmental historians has come from American writers and activists such as Henry Thoreau, John Muir, Aldo Leopold, and Rachel Carson. Environmental history "frequently promoted a moral and political agenda although it steadily became a more scholarly enterprise". Early attempts to define the field were made in the United States by Roderick Nash in “The State of Environmental History” and in other works by frontier historians Frederick Jackson Turner, James Malin, and Walter Prescott Webb, who analyzed the process of settlement. Their work was expanded by a second generation of more specialized environmental historians such as Alfred Crosby, Samuel P. Hays, Donald Worster, William Cronon, Richard White, Carolyn Merchant, J. R. McNeill, Donald Hughes, and Chad Montrie in the United States and Paul Warde, Sverker Sorlin, Robert A. Lambert, T.C. Smout, and Peter Coates in Europe.

British Empire

Although environmental history was growing rapidly as a field after 1970 in the United States, it only reached historians of the British Empire in the 1990s. Gregory Barton argues that the concept of environmentalism emerged from forestry studies, and emphasizes the British imperial role in that research. He argues that imperial forestry movement in India around 1900 included government reservations, new methods of fire protection, and attention to revenue-producing forest management. The result eased the fight between romantic preservationists and laissez-faire businessmen, thus giving the compromise from which modern environmentalism emerged.

In recent years numerous scholars cited by James Beattie have examined the environmental impact of the Empire. Beinart and Hughes argue that the discovery and commercial or scientific use of new plants was an important concern in the 18th and 19th centuries. The efficient use of rivers through dams and irrigation projects was an expensive but important method of raising agricultural productivity. Searching for more efficient ways of using natural resources, the British moved flora, fauna and commodities around the world, sometimes resulting in ecological disruption and radical environmental change. Imperialism also stimulated more modern attitudes toward nature and subsidized botany and agricultural research. Scholars have used the British Empire to examine the utility of the new concept of eco-cultural networks as a lens for examining interconnected, wide-ranging social and environmental processes.

Current practice

In the United States the American Society for Environmental History was founded in 1975 while the first institute devoted specifically to environmental history in Europe was established in 1991, based at the University of St. Andrews in Scotland. In 1986, the Dutch foundation for the history of environment and hygiene *Net Werk* was founded and publishes four newsletters per year. In the UK the White Horse Press in Cambridge has, since 1995, published the journal *Environment and History* which aims to bring scholars in the humanities and biological sciences closer together in constructing long and well-founded perspectives on present day environmental problems and a similar publication *Tijdschrift voor Ecologische Geschiedenis* (*Journal for Environmental History*) is a combined Flemish-Dutch initiative mainly dealing with topics in the Netherlands and Belgium although it also has an interest in European environmental history. Each issue contains abstracts in English, French and German. In 1999 the Journal was converted into a yearbook for environmental history. In Canada the Network in Canadian History and Environment facilitates the growth of environmental history through numerous workshops and a significant digital infrastructure including their website and podcast.

Communication between European nations is restricted by language difficulties. In April 1999 a meeting was held in Germany to overcome these problems and to co-ordinate environmental history in Europe. This meeting resulted in the creation of the European Society for Environmental History in 1999. Only two years after its establishment, ESEH held its

first international conference in St. Andrews, Scotland. Around 120 scholars attended the meeting and 105 papers were presented on topics covering the whole spectrum of environmental history. The conference showed that environmental history is a viable and lively field in Europe and since then ESEH has expanded to over 400 members and continues to grow and attracted international conferences in 2003 and 2005. In 1999 the *Centre for Environmental History* was established at the University of Stirling. Some history departments at European universities are now offering introductory courses in environmental history and postgraduate courses in Environmental history have been established at the Universities of Nottingham, Stirling and Dundee and more recently a Graduierten Kolleg was created at the University of Göttingen in Germany. In 2009, the Rachel Carson Center for Environment and Society (RCC), an international, interdisciplinary center for research and education in the environmental humanities and social sciences, was founded as a joint initiative of Munich's Ludwig-Maximilians-Universität and the Deutsches Museum, with the generous support of the German Federal Ministry of Education and Research. The Environment & Society Portal (environmentandsociety.org) is the Rachel Carson Center's open access digital archive and publication platform.

Related disciplines

Environmental history prides itself in bridging the gap between the arts and natural sciences although to date the scales weigh on the side of science. A definitive list of related subjects would be lengthy indeed and singling out those for special

mention a difficult task. However, those frequently quoted include, historical geography, the history and philosophy of science, history of technology and climate science. On the biological side there is, above all, ecology and historical ecology, but also forestry and especially forest history, archaeology and anthropology. When the subject engages in environmental advocacy it has much in common with environmentalism.

With increasing globalization and the impact of global trade on resource distribution, concern over never-ending economic growth and the many human inequities environmental history is now gaining allies in the fields of ecological and environmental economics.

Engagement with sociological thinkers and the humanities is limited but cannot be ignored through the beliefs and ideas that guide human action. This has been seen as the reason for a perceived lack of support from traditional historians.

Issues

The subject has a number of areas of lively debate. These include discussion concerning: what subject matter is most appropriate; whether environmental advocacy can detract from scholarly objectivity; standards of professionalism in a subject where much outstanding work has been done by non-historians; the relative contribution of nature and humans in determining the passage of history; the degree of connection with, and acceptance by, other disciplines - but especially mainstream history. For Paul Warde the sheer scale, scope and

diffuseness of the environmental history endeavour calls for an analytical toolkit "a range of common issues and questions to push forward collectively" and a "core problem". He sees a lack of "human agency" in its texts and suggest it be written more to act: as of information for environmental scientists; incorporation of the notion of risk; a closer analysis of what it is we mean by "environment"; confronting the way environmental history is at odds with the humanities because it emphasises the division between "materialist, and cultural or constructivist explanations for human behaviour".

Global sustainability

Many of the themes of environmental history inevitably examine the circumstances that produced the environmental problems of the present day, a litany of themes that challenge global sustainability including: population, consumerism and materialism, climate change, waste disposal, deforestation and loss of wilderness, industrial agriculture, species extinction, depletion of natural resources, invasive organisms and urban development. The simple message of sustainable use of renewable resources is frequently repeated and early as 1864 George Perkins Marsh was pointing out that the changes we make in the environment may later reduce the environments usefulness to humans so any changes should be made with great care - what we would nowadays call enlightened self-interest. Richard Grove has pointed out that "*States will act to prevent environmental degradation only when their economic interests are threatened*".

Advocacy

It is not clear whether environmental history should promote a moral or political agenda. The strong emotions raised by environmentalism, conservation and sustainability can interfere with historical objectivity: polemical tracts and strong advocacy can compromise objectivity and professionalism. Engagement with the political process certainly has its academic perils although accuracy and commitment to the historical method is not necessarily threatened by environmental involvement: environmental historians have a reasonable expectation that their work will inform policy-makers.

A recent historiographical shift has placed an increased emphasis on inequality as an element of environmental history. Imbalances of power in resources, industry, and politics have resulted in the burden of industrial pollution being shifted to less powerful populations in both the geographic and social spheres. An critical examination of the traditional environmentalist movement from this historical perspective notes the ways in which early advocates of environmentalism sought the aesthetic preservation of middle-class spaces and sheltered their own communities from the worst effects of air and water pollution, while neglecting the plight of the less privileged.

Communities with less economic and sociopolitical power often lack the resources to get involved in environmental advocacy. Environmental history increasingly highlights the ways in which the middle-class environmental movement has fallen short and left behind entire communities. Interdisciplinary

research now understands historic inequality as a lens through which to predict future social developments in the environmental sphere, particularly with regard to climate change. The United Nations Department of Economic and Social Affairs cautions that a warming planet will exacerbate environmental and other inequalities, particularly with regard to: "(a) increase in the exposure of the disadvantaged groups to the adverse effects of climate change; (b) increase in their susceptibility to damage caused by climate change; and (c) decrease in their ability to cope and recover from the damage suffered." As an interdisciplinary field that encompasses a new understanding of social justice dynamics in a rapidly changing global climate, environmental history is inherently advocative.

Declensionist narratives

Narratives of environmental history tend to be what scholars call "declensionist," that is, accounts of increasing decline under human activity.

Presentism and culpability

Under the accusation of "presentism" it is sometimes claimed that, with its genesis in the late 20th century environmentalism and conservation issues, environmental history is simply a reaction to contemporary problems, an "attempt to read late twentieth century developments and concerns back into past historical periods in which they were not operative, and certainly not conscious to human participants during those times". This is strongly related to the idea of culpability. In environmental debate blame can always

be apportioned, but it is more constructive for the future to understand the values and imperatives of the period under discussion so that causes are determined and the context explained.

Environmental determinism

For some environmental historians "the general conditions of the environment, the scale and arrangement of land and sea, the availability of resources, and the presence or absence of animals available for domestication, and associated organisms and disease vectors, that makes the development of human cultures possible and even predispose the direction of their development" and that "history is inevitably guided by forces that are not of human origin or subject to human choice". This approach has been attributed to American environmental historians Webb and Turner and, more recently to Jared Diamond in his book *Guns, Germs, and Steel*, where the presence or absence of disease vectors and resources such as plants and animals that are amenable to domestication that may not only stimulate the development of human culture but even determine, to some extent, the direction of that development. The claim that the path of history has been forged by environmental rather than cultural forces is referred to as environmental determinism while, at the other extreme, is what may be called cultural determinism. An example of cultural determinism would be the view that human influence is so pervasive that the idea of pristine nature has little validity - that there is no way of relating to nature without culture.

Methodology

Useful guidance on the process of doing environmental history has been given by Donald Worster, Carolyn Merchant, William Cronon and Ian Simmons. Worster's three core subject areas (the environment itself, human impacts on the environment, and human thought about the environment) are generally taken as a starting point for the student as they encompass many of the different skills required. The tools are those of both history and science with a requirement for fluency in the language of natural science and especially ecology. In fact methodologies and insights from a range of physical and social sciences is required, there seeming to be universal agreement that environmental history is indeed a multidisciplinary subject.

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Future

Environmental history, like all historical studies, shares the hope that through an examination of past events it may be possible to forge a more considered future. In particular a greater depth of historical knowledge can inform environmental controversies and guide policy decisions.

The subject continues to provide new perspectives, offering cooperation between scholars with different disciplinary backgrounds and providing an improved historical context to resource and environmental problems. There seems little doubt that, with increasing concern for our environmental future, environmental history will continue along the path of environmental advocacy from which it originated as "*human impact on the living systems of the planet bring us no closer to utopia, but instead to a crisis of survival*" with key themes being population growth, climate change, conflict over environmental policy at different levels of human organization, extinction, biological invasions, the environmental consequences of technology especially biotechnology, the reduced supply of resources - most notably energy, materials

and water. Hughes comments that environmental historians "*will find themselves increasingly challenged by the need to explain the background of the world market economy and its effects on the global environment. Supranational instrumentalities threaten to overpower conservation in a drive for what is called sustainable development, but which in fact envisions no limits to economic growth*". Hughes also notes that "*environmental history is notably absent from nations that most adamantly reject US, or Western influences*".

Michael Bess sees the world increasingly permeated by potent technologies in a process he calls "artificialization" which has been accelerating since the 1700s, but at a greatly accelerated rate after 1945. Over the next fifty years, this transformative process stands a good chance of turning our physical world, and our society, upside-down. Environmental historians can "*play a vital role in helping humankind to understand the gale-force of artifice that we have unleashed on our planet and on ourselves*".

Against this background "*environmental history can give an essential perspective, offering knowledge of the historical process that led to the present situation, give examples of past problems and solutions, and an analysis of the historical forces that must be dealt with*" or, as expressed by William Cronon, "*The viability and success of new human modes of existing within the constraints of the environment and its resources requires both an understanding of the past and an articulation of a new ethic for the future.*"

Chapter 7

Futures Studies

Futures studies, **futures research** or **futurology** is the systematic, interdisciplinary and holistic study of social and technological advancement, and other environmental trends, often for the purpose of exploring how people will live and work in the future. Predictive techniques, such as forecasting, can be applied, but contemporary futures studies scholars emphasize the importance of systematically exploring alternatives. In general, it can be considered as a branch of the social sciences and parallel to the field of history. Futures studies (colloquially called "**futures**" by many of the field's practitioners) seeks to understand what is likely to continue and what could plausibly change. Part of the discipline thus seeks a systematic and pattern-based understanding of past and present, and to explore the possibility of future events and trends.

Unlike the physical sciences where a narrower, more specified system is studied, futurology concerns a much bigger and more complex world system. The methodology and knowledge are much less proven than in natural science and social sciences like sociology and economics. There is a debate as to whether this discipline is an art or science, and it is sometimes described as pseudoscience; nevertheless, the Association of Professional Futurists was formed in 2002, a Foresight Competency Model was developed in 2017, and it is now possible to academically study it, for example at the FU Berlin in their master's course Zukunftsforschung.

Overview

Futurology is an interdisciplinary field that aggregates and analyzes trends, with both lay and professional methods, to compose possible futures. It includes analyzing the sources, patterns, and causes of change and stability in an attempt to develop foresight. Around the world the field is variously referred to as **futures studies**, **futures research,strategic foresight**, **futuristics**, **futures thinking**, **futuring**, and **futurology**. Futures studies and strategic foresight are the academic field's most commonly used terms in the English-speaking world.

Foresight was the original term and was first used in this sense by H.G. Wells in 1932. "Futurology" is a term common in encyclopedias, though it is used almost exclusively by nonpractitioners today, at least in the English-speaking world. "Futurology" is defined as the "study of the future." The term was coined by German professor Ossip K. Flechtheim in the mid-1940s, who proposed it as a new branch of knowledge that would include a new science of probability. This term has fallen from favor in recent decades because modern practitioners stress the importance of alternative, plausible, preferable and plural futures, rather than one monolithic future, and the limitations of prediction and probability, versus the creation of possible and preferable futures.

Three factors usually distinguish futures studies from the research conducted by other disciplines (although all of these disciplines overlap, to differing degrees). First, futures studies often examines trends to compose possible, probable, and

preferable futures along with the role "wild cards" can play on future scenarios. Second, futures studies typically attempts to gain a holistic or systemic view based on insights from a range of different disciplines, generally focusing on the STEEP categories of Social, Technological, Economic, Environmental and Political. Third, futures studies challenges and unpacks the assumptions behind dominant and contending views of the future. The future thus is not empty but fraught with hidden assumptions. For example, many people expect the collapse of the Earth's ecosystem in the near future, while others believe the current ecosystem will survive indefinitely. A foresight approach would seek to analyze and highlight the assumptions underpinning such views.

As a field, futures studies expands on the research component, by emphasizing the communication of a strategy and the actionable steps needed to implement the plan or plans leading to the preferable future. It is in this regard, that futures studies evolves from an academic exercise to a more traditional business-like practice, looking to better prepare organizations for the future.

Futures studies does not generally focus on short term predictions such as interest rates over the next business cycle, or of managers or investors with short-term time horizons. Most strategic planning, which develops goals and objectives with time horizons of one to three years, is also not considered futures. Plans and strategies with longer time horizons that specifically attempt to anticipate possible future events are definitely part of the field. Learning about medium and long-term developments may at times be observed from their early signs. As a rule, futures studies is generally concerned with

changes of transformative impact, rather than those of an incremental or narrow scope.

The futures field also excludes those who make future predictions through professed supernatural means.

To complete a futures study, a domain is selected for examination. The domain is the main idea of the project, or what the outcome of the project seeks to determine. Domains can have a strategic or exploratory focus and must narrow down the scope of the research. It examines what will, and more importantly, will not be discussed in the research. Futures practitioners study trends focusing on STEEP (Social Technological, Economic, Environments and Political) baselines. Baseline exploration examine current STEEP environments to determine normal trends, called baselines. Next, practitioners use scenarios to explore different futures outcomes. Scenarios examine how the future can be different. 1. Collapse Scenarios seek to answer: What happens if the STEEP baselines fall into ruin and no longer exist? How will that impact STEEP categories? 2. Transformation Scenarios: explore futures with the baseline of society transiting to a "new" state. How are the STEEP categories effected if society has a whole new structure? 3. New Equilibrium: examines an entire change to the structure of the domain. What happens if the baseline changes to a "new" baseline within the same structure of society? *Hines, Andy; Bishop, Peter (2006). Thinking About The Future Guidelines for Strategic Foresight.*

History

Origins

Johan Galtung and Sohail Inayatullah argue in *Macrohistory and Macrohistorians* that the search for grand patterns of social change goes all the way back to Sima Qian (145-90BC) and his theory of the cycles of virtue, although the work of Ibn Khaldun (1332–1406) such as *The Muqaddimah* would be an example that is perhaps more intelligible to modern sociology. Early western examples include Sir Thomas More's "Utopia," published in 1516, and based upon Plato's "Republic," in which a future society has overcome poverty and misery to create a perfect model for living. This work was so powerful that utopias, originally meaning "nowhere", have come to represent positive and fulfilling futures in which everyone's needs are met.

Some intellectual foundations of futures studies appeared in the mid-19th century. Isadore Comte, considered the father of scientific philosophy, was heavily influenced by the work of utopian socialist Henri Saint-Simon, and his discussion of the metapatterns of social change presages futures studies as a scholarly dialogue.

The first works that attempt to make systematic predictions for the future were written in the 18th century. *Memoirs of the Twentieth Century* written by Samuel Madden in 1733, takes the form of a series of diplomatic letters written in 1997 and 1998 from British representatives in the foreign cities of Constantinople, Rome, Paris, and Moscow. However, the

technology of the 20th century is identical to that of Madden's own era - the focus is instead on the political and religious state of the world in the future. Madden went on to write *The Reign of George VI, 1900 to 1925*, where (in the context of the boom in canal construction at the time) he envisioned a large network of waterways that would radically transform patterns of living - "Villages grew into towns and towns became cities".

In 1845, Scientific American, the oldest continuously published magazine in the U.S., began publishing articles about scientific and technological research, with a focus upon the future implications of such research. It would be followed in 1872 by the magazine Popular Science, which was aimed at a more general readership.

The genre of science fiction became established towards the end of the 19th century, with notable writers, including Jules Verne and H. G. Wells, setting their stories in an imagined future world.

Early 20th Century

According to W. Warren Wagar, the founder of future studies was H. G. Wells. His *Anticipations of the Reaction of Mechanical and Scientific Progress Upon Human Life and Thought: An Experiment in Prophecy*, was first serially published in *The Fortnightly Review* in 1901. Anticipating what the world would be like in the year 2000, the book is interesting both for its hits (trains and cars resulting in the dispersion of population from cities to suburbs; moral restrictions declining as men and women seek greater sexual freedom; the defeat of German militarism, the existence of a European Union, and a world

order maintained by "English-speaking peoples" based on the urban core between Chicago and New York) and its misses (he did not expect successful aircraft before 1950, and averred that "my imagination refuses to see any sort of submarine doing anything but suffocate its crew and founder at sea").

Moving from narrow technological predictions, Wells envisioned the eventual collapse of the capitalist world system after a series of destructive total wars. From this havoc would ultimately emerge a world of peace and plenty, controlled by competent technocrats.

The work was a bestseller, and Wells was invited to deliver a lecture at the Royal Institution in 1902, entitled *The Discovery of the Future*. The lecture was well-received and was soon republished in book form. He advocated for the establishment of a new academic study of the future that would be grounded in scientific methodology rather than just speculation. He argued that a scientifically ordered vision of the future "will be just as certain, just as strictly science, and perhaps just as detailed as the picture that has been built up within the last hundred years to make the geological past." Although conscious of the difficulty in arriving at entirely accurate predictions, he thought that it would still be possible to arrive at a "working knowledge of things in the future".

In his fictional works, Wells predicted the invention and use of the atomic bomb in *The World Set Free* (1914). In *The Shape of Things to Come* (1933) the impending World War and cities destroyed by aerial bombardment was depicted. However, he didn't stop advocating for the establishment of a futures science. In a 1933 BBC broadcast he called for the

establishment of "Departments and Professors of Foresight", foreshadowing the development of modern academic futures studies by approximately 40 years.

At the beginning of the 20th century future works were often shaped by political forces and turmoil. The WWI era led to adoption of futures thinking in institutions throughout Europe. The Russian Revolution led to the 1921 establishment of the Soviet Union's Gosplan, or State Planning Committee, which was active until the dissolution of the Soviet Union. Gosplan was responsible for economic planning and created plans in five year increments to govern the economy. One of the first Soviet dissidents, Yevgeny Zamyatin, published the first dystopian novel, *We*, in 1921. The science fiction and political satire featured a future police state and was the first work censored by the Soviet censorship board, leading to Zamyatin's political exile.

In the United States, President Hoover created the Research Committee on Social Trends, which produced a report in 1933. The head of the committee, William F. Ogburn, analyzed the past to chart trends and project those trends into the future, with a focus on technology. Similar technique was used during The Great Depression, with the addition of alternative futures and a set of likely outcomes that resulted in the creation of Social Security and the Tennessee Valley development project.

The WWII era emphasized the growing need for foresight. The Nazis used strategic plans to unify and mobilize their society with a focus on creating a fascist utopia. This planning and the subsequent war forced global leaders to create their own strategic plans in response. The post-war era saw the creation

of numerous nation states with complex political alliances and was further complicated by the introduction of nuclear power.

Project RAND was created in 1946 as joint project between the United States Army Air Forces and the Douglas Aircraft Company, and later incorporated as the non-profit RAND corporation. Their objective was the future of weapons, and long-range planning to meet future threats. Their work has formed the basis of US strategy and policy in regard to nuclear weapons, the Cold War, and the space race.

Mid-Century Emergence

Futures studies truly emerged as an academic discipline in the mid-1960s. First-generation futurists included Herman Kahn, an American Cold War strategist for the RAND Corporation who wrote *On Thermonuclear War* (1960), *Thinking about the unthinkable* (1962) and *The Year 2000: a framework for speculation on the next thirty-three years* (1967); Bertrand de Jouvenel, a French economist who founded Futuribles International in 1960; and Dennis Gabor, a Hungarian-British scientist who wrote *Inventing the Future* (1963) and *The Mature Society. A View of the Future* (1972).

Future studies had a parallel origin with the birth of systems science in academia, and with the idea of national economic and political planning, most notably in France and the Soviet Union. In the 1950s, the people of France were continuing to reconstruct their war-torn country. In the process, French scholars, philosophers, writers, and artists searched for what could constitute a more positive future for humanity. The Soviet Union similarly participated in postwar rebuilding, but

did so in the context of an established national economic planning process, which also required a long-term, systemic statement of social goals. Future studies was therefore primarily engaged in national planning, and the construction of national symbols.

By contrast, in the United States, futures studies as a discipline emerged from the successful application of the tools and perspectives of systems analysis, especially with regard to quartermastering the war-effort. The Society for General Systems Research, founded in 1955, sought to understand cybernetics and the practical application of systems sciences, greatly influencing the U.S. foresight community. These differing origins account for an initial schism between futures studies in America and "futurology" in Europe: U.S. practitioners focused on applied projects, quantitative tools and systems analysis, whereas Europeans preferred to investigate the long-range future of humanity and the Earth, what might constitute that future, what symbols and semantics might express it, and who might articulate these.

By the 1960s, academics, philosophers, writers and artists across the globe had begun to explore enough future scenarios so as to fashion a common dialogue. Several of the most notable writers to emerge during this era include: sociologist Fred L. Polak, whose work *Images of the Future* (1961) discusses the importance of images to society's creation of the future; Marshall McLuhan, whose *The Gutenberg Galaxy* (1962) and *Understanding Media: The Extensions of Man* (1964) put forth his theories on how technologies change our cognitive understanding; and Rachel Carson's *The Silent Spring* (1962)

which was hugely influential not only to future studies but also the creation of the environmental movement.

Inventors such as Buckminster Fuller also began highlighting the effect technology might have on global trends as time progressed.

By the 1970s there was an obvious shift in the use and development of futures studies; its focus was no longer exclusive to governments and militaries. Instead, it embraced a wide array of technologies, social issues, and concerns. This discussion on the intersection of population growth, resource availability and use, economic growth, quality of life, and environmental sustainability – referred to as the "global problematique" – came to wide public attention with the publication of *Limits to Growth* by Donella Meadows, a study sponsored by the Club of Rome which detailed the results of a computer simulation of the future based on economic and population growth. Public investment in the future was further enhanced by the publication of Alvin & Heidi Toffler's bestseller *Future Shock* (1970), and its exploration of how great amounts of change can overwhelm people and create a social paralysis due to "information overload."

Further development

International dialogue became institutionalized in the form of the World Futures Studies Federation (WFSF), founded in 1967, with the noted sociologist, Johan Galtung, serving as its first president. In the United States, the publisher Edward Cornish, concerned with these issues, started the World Future Society, an organization focused more on interested laypeople.

The Association of Professional Futurists was founded in 2002 and spans 40 countries with more than 400 members. Their mission is to promote professional excellence by "demonstrating the value of strategic foresight and futures studies."

The first doctoral program on the Study of the Future, was founded in 1969 at the University Of Massachusetts by Christopher Dede and Billy Rojas. The next graduate program (Master's degree) was also founded by Christopher Dede in 1975 at the University of Houston–Clear Lake,. Oliver Markley of SRI (now SRI International) was hired in 1978 to move the program into a more applied and professional direction. The program moved to the University of Houston in 2007 and renamed the degree to Foresight. The program has remained focused on preparing professional futurists and providing high-quality foresight training for individuals and organizations in business, government, education, and non-profits. In 1976, the M.A. Program in Public Policy in Alternative Futures at the University of Hawaii at Manoa was established. The Hawaii program locates futures studies within a pedagogical space defined by neo-Marxism, critical political economic theory, and literary criticism. In the years following the foundation of these two programs, single courses in Futures Studies at all levels of education have proliferated, but complete programs occur only rarely.

In 2010, the Free University of Berlin initiated a master's degree Programme in Futures Studies, which is the first one in Germany. In 2012, the Finland Futures Research Centre started a master's degree Programme in Futures Studies at

Turku School of Economics, a business school which is part of the University of Turku in Turku, Finland.

Foresight and futures work cover any domain a company considers important; therefore, a futurist must be able to cross domains and industries in their work. There is continued discussion by people in the profession on how to advance it, with some preferring to keep the field open to anyone interested in the future and others arguing to make the credentialing more rigorous. There are approximately 23 graduate and PhD programs in foresight globally, and many other certification courses.

The field currently faces the challenge of creating a coherent conceptual framework, codified into a well-documented curriculum (or curricula) featuring widely accepted and consistent concepts and theoretical paradigms linked to quantitative and qualitative methods, exemplars of those research methods, and guidelines for their ethical and appropriate application within society. As an indication that previously disparate intellectual dialogues have in fact started converging into a recognizable discipline, at least seven solidly-researched and well-accepted attempts to synthesize a coherent framework for the field have appeared: Eleonora Masini [sk]'s *Why Futures Studies?*, James Dator's *Advancing Futures Studies*, Ziauddin Sardar's *Rescuing all of our Futures*, Sohail Inayatullah's *Questioning the future*, Richard A. Slaughter's *The Knowledge Base of Futures Studies*, a collection of essays by senior practitioners, Wendell Bell's two-volume work, *The Foundations of Futures Studies,* and Andy Hines and Peter Bishop's *Thinking about the Future.*

Probability and predictability

While understanding the difference between the concepts of probability and predictability are very important to understanding the future, the field of futures studies is generally more focused on long-term futures in which the concept of plausibility becomes the greater concern. The usefulness of probability and predictability to the field lies more in analyzing the quantifiable trends and drivers which influence future change, than in predicting future events.

Some aspects of the future, such as celestial mechanics, are highly predictable, and may even be described by relatively simple mathematical models. At present however, science has yielded only a special minority of such "easy to predict" physical processes. Theories such as chaos theory, nonlinear science and standard evolutionary theory have allowed us to understand many complex systems as contingent (sensitively dependent on complex environmental conditions) and stochastic (random within constraints), making the vast majority of future events unpredictable, *in any specific case*.

Not surprisingly, the tension between predictability and unpredictability is a source of controversy and conflict among futures studies scholars and practitioners. Some argue that the future is essentially unpredictable, and that "the best way to predict the future is to create it." Others believe, as Flechtheim, that advances in science, probability, modeling and statistics will allow us to continue to improve our understanding of probable futures, as this area presently

remains less well developed than methods for exploring possible and preferable futures.

As an example, consider the process of electing the president of the United States. At one level we observe that any U.S. citizen over 35 may run for president, so this process may appear too unconstrained for useful prediction. Yet further investigation demonstrates that only certain public individuals (current and former presidents and vice presidents, senators, state governors, popular military commanders, mayors of very large cities, celebrities, etc.) receive the appropriate "social credentials" that are historical prerequisites for election. Thus, with a minimum of effort at formulating the problem for statistical prediction, a much-reduced pool of candidates can be described, improving our probabilistic foresight. Applying further statistical intelligence to this problem, we can observe that in certain election prediction markets such as the Iowa Electronic Markets, reliable forecasts have been generated over long spans of time and conditions, with results superior to individual experts or polls. Such markets, which may be operated publicly or as an internal market, are just one of several promising frontiers in predictive futures research.

Such improvements in the predictability of individual events do not though, from a complexity theory viewpoint, address the unpredictability inherent in dealing with entire systems, which emerge from the interaction between multiple individual events.

Futurology is sometimes described by scientists as pseudoscience. Science exists in the realm of the certain and builds knowledge through attempting to falsify predictions.

Futures studies, however, exists in the realm of the uncertain but also builds knowledge through attempting to falsify predictions and exposing uncertainty. So in a sense, both science and futures studies share the same goal. The difference is that futures studies attempts to understand, mitigate, and utilize uncertainty.

Methodologies

In terms of methodology, futures practitioners employ a wide range of approaches, models and methods, in both theory and practice, many of which are derived from or informed by other academic or professional disciplines [1], including social sciences such as economics, psychology, sociology, religious studies, cultural studies, history, geography, and political science; physical and life sciences such as physics, chemistry, astronomy, biology; mathematics, including statistics, game theory and econometrics; applied disciplines such as engineering, computer sciences, and business management (particularly strategy).

The largest internationally peer-reviewed collection of futures research methods (1,300 pages) is Futures Research Methodology 3.0. Each of the 37 methods or groups of methods contains: an executive overview of each method's history, description of the method, primary and alternative usages, strengths and weaknesses, uses in combination with other methods, and speculation about future evolution of the method. Some also contain appendixes with applications, links to software, and sources for further information. More recent

method books, such as "How Do We Explore Our Futures?" have also been published.

Given its unique objectives and material, the practice of futures studies only rarely features employment of the scientific method in the sense of controlled, repeatable and verifiable experiments with highly standardized methodologies. However, many futurists are informed by scientific techniques or work primarily within scientific domains. Borrowing from history, the futurist might project patterns observed in past civilizations upon present-day society to model what might happen in the future, or borrowing from technology, the futurist may model possible social and cultural responses to an emerging technology based on established principles of the diffusion of innovation. In short, the futures practitioner enjoys the synergies of an interdisciplinary laboratory.

As the plural term “futures” suggests, one of the fundamental assumptions in futures studies is that the future is plural not singular.[2] That is, the future consists not of one inevitable future that is to be “predicted,” but rather of multiple alternative futures of varying likelihood which may be derived and described, and about which it is impossible to say with certainty which one will occur. The primary effort in futures studies, then, is to identify and describe alternative futures in order to better understand the driving forces of the present or the structural dynamics of a particular subject or subjects. The exercise of identifying alternative futures includes collecting quantitative and qualitative data about the possibility, probability, and desirability of change. The plural term "futures" in futures studies denotes both the rich variety of alternative futures, including the subset of preferable

futures (normative futures), that can be studied, as well as the tenet that the future is many.

At present, the general futures studies model has been summarized as being concerned with "three Ps and a W", or possible, probable, and preferable futures, plus wildcards, which are unexpected, seemingly low probability but high impact events (positive or negative). Many futurists do not use the wild card approach. Rather, they use a methodology called Emerging Issues Analysis. It searches for the drivers of change, issues that are likely to move from unknown to the known, from low impact to high impact.

In terms of technique, futures practitioners originally concentrated on extrapolating present technological, economic or social trends, or on attempting to predict future trends. Over time, the discipline has come to put more and more focus on the examination of social systems and uncertainties, to the end of articulating scenarios. The practice of scenario development facilitates the examination of worldviews and assumptions through the causal layered analysis method (and others), the creation of preferred visions of the future, and the use of exercises such as backcasting to connect the present with alternative futures. Apart from extrapolation and scenarios, many dozens of methods and techniques are used in futures research (see below).

Therefore, the general practice of futures studies also sometimes includes the articulation of normative or preferred futures, and a major thread of practice involves connecting both extrapolated (exploratory) and normative research to assist individuals and organizations to model preferred futures

amid shifting social changes. For instance, despite many wicked, global challenges in today's world from climate change to extreme poverty, the aspect of preferability or "what should happen" can at times be overlooked. Practitioners use varying proportions of collaboration, creativity and research to derive and define alternative futures, and to the degree that a “preferred” future might be sought, especially in an organizational context, techniques may also be deployed to develop plans or strategies for directed future shaping or implementation of a preferred future.

While some futurists are not concerned with assigning probability to future scenarios, other futurists find probabilities useful in certain situations, such as when probabilities stimulate thinking about scenarios within organizations [3]. When dealing with the three Ps and a W model, estimates of probability are involved with two of the four central concerns (discerning and classifying both probable and wildcard events), while considering the range of possible futures, recognizing the plurality of existing alternative futures, characterizing and attempting to resolve normative disagreements on the future, and envisioning and creating preferred futures are other major areas of scholarship. Most estimates of probability in futures studies are normative and qualitative, though significant progress on statistical and quantitative methods (technology and information growth curves, cliometrics, predictive psychology, prediction markets, crowd-voting forecasts, etc.) has been made in recent decades.

Futures techniques

Futures techniques or methodologies may be viewed as "frameworks for making sense of data generated by structured processes to think about the future". There is no single set of methods that are appropriate for all futures research. Different futures researchers intentionally or unintentionally promote use of favored techniques over a more structured approach. Selection of methods for use on futures research projects has so far been dominated by the intuition and insight of practitioners; but can better identify a balanced selection of techniques via acknowledgement of foresight as a process together with familiarity with the fundamental attributes of most commonly used methods.

Scenarios are a central technique in Futures Studies and are often confused with other techniques. The flowchart to the right provides a process for classifying a phenomenon as a scenario in the intuitive logics tradition.

Futurists use a diverse range of forecasting and foresight methods including:

- Framework Foresight
- Prediction Markets
- Causal layered analysis (CLA)
- Environmental scanning
- Horizon scanning
- Scenario method
- Education and Learning
- Delphi method, including Real-time Delphi
- Future history

- Monitoring
- Backcasting (eco-history)
- Cross-impact analysis
- Futures workshops
- Failure mode and effects analysis
- Futures wheel
- Technology roadmapping
- Social network analysis
- Systems engineering
- Trend analysis
- Morphological analysis
- Technology forecasting
- Theory U

Shaping alternative futures

Futurists use scenarios – alternative possible futures – as an important tool. To some extent, people can determine what they consider probable or desirable using qualitative and quantitative methods. By looking at a variety of possibilities one comes closer to shaping the future, rather than merely predicting it. Shaping alternative futures starts by establishing a number of scenarios. Setting up scenarios takes place as a process with many stages, and can take place in an evidence-based manner. Scenarios can also study unlikely and improbable developments that would otherwise be ignored. However, for credibility, they should not be entirely utopian or dystopian. One of those stages involves the study of emerging issues, such as **megatrends**, **trends** and **weak signals**. Megatrends illustrate major, long-term phenomena that change slowly, are often interlinked and cannot be transformed in an

instant. Trends express an increase or a decrease in a phenomenon, and there are many ways to spot trends. Some argue that a trend persists long-term and long-range; affects many societal groups; grows slowly; and appears to have a profound basis. A fad operates in the short term, shows the vagaries of fashion, affects particular societal groups, and spreads quickly but superficially.

Futurists have a decidedly mixed reputation and a patchy track record at successful prediction. Many 1950s futurists predicted commonplace space tourism by the year 2000, but ignored the possibilities of ubiquitous, cheap computers. On the other hand, many forecasts have portrayed the future with some degree of accuracy. Sample predicted futures range from predicted ecological catastrophes, through a utopian future where the poorest human being lives in what present-day observers would regard as wealth and comfort, through the transformation of humanity into a posthuman life-form, to the destruction of all life on Earth in, say, a nanotechnological disaster. For reasons of convenience, futurists have often extrapolated present technical and societal trends and assumed they will develop at the same rate into the future; but technical progress and social upheavals, in reality, take place in fits and starts and in different areas at different rates.

Therefore, to some degree, the field has aimed to move away from prediction. Current futurists often present multiple scenarios that help their audience envision what "may" occur instead of merely "predicting the future". They claim that understanding potential scenarios helps individuals and organizations prepare with flexibility.

Many corporations use futurists as part of their risk management strategy, for horizon scanning and emerging issues analysis, and to identify wild cards – low probability, potentially high-impact risks. Understanding a range of possibilities can enhance the recognition of opportunities and threats. Every successful and unsuccessful business engages in futuring to some degree – for example in research and development, innovation and market research, anticipating competitor behavior and so on.

Weak signals, the future sign and wild cards

In futures research "weak signals" may be understood as advanced, noisy and socially situated indicators of change in trends and systems that constitute raw informational material for enabling anticipatory action. There is some confusion about the definition of weak signal by various researchers and consultants. Sometimes it is referred as future oriented information, sometimes more like emerging issues. The confusion has been partly clarified with the concept 'the future sign', by separating signal, issue and interpretation of the future sign.

A weak signal can be an early indicator of coming change, and an example might also help clarify the confusion. On May 27, 2012, hundreds of people gathered for a “Take the Flour Back” demonstration at Rothamsted Research in Harpenden, UK, to oppose a publicly funded trial of genetically modified wheat. This was a weak signal for a broader shift in consumer sentiment against genetically modified foods. When Whole

Foods mandated the labeling of GMOs in 2013, this non-GMO idea had already become a trend and was about to be a topic of mainstream awareness.

"Wild cards" refer to low-probability and high-impact events "that happen quickly" and "have huge sweeping consequences," and materialize too quickly for social systems to effectively respond. Elina Hultunen notes that wild cards are not new, though they have become more prevalent. One reason for this may be the increasingly fast pace of change. Oliver Markley proposed four types of wild cards:

- Type I Wild Card: low probability, high impact, high credibility
- Type II Wild Card: high probability, high impact, low credibility
- Type III Wild Card: high probability, high impact, disputed credibility
- Type IV Wild Card: high probability, high impact, high credibility

He posits that it is important to track the emergence of "Type II Wild Cards" that have a high probability of occurring, but low credibility that it will happen. This focus is especially important to note because it is often difficult to persuade people to accept something they don't believe is happening, until they see the wild card. An example is climate change. This hypothesis has gone from Type I (high impact and high credibility, but low probability where science was accepted and thought unlikely to happen) to Type II (high probability, high impact, but low credibility as policy makers and lobbyists push back against the science), to Type III (high probability, high

impact, high credibility)--at least for most people, There are still some who probably will not accept the science until the Greenland ice sheet has completely melted and sea-level has risen the seven meters estimated rise.

This concept may be embedded in standard foresight projects and introduced into anticipatory decision-making activity in order to increase the ability of social groups adapt to surprises arising in turbulent business environments. Such sudden and unique incidents might constitute turning points in the evolution of a certain trend or system. Wild cards may or may not be announced by weak signals, which are incomplete and fragmented data from which relevant foresight information might be inferred. Sometimes, mistakenly, wild cards and weak signals are considered as synonyms, which they are not. One of the most often cited examples of a wild card event in recent history is 9/11. Nothing had happened in the past that could point to such a possibility and yet it had a huge impact on everyday life in the United States, from simple tasks like how to travel via airplane to deeper cultural values. Wild card events might also be natural disasters, such as Hurricane Katrina, which can force the relocation of huge populations and wipe out entire crops or completely disrupt the supply chain of many businesses. Although wild card events can't be predicted, after they occur it is often easy to reflect back and convincingly explain why they happened.

Near-term predictions

A long-running tradition in various cultures, and especially in the media, involves various spokespersons making predictions for the upcoming year at the beginning of the year. These

predictions are thought-provokers, which sometimes base themselves on current trends in culture (music, movies, fashion, politics); sometimes they make hopeful guesses as to what major events might take place over the course of the next year. Evidently, some of these predictions may come true as the year unfolds, though many fail. When predicted events fail to take place, the authors of the predictions may state that misinterpretation of the "signs" and portents may explain the failure of the prediction.

Marketers have increasingly started to embrace futures studies, in an effort to benefit from an increasingly competitive marketplace with fast production cycles, using such techniques as trendspotting as popularized by Faith Popcorn.

Trend analysis and forecasting

Megatrends

Trends come in different sizes. A megatrend extends over many generations, and in cases of climate, megatrends can cover periods prior to human existence. They describe complex interactions between many factors. The increase in population from the palaeolithic period to the present provides an example. Megatrends are likely to produce greater change than any previous one, because technology is causing trends to unfold at an accelerating pace. The concept was popularized by the 1982 book Megatrends by futurist John Naisbitt.

Potential trends

Possible new trends grow from innovations, projects, beliefs or actions and activism that have the potential to grow and eventually go mainstream in the future.

Branching trends

Very often, trends relate to one another the same way as a tree-trunk relates to branches and twigs. For example, a well-documented movement toward equality between men and women might represent a branch trend. The trend toward reducing differences in the salaries of men and women in the Western world could form a twig on that branch.

Life cycle of a trend

Understanding the technology adoption cycle helps futurists monitor trend development. Trends start as weak signals by small mentions in fringe media outlets, discussion conversations or blog posts, often by innovators. As these ideas, projects, beliefs or technologies gain acceptance, they move into the phase of early adopters. In the beginning of a trend's development, it is difficult to tell if it will become a significant trend that creates changes or merely a trendy fad that fades into forgotten history. Trends will emerge as initially unconnected dots but eventually coalesce into persistent change.

Some trends emerge when enough confirmation occurs in the various media, surveys or questionnaires to show that it has an increasingly accepted value, behavior or technology, it becomes accepted as a bona fide trend. Trends can also gain confirmation by the existence of other trends perceived as springing from the same branch. Some commentators claim that when 15% to 25% of a given population integrates an innovation, project, belief or action into their daily life then a trend becomes mainstream.

Life cycle of technologies

Gartner created their Hype Cycle to illustrate the phases a technology moves through as it grows from research and development to mainstream adoption. The unrealistic expectations and subsequent disillusionment that virtual reality experienced in the 1990s and early 2000s is an example of the middle phases encountered before a technology can begin to be integrated into society.

Education

Education in the field of futures studies has taken place for some time. Beginning in the United States in the 1960s, it has since developed in many different countries. Futures education encourages the use of concepts, tools and processes that allow students to think long-term, consequentially, and imaginatively. It generally helps students to:

- conceptualize more just and sustainable human and planetary futures.
- develop knowledge and skills of methods and tools used to help people understand, map, and influence the future by exploring probable and preferred futures.
- understand the dynamics and influence that human, social and ecological systems have on alternative futures.
- conscientize responsibility and action on the part of students toward creating better futures.

Thorough documentation of the history of futures education exists, for example in the work of Richard A. Slaughter (2004), David Hicks, Ivana Milojević to name a few.

While futures studies remains a relatively new academic tradition, numerous tertiary institutions around the world teach it. These vary from small programs, or universities with just one or two classes, to programs that offer certificates and incorporate futures studies into other degrees, (for example in planning, business, environmental studies, economics, development studies, science and technology studies). Various formal Masters-level programs exist on six continents. Finally, doctoral dissertations around the world have incorporated futures studies (see e.g. Rohrbeck, 2010; von der Gracht, 2008; Hines, 2012). A recent survey documented approximately 50 cases of futures studies at the tertiary level.

A Futures Studies program is offered at Tamkang University, Taiwan. Futures Studies is a required course at the undergraduate level, with between three and five thousand

students taking classes on an annual basis. Housed in the Graduate Institute of Futures Studies is an MA Program. Only ten students are accepted annually in the program. Associated with the program is the *Journal of Futures Studies*.

The longest running Future Studies program in North America was established in 1975 at the University of Houston–Clear Lake. It moved to the University of Houston in 2007 and renamed the degree to Foresight. The program was established on the belief that if history is studied and taught in an academic setting, then so should the future. Its mission is to prepare professional futurists. The curriculum incorporates a blend of the essential theory, a framework and methods for doing the work, and a focus on application for clients in business, government, nonprofits, and society in general.

As of 2003, over 40 tertiary education establishments around the world were delivering one or more courses in futures studies. The World Futures Studies Federation has a comprehensive survey of global futures programs and courses. The Acceleration Studies Foundation maintains an annotated list of primary and secondary graduate futures studies programs.

A MA Program in Futures Studies has been offered at Free University of Berlin since 2010.

A MSocSc and PhD program in Futures Studies is offered at the University of Turku, Finland.

Applications of foresight and specific fields

General applicability and use of foresight products

Several corporations and government agencies utilize foresight products to both better understand potential risks and prepare for potential opportunities as an anticipatory approach. Several government agencies publish material for internal stakeholders as well as make that material available to broader public. Examples of this include the US Congressional Budget Office long term budget projections, the National Intelligence Center, and the United Kingdom Government Office for Science. Much of this material is used by policy makers to inform policy decisions and government agencies to develop long-term plan. Several corporations, particularly those with long product development lifecycles, utilize foresight and future studies products and practitioners in the development of their business strategies. The Shell Corporation is one such entity. Foresight professionals and their tools are increasingly being used in both the private and public areas to help leaders deal with an increasingly complex and interconnected world.

Imperial cycles and world order

Imperial cycles represent an "expanding pulsation" of "mathematically describable" macro-historic trend.

Chinese philosopher K'ang Yu-wei and French demographer Georges Vacher de Lapouge stressed in the late 19th century that the trend cannot proceed indefinitely on the finite surface of the globe. The trend is bound to culminate in a world empire. K'ang Yu-wei predicted that the matter will be decided in a contest between Washington and Berlin; Vacher de Lapouge foresaw this contest as being between the United States and Russia and wagered the odds were in the United States' favour. Both published their futures studies before H. G. Wells introduced the science of future in his *Anticipations* (1901).

Four later anthropologists—Hornell Hart, Raoul Naroll, Louis Morano, and Robert Carneiro—researched the expanding imperial cycles. They reached the same conclusion that a world empire is not only pre-determined but close at hand and attempted to estimate the time of its appearance.

Education

As foresight has expanded to include a broader range of social concerns all levels and types of education have been addressed, including formal and informal education. Many countries are beginning to implement Foresight in their Education policy. A few programs are listed below:

- Finland's FinnSight 2015 - Implementation began in 2006 and though at the time was not referred to as "Foresight" they tend to display the characteristics of a foresight program.
- Singapore's Ministry of Education Master plan for Information Technology in Education - This third

Masterplan continues what was built on in the 1st and 2nd plans to transform learning environments to equip students to compete in a knowledge economy.

- The World Future Society, founded in 1966, is the largest and longest-running community of futurists in the world. WFS established and built futurism from the ground up—through publications, global summits, and advisory roles to world leaders in business and government.

By the early 2000s, educators began to independently institute futures studies (sometimes referred to as futures thinking) lessons in K-12 classroom environments. To meet the need, non-profit futures organizations designed curriculum plans to supply educators with materials on the topic. Many of the curriculum plans were developed to meet common core standards. Futures studies education methods for youth typically include age-appropriate collaborative activities, games, systems thinking and scenario building exercises.

There are several organizations devoted to furthering the advancement of Foresight and Future Studies worldwide. Teach the Future emphasizes foresight educational practices appropriate for K-12 schools. The University of Houston has a Master's (MS) level graduate program through the College of Technology as well as a certificate program for those interested in advanced studies. The Department of Political Science at the University of Hawaii Manoa has the Hawaii Research Center for Future Studies which offers a Master's (MA) in addition to a Doctorate (Ph.D.).

Science fiction

Wendell Bell and Ed Cornish acknowledge science fiction as a catalyst to future studies, conjuring up visions of tomorrow. Science fiction's potential to provide an “imaginative social vision” is its contribution to futures studies and public perspective. Productive sci-fi presents plausible, normative scenarios. Jim Dator attributes the foundational concepts of “images of the future” to Wendell Bell, for clarifying Fred Polak's concept in Images of the Future, as it applies to futures studies. Similar to futures studies’ scenarios thinking, empirically supported visions of the future are a window into what the future could be. However, unlike in futures studies, most science fiction works present a single alternative, unless the narrative deals with multiple timelines or alternative realities, such as in the works of Phillip K. Dick, and a multitude of small and big screen works. Pamela Sargent states, “Science fiction reflects attitudes typical of this century.” She gives a brief history of impactful sci-fi publications, like The Foundation Trilogy, by Isaac Asimov and Starship Troopers, by Robert A. Heinlein. Alternate perspectives validate sci-fi as part of the fuzzy “images of the future.”

Brian David Johnson is a futurist and author who uses science fiction to help build the future. He has been a futurist at Intel, and is now the resident futurist at Arizona State University. “His work is called ‘future casting’—using ethnographic field studies, technology research, trend data, and even science fiction to create a pragmatic vision of consumers and computing.” Brian David Johnson has developed a practical guide to utilizing science fiction as a tool for futures studies.

Science Fiction Prototyping combines the past with the present, including interviews with notable science fiction authors to provide the tools needed to "design the future with science fiction."

Science Fiction Prototyping has five parts:

- Pick your science concept and build an imaginative world
- The scientific inflection point
- The consequences, for better, or worse, or both, of the science or technology on the people and your world
- The human inflection point
- Reflection, what did we learn?

"A full Science Fiction Prototyping (SFP) is 6-12 pages long, with a popular structure being; an introduction, background work, the fictional story (the bulk of the SFP), a short summary and a summary (reflection). Most often science fiction prototypes extrapolate current science forward and, therefore, include a set of references at the end."

Ian Miles reviews The New Encyclopedia of Science Fiction," identifying ways Science Fiction and Futures Studies "cross-fertilize, as well as the ways in which they differ distinctly." Science Fiction cannot be simply considered fictionalized Futures Studies. It may have aims other than foresight or "prediction, and be no more concerned with shaping the future than any other genre of literature." It is not to be understood as an explicit pillar of futures studies, due to its inconsistency of integrated futures research. Additionally, Dennis Livingston, a literature and Futures journal critic says, "The depiction of

truly alternative societies has not been one of science fiction's strong points, especially" preferred, normative envisages. The strengths of the genre as a form of futurist thinking are discussed by Tom Lombardo, who argues that select science fiction "combines a highly detailed and concrete level of realism with theoretical speculation on the future", "addresses all the main dimensions of the future and synthesizes all these dimensions into integrative visions of the future", and "reflects contemporary and futurist thinking", therefore it "can be viewed as the mythology of the future."

It is notable that although there are no hard limits on horizons in future studies and foresight efforts, typical future horizons explored are within the realm of the practical and do not span more than a few decades. Nevertheless, there are hard science fiction works that can be applicable as visioning exercises that span longer periods of time when the topic is of a significant time scale, such as is in the case of Kim Stanley Robinson's Mars Trilogy, which deals with the terraforming of Mars and extends two centuries forward through the early 23rd century. In fact, there is some overlap between science fiction writers and professional futurists such as in the case of David Brin. Arguably, the work of science fiction authors has seeded many ideas that have later been developed (be it technological or social in nature) - from early works of Jules Verne and H.G. Wells to the later Arthur C. Clarke and William Gibson. Beyond literary works, futures studies and futurists have influenced film and TV works. The 2002 movie adaptation of Phillip K. Dick's short stort, Minority Report, had a group of consultants to build a realistic vision of the future, including futurist Peter Schwartz. TV shows such as HBO's Westworld, and Channel 4/Netflix' Black Mirror follow many of the rules of futures

studies to build the world, the scenery and storytelling in a way futurists would in experiential scenarios and works.

Science Fiction novels for Futurists:

- William Gibson, Neuromancer, Ace Books, 1984. (Pioneering cyberpunk novel)
- Kim Stanley Robinson, Red Mars, Spectra, 1993. (Story on the founding a colony on Mars)
- Bruce Sterling, Heavy Weather, Bantam, 1994. (Story about a world with drastically altered climate and weather)
- Iain Banks' Culture novels (Space operas in distance future with thoughtful treatments of advanced AI)

Government agencies

Several governments have formalized strategic foresight agencies to encourage long range strategic societal planning, with most notable are the governments of Singapore, Finland, and the United Arab Emirates. Other governments with strategic foresight agencies include Canada's Policy Horizons Canada and the Malaysia's Malaysian Foresight Institute.

The Singapore government's Centre for Strategic Futures (CSF) is part of the Strategy Group within the Prime Minister's Office. Their mission is to position the Singapore government to navigate emerging strategic challenges and harness potential opportunities. Singapore's early formal efforts in strategic foresight began in 1991 with the establishment of the Risk Detection and Scenario Planning Office in the Ministry of Defence. In addition to the CSF, the Singapore government has

established the Strategic Futures Network, which brings together deputy secretary-level officers and foresight units across the government to discuss emerging trends that may have implications for Singapore.

Since the 1990s, Finland has integrated strategic foresight within the parliament and Prime Minister's Office. The government is required to present a "Report of the Future" each parliamentary term for review by the parliamentary Committee for the Future. Led by the Prime Minister's Office, the Government Foresight Group coordinates the government's foresight efforts. Futures research is supported by the Finnish Society for Futures Studies (established in 1980), the Finland Futures Research Centre (established in 1992), and the Finland Futures Academy (established in 1998) in coordination with foresight units in various government agencies.

In the United Arab Emirates, Sheikh Mohammed bin Rashid, Vice President and Ruler of Dubai, announced in September 2016 that all government ministries were to appoint Directors of Future Planning. Sheikh Mohammed described the UAE Strategy for the Future as an "integrated strategy to forecast our nation’s future, aiming to anticipate challenges and seize opportunities". The Ministry of Cabinet Affairs and Future(MOCAF) is mandated with crafting the UAE Strategy for the Future and is responsible for the portfolio of the future of UAE.

In 2018, the United States General Accountability Office (GAO) created the Center for Strategic Foresight to enhance its ability to “serve as the agency’s principal hub for identifying, monitoring, and analyzing emerging issues facing

policymakers." The Center is composed of non-resident Fellows who are considered leading experts in foresight, planning and future thinking. In September 2019 they hosted a conference on space policy and "deep fake" synthetic media to manipulate online and real-world interactions.

Risk analysis and management

Foresight is a framework or lens which could be used in risk analysis and management in a medium- to long-term time range. A typical formal foresight project would identify key drivers and uncertainties relevant to the scope of analysis. It would also analyze how the drivers and uncertainties could interact to create the most probable scenarios of interest and what risks they might contain. An additional step would be identifying actions to avoid or minimize these risks.

One classic example of such work was how foresight work at the Royal Dutch Shell international oil company led to envision the turbulent oil prices of the 1970s as a possibility and better embed this into company planning. Yet the practice at Shell focuses on stretching the company's thinking rather than in making predictions. Its planning is meant to link and embed scenarios in "organizational processes such as strategy making, innovation, risk management, public affairs, and leadership development."

Foresight studies can also consider the possibility of "wild card" events – or events that many consider would be impossible to envision – although often such events can be imagined as remote possibilities as part of foresight work. One of many possible areas of focus for a foresight lens could also

be identifying conditions for potential scenarios of high-level risks to society.

These risks may arise from the development and adoption of emerging technologies and/or social change. Special interest lies on hypothetical future events that have the potential to damage human well-being on a global scale - global catastrophic risks. Such events may cripple or destroy modern civilization or, in the case of existential risks, even cause human extinction. Potential global catastrophic risks include but are not limited to climate change, hostile artificial intelligence, nanotechnology weapons, nuclear warfare, total war, and pandemics. The aim of a professional futurist would be to identify conditions that could lead to these events in order to create "pragmatically feasible roads to alternative futures."

Academic Programs and Research centers

- Future Studies Program www.futurestudiesprogram.com
- Houston Foresight Program, University of Houston
- Copenhagen Institute for Futures Studies
- The Futures Academy, Dublin Institute of Technology, Ireland
- Institute for Futures Research, University of Stellenbosch, South Africa
- Institute for the Future, Palo Alto, California

- National Intelligence Council, Office of the Director of National Intelligence, Washington DC
- Machine Intelligence Research Institute (MIRI), Berkeley CA (Previously known as the Singularity Institute)
- Tellus Institute, Boston MA
- World Future Society
- World Futures Studies Federation, world
- Future of Humanity Institute
- The Millennium Project

Futurists

- Futurists are practitioners of the foresight profession, which seeks to provide organizations and individuals with images of the future to help them prepare for contingencies and to maximize opportunities. A foresight project begins with a question that ponders the future of any given subject area, including technology, medicine, government and business. Futurists engage in environmental scanning to search for drivers of change and emerging trends that may have an effect on the focus topic. The scanning process includes reviewing social media platforms, researching already prepared reports, engaging in Delphi studies, reading articles and any other sources of relevant information and preparing and analyzing data extrapolations. Then, through one of a number of highly structured methods futurists organize this information and use it to create multiple future scenarios for the topic,

also known as a domain. The value of preparing many different versions of the future rather than a singular prediction is that they provide a client with the ability to prepare long-range plans that will weather and optimize a variety of contexts.

Chapter 8

Intellectual History

Intellectual history (also the **history of ideas**) is the study of the history of human thought and of intellectuals, people who conceptualize, discuss, write about, and concern themselves with ideas. The investigative premise of intellectual history is that ideas do not develop in isolation from the thinkers who conceptualize and apply those ideas; thus the intellectual historian studies ideas in two contexts: (i) as abstract propositions for critical application; and (ii) in concrete terms of culture, life, and history.

As a field of intellectual enquiry, the history of ideas emerged from the European disciplines of *Kulturgeschichte* (Cultural History) and *Geistesgeschichte* (Intellectual History) from which historians might develop a global intellectual history that shows the parallels and the interrelations in the history of critical thinking in every society. Likewise, the history of reading, and the history of the book, about the material aspects of book production (design, manufacture, distribution) developed from the history of ideas.

The concerns of intellectual history are the intelligentsia and the critical study of the ideas expressed in the texts produced by intellectuals; therein the difference between intellectual history from other forms of cultural history that study visual and non-verbal forms of evidence. In the production of knowledge, the concept of *the intellectual* as a political citizen of public society dates from the 19th century, and identifies a man or a woman who is professionally engaged with critical

thinking that is applicable to improving society. Nonetheless, anyone who explored his or her thoughts on paper can be the subject of an intellectual history such as *The Cheese and the Worms* (1976), Carlo Ginzburg's study of the 16th-century Italian miller Menocchio (1532–1599) and his cosmology, which falls within the genres of cultural history, the history of mentalities, and microhistory.

History of the discipline

Intellectual history developed from the history of philosophy and cultural history as practiced since the times of Voltaire (1694–1778) and Jacob Burckhardt (1818–1897). The scholarly efforts of the eighteenth century can be traced to *The Advancement of Learning* (1605), Francis Bacon's call for what he termed "a literary history". In economics, John Maynard Keynes (1883–1946) was both an historian of economic thought, and the subject of study by historians of economic thought, because of the significance of the Keynesian revolution.

The contemporary understanding of intellectual history emerged in the immediate postwar period of the 1940s, in its earlier incarnation as "the history of ideas" under the leadership of Arthur Lovejoy, the founder of the *Journal of the History of Ideas*. Since that time, Lovejoy's formulation of "unit-ideas" was developed in different and divergent intellectual directions, such as contextualism, historically sensitive accounts of intellectual activity in the corresponding historical period, which investigative shift is reflected in the

replacement of the term "history of ideas" with the term "intellectual history".

Intellectual history is multidisciplinary and include the history of philosophy and the history of economic thought.

In continental Europe, the pertinent example of intellectual history is *Begriffsgeschichte* (History of Concepts, 2010), by Reinhart Koselleck. In Britain the history of political thought has been a particular focus since the late 1960s, and is especially associated with historians at Cambridge, such as John Dunn and Quentin Skinner, who studied European political thought in historical context, emphasizing the emergence and development of concepts such as the State and Freedom. Skinner is known for provocative, methodological essays that give prominence to the practice of intellectual history. In the United States, intellectual history encompass different forms of intellectual production, not just the history of political ideas, and includes fields such as the history of historical thought, associated with Anthony Grafton (Princeton University) and J.G.A. Pocock (Johns Hopkins University). Formally established in 2010, the doctorate in History and Culture at Drew University is one of few graduate programs specializing in intellectual history, in the American and European contexts. Despite the pre-eminence of early modern intellectual historians (those studying the age from the Renaissance to the Age of Enlightenment), the intellectual history of the modern period also has been very productive on both shores of the Atlantic Ocean, e.g. *The Metaphysical Club: A Story of Ideas in America* (2001), by Louis Menand and *The Dialectical Imagination: A History of the Frankfurt School and the Institute of Social Research, 1923–50* (1973), by Martin Jay.

Methodology

The Lovejoy approach

The historian Arthur O. Lovejoy (1873–1962) coined the phrase *history of ideas* and initiated its systematic study in the early decades of the 20th century. Johns Hopkins University was a "fertile cradle" to Lovejoy's history of ideas; he worked there as a professor of history, from 1910 to 1939, and for decades he presided over the regular meetings of the *History of Ideas Club*. Another outgrowth of his work is the *Journal of the History of Ideas*.

Aside from his students and colleagues engaged in related projects (such as René Wellek and Leo Spitzer, with whom Lovejoy engaged in extended debates), scholars such as Isaiah Berlin, Michel Foucault, Christopher Hill, J. G. A. Pocock, and others have continued to work in a spirit close to that with which Lovejoy pursued the history of ideas. The first chapter of Lovejoy's book *The Great Chain of Being* (1936) lays out a general overview of what he intended to be the programme and scope of the study of the history of ideas.

Unit-idea

In the History of Ideas, Lovejoy used the *unit-idea* (concept) as the basic unit of historical analysis. The unit-idea is the building block of the history of ideas; though relatively stable in itself, the unit-idea combines with other unit-ideas into new patterns of meaning in the context of different historical eras.

Lovejoy said that the historian of ideas is tasked with identifying unit-ideas and with describing their historical emergence and development into new conceptual forms and combinations. The methodology of the unit-idea means To extract the basic idea from a work of philosophy and from a philosophical movement, the investigative principles of the methodology are: (1) assumptions, (2) dialectical motives, (3) metaphysical pathos, and (4) philosophical semantics. The principles of methodology define the overarching philosophical movement in which the historian can find the unit-idea, which then is studied throughout the history of the particular idea.

The British historian Quentin Skinner criticized Lovejoy's unit-idea methodology as a "reification of doctrines" that has negative consequences. That the historian of ideas must be sensitive to the cultural context of the texts and ideas under analysis. Skinner's historical method is based upon the theory of speech acts, proposed by J.L. Austin. In turn, scholars criticized Skinner's historical method because of his inclination to reify social structures and sociological constructs in place of the historical actors of the period under study. The philosopher Andreas Dorschel said that Skinner's restrictive approach to ideas, through verbal language, and notes that ideas can materialize in non-linguistic media and genres, such as music and architecture. The historian Dag Herbjørnsrud said that "the Skinner perspective is in danger of shutting the door to comparative philosophy, and the search for common problems and solutions across borders and time."

The historian Peter Gordon said that unlike Lovejoy's practise of the History of Ideas, the praxis of Intellectual History studies and deals with ideas in broad historical contexts. That

unlike historians of ideas and philosophers (History of Philosophy), intellectual historians, “tend to be more relaxed about crossing the boundary between philosophical texts and non-philosophical contexts . . . [Intellectual historians regard] the distinction between ‘philosophy’ and ‘non-philosophy’ as something that is, itself, historically conditioned, rather than eternally fixed.” Therefore, intellectual history is a means for reproducing an historically valid interpretation of a philosophical argument, by implementation of a context in which to study ideas and philosophical movements.

Foucault's approach

Michel Foucault rejected narrative, the historian’s traditional mode of communication, because of what he believed to be the shallow treatment of facts, figures, and people in a long period, rather than deep research that shows the interconnections among the facts, figures, and people of a specific period of history. Foucault said that historians should reveal historical descriptions through the use of different perspectives of the "archaeology of knowledge", whose historical method for writing history is in four ideas.

First, the archaeology of knowledge defines the period of history through philosophy, by way of the discourses among thought, representation, and themes. Second, that the notion of discontinuity has an important role in the disciplines of history. Third, that discourse does not seek to grasp the moment in history, wherein the social and the persons under study are inverted into each other. Fourth, that Truth is not the purpose of history, but the discourse contained in history.

Global intellectual history

In the 21st century, the field of global intellectual history has received increased attention. In 2013, Samuel Moyn and Andrew Sartori published the anthology *Global Intellectual History*.

In 2016, the Routledge journal *Global Intellectual History* (ed. Richard Whatmore) was established. J. G. A. Pocock and John Dunn are among those who recently have argued for a more global approach to intellectual history in contrast to Eurocentrism.

Chapter 9

History Painting

History painting is a genre in painting defined by its subject matter rather than artistic style. History paintings usually depict a moment in a narrative story, rather than a specific and static subject, as in a portrait. The term is derived from the wider senses of the word *historia* in Latin and Italian, meaning "story" or "narrative", and essentially means "story painting". Most history paintings are not of scenes from history, especially paintings from before about 1850.

In modern English, historical painting is sometimes used to describe the painting of scenes from history in its narrower sense, especially for 19th-century art, excluding religious, mythological, and allegorical subjects, which are included in the broader term history painting, and before the 19th century were the most common subjects for history paintings.

History paintings almost always contain a number of figures, often a large number, and normally show some type of action that is a moment in a narrative. The genre includes depictions of moments in religious narratives, above all the *Life of Christ*, as well as narrative scenes from mythology, and also allegorical scenes. These groups were for long the most frequently painted; works such as Michelangelo's Sistine Chapel ceiling are therefore history paintings, as are most very large paintings before the 19th century. The term covers large paintings in oil on canvas or fresco produced between the Renaissance and the late 19th century, after which the term is

generally not used even for the many works that still meet the basic definition.

History painting may be used interchangeably with **historical painting**, and was especially so used before the 20th century. Where a distinction is made, "historical painting" is the painting of scenes from secular history, whether specific episodes or generalized scenes. In the 19th century, historical painting in this sense became a distinct genre. In phrases such as "historical painting materials", "historical" means in use before about 1900, or some earlier date.

Prestige

History paintings were traditionally regarded as the highest form of Western painting, occupying the most prestigious place in the hierarchy of genres, and considered the equivalent to the epic in literature. In his *De Pictura* of 1436, Leon Battista Alberti had argued that multi-figure history painting was the noblest form of art, as being the most difficult, which required mastery of all the others, because it was a visual form of history, and because it had the greatest potential to move the viewer. He placed emphasis on the ability to depict the interactions between the figures by gesture and expression.

This view remained general until the 19th century, when artistic movements began to struggle against the establishment institutions of academic art, which continued to adhere to it. At the same time, there was from the latter part of the 18th century an increased interest in depicting in the form of history painting moments of drama from recent or

contemporary history, which had long largely been confined to battle-scenes and scenes of formal surrenders and the like. Scenes from ancient history had been popular in the early Renaissance, and once again became common in the Baroque and Rococo periods, and still more so with the rise of Neoclassicism. In some 19th or 20th century contexts, the term may refer specifically to paintings of scenes from secular history, rather than those from religious narratives, literature or mythology.

Development

- The term is generally not used in art history in speaking of medieval painting, although the Western tradition was developing in large altarpieces, fresco cycles, and other works, as well as miniatures in illuminated manuscripts. It comes to the fore in Italian Renaissance painting, where a series of increasingly ambitious works were produced, many still religious, but several, especially in Florence, which did actually feature near-contemporary historical scenes such as the set of three huge canvases on *The Battle of San Romano* by Paolo Uccello, the abortive *Battle of Cascina* by Michelangelo and the *Battle of Anghiari* by Leonardo da Vinci, neither of which were completed. Scenes from ancient history and mythology were also popular. Writers such as Alberti and the following century Giorgio Vasari in his *Lives of the Artists*, followed public and artistic opinion in judging the best painters above all on their production of large

> works of history painting (though in fact the only modern (post-classical) work described in *De Pictura* is Giotto's huge *Navicella* in mosaic). Artists continued for centuries to strive to make their reputation by producing such works, often neglecting genres to which their talents were better suited.

There was some objection to the term, as many writers preferred terms such as "poetic painting" (*poesia*), or wanted to make a distinction between the "true" *istoria*, covering history including biblical and religious scenes, and the *fabula*, covering pagan myth, allegory, and scenes from fiction, which could not be regarded as true. The large works of Raphael were long considered, with those of Michelangelo, as the finest models for the genre.

In the Raphael Rooms in the Vatican Palace, allegories and historical scenes are mixed together, and the Raphael Cartoons show scenes from the Gospels, all in the Grand Manner that from the High Renaissance became associated with, and often expected in, history painting. In the Late Renaissance and Baroque the painting of actual history tended to degenerate into panoramic battle-scenes with the victorious monarch or general perched on a horse accompanied with his retinue, or formal scenes of ceremonies, although some artists managed to make a masterpiece from such unpromising material, as Velázquez did with his *The Surrender of Breda*.

An influential formulation of the hierarchy of genres, confirming the history painting at the top, was made in 1667 by André Félibien, a historiographer, architect and theoretician

of French classicism became the classic statement of the theory for the 18th century:

Celui qui fait parfaitement des païsages est au-dessus d'un autre qui ne fait que des fruits, des fleurs ou des coquilles. Celui qui peint des animaux vivants est plus estimable que ceux qui ne représentent que des choses mortes & sans mouvement; & comme la figure de l'homme est le plus parfait ouvrage de Dieu sur la Terre, il est certain aussi que celui qui se rend l'imitateur de Dieu en peignant des figures humaines, est beaucoup plus excellent que tous les autres ... un Peintre qui ne fait que des portraits, n'a pas encore cette haute perfection de l'Art, & ne peut prétendre à l'honneur que reçoivent les plus sçavans. Il faut pour cela passer d'une seule figure à la représentation de plusieurs ensemble; il faut traiter l'histoire & la fable; il faut représenter de grandes actions comme les historiens, ou des sujets agréables comme les Poëtes; & montant encore plus haut, il faut par des compositions allégoriques, sçavoir couvrir sous le voile de la fable les vertus des grands hommes, & les mystères les plus relevez.

He who produces perfect landscapes is above another who only produces fruit, flowers or seashells. He who paints living animals is more than those who only represent dead things without movement, and as man is the most perfect work of God on the earth, it is also certain that he who becomes an imitator of God in representing human figures, is much more excellent than all the others ... a painter who only does portraits still does not have the highest perfection of his art, and cannot expect the honour due to the most skilled. For that he must pass from representing a single figure to several together;

history and myth must be depicted; great events must be represented as by historians, or like the poets, subjects that will please, and climbing still higher, he must have the skill to cover under the veil of myth the virtues of great men in allegories, and the mysteries they reveal".

By the late 18th century, with both religious and mytholological painting in decline, there was an increased demand for paintings of scenes from history, including contemporary history. This was in part driven by the changing audience for ambitious paintings, which now increasingly made their reputation in public exhibitions rather than by impressing the owners of and visitors to palaces and public buildings. Classical history remained popular, but scenes from national histories were often the best-received. From 1760 onwards, the Society of Artists of Great Britain, the first body to organize regular exhibitions in London, awarded two generous prizes each year to paintings of subjects from British history.

The unheroic nature of modern dress was regarded as a serious difficulty. When, in 1770, Benjamin West proposed to paint *The Death of General Wolfe* in contemporary dress, he was firmly instructed to use classical costume by many people. He ignored these comments and showed the scene in modern dress. Although George III refused to purchase the work, West succeeded both in overcoming his critics' objections and inaugurating a more historically accurate style in such paintings. Other artists depicted scenes, regardless of when they occurred, in classical dress and for a long time, especially during the French Revolution, history painting often focused on depictions of the heroic male nude.

The large production, using the finest French artists, of propaganda paintings glorifying the exploits of Napoleon, were matched by works, showing both victories and losses, from the anti-Napoleonic alliance by artists such as Goya and J.M.W. Turner. Théodore Géricault's *The Raft of the Medusa* (1818–1819) was a sensation, appearing to update the history painting for the 19th century, and showing anonymous figures famous only for being victims of what was then a famous and controversial disaster at sea. Conveniently their clothes had been worn away to classical-seeming rags by the point the painting depicts. At the same time the demand for traditional large religious history paintings very largely fell away.

In the mid-nineteenth century there arose a style known as historicism, which marked a formal imitation of historical styles and/or artists. Another development in the nineteenth century was the treatment of historical subjects, often on a large scale, with the values of genre painting, the depiction of scenes of everyday life, and anecdote. Grand depictions of events of great public importance were supplemented with scenes depicting more personal incidents in the lives of the great, or of scenes centred on unnamed figures involved in historical events, as in the Troubadour style. At the same time scenes of ordinary life with moral, political or satirical content became often the main vehicle for expressive interplay between figures in painting, whether given a modern or historical setting.

By the later 19th century, history painting was often explicitly rejected by avant-garde movements such as the Impressionists (except for Édouard Manet) and the Symbolists, and according to one recent writer "Modernism was to a considerable extent

built upon the rejection of History Painting... All other genres are deemed capable of entering, in one form or another, the 'pantheon' of modernity considered, but History Painting is excluded".

History painting and historical painting

The terms

Initially, "history painting" and "historical painting" were used interchangeably in English, as when Sir Joshua Reynolds in his fourth *Discourse* uses both indiscriminately to cover "history painting", while saying "...it ought to be called poetical, as in reality it is", reflecting the French term *peinture historique*, one equivalent of "history painting". The terms began to separate in the 19th century, with "historical painting" becoming a sub-group of "history painting" restricted to subjects taken from history in its normal sense. In 1853 John Ruskin asked his audience: "What do you at present *mean* by historical painting? Now-a-days it means the endeavour, by the power of imagination, to portray some historical event of past days." So for example Harold Wethey's three-volume catalogue of the paintings of Titian (Phaidon, 1969–75) is divided between "Religious Paintings", "Portraits", and "Mythological and Historical Paintings", though both volumes I and III cover what is included in the term "History Paintings". This distinction is useful but is by no means generally observed, and the terms are still often used in a

confusing manner. Because of the potential for confusion modern academic writing tends to avoid the phrase "historical painting", talking instead of "historical subject matter" in history painting, but where the phrase is still used in contemporary scholarship it will normally mean the painting of subjects from history, very often in the 19th century. "Historical painting" may also be used, especially in discussion of painting techniques in conservation studies, to mean "old", as opposed to modern or recent painting.

In 19th-century British writing on art the terms "**subject painting**" or "anecdotic" painting were often used for works in a line of development going back to William Hogarth of monoscenic depictions of crucial moments in an implied narrative with unidentified characters, such as William Holman Hunt's 1853 painting *The Awakening Conscience* or Augustus Egg's *Past and Present*, a set of three paintings, updating sets by Hogarth such as *Marriage à-la-mode*.

19th century

- History painting was the dominant form of academic painting in the various national academies in the 18th century, and for most of the 19th, and increasingly historical subjects dominated. During the Revolutionary and Napoleonic periods the heroic treatment of contemporary history in a frankly propagandistic fashion by Antoine-Jean, Baron Gros, Jacques-Louis David, Carle Vernet and others was supported by the French state, but after the fall of Napoleon in 1815 the French governments were not regarded as suitable for heroic treatment and many

artists retreated further into the past to find subjects, though in Britain depicting the victories of the Napoleonic Wars mostly occurred after they were over. Another path was to choose contemporary subjects that were oppositional to government either at home and abroad, and many of what were arguably the last great generation of history paintings were protests at contemporary episodes of repression or outrages at home or abroad: Goya's *The Third of May 1808* (1814), Théodore Géricault's *The Raft of the Medusa* (1818–19), Eugène Delacroix's *The Massacre at Chios* (1824) and *Liberty Leading the People* (1830). These were heroic, but showed heroic suffering by ordinary civilians.

Romantic artists such as Géricault and Delacroix, and those from other movements such as the English Pre-Raphaelite Brotherhood continued to regard history painting as the ideal for their most ambitious works. Others such as Jan Matejko in Poland, Vasily Surikov in Russia, José Moreno Carbonero in Spain and Paul Delaroche in France became specialized painters of large historical subjects. The *style troubadour* ("troubadour style") was a somewhat derisive French term for earlier paintings of medieval and Renaissance scenes, which were often small and depicting moments of anecdote rather than drama; Ingres, Richard Parkes Bonington and Henri Fradelle painted such works. Sir Roy Strong calls this type of work the "Intimate Romantic", and in French it was known as the "peinture de genre historique" or "peinture anecdotique" ("historical genre painting" or "anecdotal painting"). Church commissions for large group scenes from the Bible had greatly reduced, and historical painting became very significant.

Especially in the early 19th century, much historical painting depicted specific moments from historical literature, with the novels of Sir Walter Scott a particular favourite, in France and other European countries as much as Great Britain. By the middle of the century medieval scenes were expected to be very carefully researched, using the work of historians of costume, architecture and all elements of decor that were becoming available. And example of this is the extensive research of Byzantine architecture, clothing and decoration made in Parisian museums and libraries by Moreno Carbonero for his masterwork *The Entry of Roger de Flor in Constantinople*. The provision of examples and expertise for artists, as well as revivalist industrial designers, was one of the motivations for the establishment of museums like the Victoria and Albert Museum in London. New techniques of printmaking such as the chromolithograph made good quality monochrome print reproductions both relatively cheap and very widely accessible, and also hugely profitable for artist and publisher, as the sales were so large. Historical painting often had a close relationship with Nationalism, and painters like Matejko in Poland could play an important role in fixing the prevailing historical narrative of national history in the popular mind. In France, *L'art Pompier* ("Fireman art") was a derisory term for official academic historical painting, and in a final phase, "History painting of a debased sort, scenes of brutality and terror, purporting to illustrate episodes from Roman and Moorish history, were Salon sensations. On the overcrowded walls of the exhibition galleries, the paintings that shouted loudest got the attention". Orientalist painting was an alternative genre that offered similar exotic costumes and decor, and at least as much opportunity to depict sex and violence.