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backgrounds, and more with our new model update. Your generated images will be more polished thanever. See What's NewExplore how consumers want to see climate stories told today, and what that means for your usage rights questions. Our
original video podcast covers it allnow ondemand. Watch NowPottery was first invented in China, at least 20,000 years ago, to make vessels for daily use. The earliest pottery pieces in China were found in Xianrendong Cave and are over 19,000 years old. The Jomon culture in Japan, dating back 13,000 years, widely used decorated pottery for cooking
and storage. Of all the kinds of artifacts which may be found at archaeological sites, ceramics--objects made from fired clay--are surely one of the most useful. Ceramic artifacts which may be found at archaeological sites, ceramics--objects made from fired clay--are surely one of the most useful. Ceramic artifacts which may be found at archaeological sites, ceramics--objects made from fired clay--are surely one of the most useful.
made, shaped of clay and purposely fired. Clay figurines are known from the earliest human occupations; but clay vessels, pottery vessels used for storing, cooking and serving food, and carrying water were first manufactured in China at least 20,000 years ago. Recently redated ceramic sherds from the Paleolithic/Neolithic cave site of Xianrendong in
the Yangtse Basin of central China in Jiangxi province hold the earliest established dates, at 19,200-20,900 cal BP years ago. These pots were bag-shaped and coarse-pasted, made of local clay with inclusions of quartz and feldspar, with plain or simply decorated walls. The second oldest pottery in the world is from Hunan Province, at the karst cave of
Yuchanyan. In sediments dated between 15,430 and 18,300 calendar years before the present (cal BP) were found sherds from at least two pots. One was partially constructed, and it was a wide-mouthed jar with a pointed bottom that looks very much like the Incipient Jomon pot illustrated in the photograph and about 5,000 years younger. The
Yuchanyan sherds are thick (up to 2 cm) and coarsely pasted, and decorated with cord-marks on the interior and exterior walls. The next earliest sherds are from the Kamino site in southwestern Japan. This site has a stone tool assemblage which appears to classify it as late Paleolithic, called Pre-ceramic in Japanese archaeology to separate it from
the Lower Paleolithic cultures of Europe and the mainland. At the Kamino site in addition to a handful of potsherds were found micro blades, wedge-shaped microcores, spearheads and other artifacts similar to assemblages at Pre-ceramic sites in Japan dated between 14,000 and 16,000 years before the present (BP). This layer is stratigraphically
below a securely dated Initial Jomon culture occupation of 12,000 BP. The ceramic sherds are not decorated and are very small and fragmentary. Recent thermoluminescence dating of the sherds themselves returned a 13,000-12,000 BP date. Ceramic sherds are also found, also in small quantities, but with a bean-impression decoration, in a half-
dozen sites of the Mikoshiba-Chojukado sites of southwestern Japan, also dated to the late Pre-ceramic period. These pots are bag-shaped but somewhat pointed at the bottom, and sites with these sherds include the Odaiyamamoto and Ushirono sites, and Senpukuji Cave. Like those of the Kamino site, these sherds are also quite rare, suggesting that
although the technology was known to the Late Pre-ceramic cultures, it just was not terribly useful to their nomadic lifestyle. In contrast, ceramics were very useful indeed to the Jomon peoples. In Japanese, the word "Jomon" means "cord-mark," as in cord-marked decoration on pottery. The Jomon tradition is the name given to hunter-gatherer
cultures in Japan from about 13,000 to 2500 BP, when migrating populations from the mainland brought full-time wet rice agriculture. For the entire ten millennia, the Jomon peoples used ceramic vessels for storage and cooking. Incipient Jomon ceramics are identified by patterns of lines applied onto a bag-shaped vessel. Later, as on the mainland,
highly decorated vessels were also manufactured by the Jomon peoples. By 10,000 BP, the use of ceramic vessels are found throughout mainland China, and by 5,000 BP ceramic vessels are found throughout mainland China, and by 5,000 BP ceramic vessels are found throughout the world, both independently invented in the Americas or spread by diffusion into the middle eastern Neolithic cultures. The first high-fired glazed
ceramics were produced in China, during the Shang (1700-1027 BC) dynasty period. At sites such as Yinxu and Erligang, high-fired ceramics appear in the 13th-17th centuries BC. These pots were made from a local clay, washed with wood ash and fired in kilns to temperatures of between 1200 and 1225 degrees Centigrade to produce a high fired
lime-based glaze. Shang and Zhou dynasty potters continued to refine the technique, testing different clays and washes, eventually leading to the development of true porcelain. See Yin, Rehren and Zheng 2011. By the Tang Dynasty (AD 618-907), the first mass pottery manufacturing kilns were begun at the imperialJingdezhensite, and the beginning
of export trade of Chinese porcelain to the rest of the world opened up. Sources Boaretto E, Wu X, Yuan J, Bar-Yosef O, Chu V, Pan Y, Liu K, Cohen D, Jiao T, Li S et al. 2009. Radiocarbon dating of charcoal and bone collagen associated with early pottery at Yuchanyan Cave, Hunan Province, China. Proceedings of the National Academy of Sciences
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T, and Zheng J. 2011. The earliest high-fired glazed ceramics in China: the composition of the proto-porcelain from Zhejiang during the Shang and Zhou periods (c. 1700-221 BC). Journal of Archaeological Science 38(9):2352-2365. Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix,
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material. Craft of making objects from clayFor the band of the same name, see Pottery (band). For other uses, see Pottery (band). For other uses, see Pottery (band). For other uses, see Pottery (band) and durable form. The
place where such wares are made by a potter is also called a pottery, used by the ASTM International, is "all fired ceramic wares that contain clay when formed, except technical, structural, and refractory products".[1] End applications include tableware, decorative ware, sanitary ware, and in technology and
industry such as electrical insulators and laboratory ware. In art history and archaeology, especially of ancient and prehistoric periods, pottery often means only vessels, and sculpted figurines of the same material are called terracottas. [2] An 18th-century Chinese export porcelain service, for the America marketPottery is one of the oldest human
inventions, originating before the Neolithic period, with ceramic objects such as the Gravettian culture Venus of Doln Vstonice figurine discovered in Jiangxi, China, which date back to 18,000 BC. Other early Neolithic and pre-
Neolithic pottery artifacts have been found, in Jmon Japan (10,500 BC),[4] the Russian Far East (14,000 BC),[5] Sub-Saharan Africa (9,400 BC),[6] South America (9,000s7,000s BC),[7] and the Middle East (7,000s6,000s BC),[7] and the Middle East (7,000s6,000s BC),[7] and the Middle East (7,000s6,000s BC),[8] South America (9,400 BC),[8
to high temperatures (6001600C) in a bonfire, pit or kiln, which induces reactions that lead to permanent changes including increasing the strength and rigidity of the object. Much pottery is traditionally divided into three
types: earthenware, stoneware and porcelain. All three may be glazed and unglazed. All may also be decorated by various techniques. In many examples the group a piece belongs to is immediately visually apparent, but this is not always the case; for example fritware uses no or little clay, so falls outside these groups. Historic pottery of all these
types is often grouped as either "fine" wares, relatively expensive and well-made, and following the aesthetic taste of the culture concerned, or simply so, and often less well-made. Cooking in pottery became less popular once metal pots became available, [8] but is still
used for dishes that benefit from the qualities of pottery cooking, typically slow cooking in an oven, such as biryani, cassoulet, daube, tagine, jollof rice, kedjenou, cazuela and types of baked beans.[8]Main article: Earthenware Earthenware from the Neolithic Majiayao culture China, 3300 to 2000 BCEThe earliest forms of pottery were made from
clays that were fired at low temperatures, initially in pit-fires or in open bonfires. They were hand formed and undecorated. Earthenware is porous, it has limited utility for the storage of liquids or as tableware. However, earthenware has had a
continuous history from the Neolithic period to today. It can be made from a wide variety of clays, some of which fire to a buff, brown or black colour, with iron in the constituent minerals resulting in a reddish-brown. Reddish colour, with iron in the constituent minerals resulting in a reddish-brown.
made impermeable pottery possible, improving the popularity and practicality of pottery vessels. Decoration has evolved and developed through history. Main article: Stoneware 15th-century Japanese stoneware storage jar, with partial ash glazeStoneware is pottery that has been fired in a kiln at a relatively high temperature, from about 1,100C to
1,200C, and is stronger and non-porous to liquids.[10] The Chinese, who developed stoneware very early on, classify this together with porcelain as high-fired wares. In contrast, stoneware could only be produced in Europe from the late Middle Ages, as European kilns were less efficient, and the right type of clay less common. It remained a speciality
of Germany until the Renaissance.[11] Stoneware is very tough and practical, and much of it has always been utilitarian, for the kitchen or storage rather than the table. But "fine" stoneware has been important in China, Japan and the West, and continues to be made. Many utilitarian types have also come to be appreciated as art. Main article:
PorcelainContemporary porcelain is made by heating materials, generally including kaolin, in a kiln to temperatures between 1,200 and 2,600F). This is higher than used for the other types, and achieving these temperatures was a long struggle, as well as realizing what materials were needed. The
toughness, strength and translucence of porcelain, relative to other types of pottery, arises mainly from vitrification and the formation of the mineral mullite within the body at these high temperatures. Although porcelain was first made in China, the Chinese traditionally do not recognise it as a distinct category, grouping it with stoneware as "high
fired" ware, opposed to "low-fired" earthenware. This confuses the issue of when it was first made. A degree of translucency and whiteness was not reached until much later, in the 14th century. Porcelain was also made in
Korea and in Japan from the end of the 16th century, after suitable kaolin was located in those countries. It was not made effectively outside East Asia until the 18th century, after suitable kaolin was located in those countries. It was not made effectively outside East Asia until the 18th century, after suitable kaolin was located in those countries. It was not made effectively outside East Asia until the 18th century, after suitable kaolin was located in those countries. It was not made effectively outside East Asia until the 18th century, after suitable kaolin was located in those countries. It was not made effectively outside East Asia until the 18th century, after suitable kaolin was located in those countries. It was not made effectively outside East Asia until the 18th century, after suitable kaolin was located in those countries.
section below), used to analyse the fabric of pottery, is important part of archaeology for understanding the archaeological culture of the excavated site by studying the fabric of patterns, etc. This helps to understand characteristics, sophistication, habits,
technology, tools, trade, etc. of the people who made and used the pottery. Carbon dating reveals the age. Sites with similar pottery characteristics but with some overlap are indicative of cultural exchange such as trade or living in vicinity or continuity of habitation, etc.
Examples are black and red ware, redware, Sothi-Siswal culture and Painted Grey Ware culture. The six fabrics of Kalibangan is a good example of use of fabric analysis in identifying a differentiated culture which was earlier thought to be typical Indus Valley civilisation (IVC) culture. Pottery is durable, and fragments, at least, often survive long after
drawn about a culture's daily life, religion, social relationships, attitudes towards neighbours, attitudes to their own world and even the way the culture understood the universe. Terracotta Army following excavation tis valuable to look into pottery as an archaeological record of potential interaction between peoples. When pottery is placed within theer
context of linguistic and migratory patterns, it becomes an even more prevalent category of social artifact.[13] As proposed by Olivier P. Gosselain, it is possible to understand ranges of cross-cultural interaction by looking closely at the chane opratoire of ceramic production.[14] The methods used to produce pottery in early Sub-Saharan Africa are
different areas. Generally, the techniques that are easily visible (the first category of those mentioned above) are thus readily imitated, and may indicate a more distant connection between groups, such as trade in the same market or even relatively close settlements.[14] Techniques that require more studied replication (i.e., the selection of clay and
between the two. Thus, the patterns of technical diffusion in pot-making that are visible via archaeological findings also reveal patterns in societal interaction. Chronologies based on pottery are often essential for dating non-literate cultures and are often of help in the dating of historic cultures as well. Trace-element analysis, mostly by neutron
activation, allows the sources of clay to be accurately identified and the thermoluminescence test can be used to provide an estimate of the date of last firing. Examining sherds from prehistory, scientists learned that during high-temperature firing, iron materials in clay record the state of the Earth's magnetic field at that moment. The "clay body" is
also called the "paste" or the "fabric", which consists of 2 things, the "clay matrix" composed of grains of less than 0.02mm grains which are larger grains of clay and could be seen with the naked eye or a low-power binocular
microscope. For geologists, fabric analysis means spatial arrangement of minerals in a rock. For Archaeologists, the "fabric analysis" of pottery entails the study of clay matrix and inclusions in the clay body as well as the firing temperature and conditions. Analysis is done to examine the following 3 in detail:[15]How pottery was made e.g. material
design such as shape and style, etc. Its decorations, such as patterns, colors of patterns, slipped (glazing) or unslipped decoration of clay for pottery in IndiaRemoving a filter cake of porcelain body from a filter pressBody, or clay body, is the material
used to form pottery. Thus a potter might prepare, or order from a supplier, such an amount of earthenware body, stoneware body or porcelain body. The compositions of clay bodies varies considerably, and include both prepared and 'as dug'; the former being by far the dominant type for studio and industry. The properties also vary considerably,
and include plasticity and mechanical strength and colour. There can be regional variations in the properties of raw materials used for pottery, and these can lead to wares that are unique in character to a locality. The main
ingredient of the body is clay. Some different types used for pottery include:[16]Kaolin, sometimes referred to as china clay, is a key ingredient in porcelain, which may contain some organic matter. Fire clay: A clay having
a slightly lower percentage of fluxes than kaolin, but usually quite plastic. It is highly heat resistant form of clay which can be combined with other clays to increase the firing temperature and may be used as an ingredient to make stoneware type bodies. Stoneware type bodies. Stoneware type bodies are increased the firing temperature and may be used as an ingredient to make stoneware type bodies.
clay and ball clay, having finer grain, like ball clay but is more heat resistant like fire clays. Common red clay and shale clay which car
be added in small quantities to short clay to increase the plasticity. It is common for clays and other raw materials to be mixed to produce clay bodies suited to specific purposes. Various mineral processing techniques are often utilised before mixing the raw materials, with comminution being effectively universal for non-clay materials. Examples of
non-clay materials include: Feldspar, act as fluxes which lower the vitrification temperature of bodies. Quartz, an important role is to attenuate drying shrinkage. A section cut-through of ball mill, which are widely used to mill raw materials for potteryNepheline syenite, an alternative to feldspar. Calcined alumina, can enhance the fired properties of a
body. Chamotte, also called grog, is fired clay which it is crushed, and sometimes then milled. Helps attenuate drying shrinkage. [19] Bone ash, produced by the calcination of animal bone. A key raw material for bone china. Frit, produced by the calcination of animal bone ash, produced made by quenching and breaking up a glass of a specific composition. Can be used at low additions in some bodies.
but common uses include as components of a glaze or enamel, or for the body of fritware, when it usually mixed with larger quantities of quartz sand. Various others at low levels of addition such as dolomite, limestone, talc and wollastonite. Clay body being extruded from a de-airing pugThe production of pottery includes the following stages: Preparing
the clay body. Shaping Drying Firing Glazing and decorating and decorating and decoration may be needed.) Before being shaped, clay must be prepared within the clay body needs to be removed, or de
aired, and can be accomplished either by a machine called a vacuum pug or manually by wedging. Wedging can also help produce an even moisture content. Once a clay body has been kneaded and de-aired or wedged, it is shaped by a variety of techniques, which include: Hand-building: This is the earliest forming method. Wares can be constructed
by hand from coils of clay, combining flat slabs of clay, or pinching solid balls of clay or some combination of these. Parts of hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-built vessels are often joined with the aid of slip. Some studio potters find hand-bui
potter's wheel: In a process called "throwing" (coming from the Old English word thrawan which means to twist or turn[20]) a ball of clay is placed in the centre of a turntable, called the wheel-head, which the process of throwing, the wheel rotates while thead, which the potter rotates with a stick, with foot power or with a variable, called the wheel-head, which the process of throwing, the wheel rotates while thead in the centre of a turntable, called the wheel-head, which the process of throwing.
 solid ball of soft clay is pressed, squeezed and pulled gently upwards and outwards into a hollow shape. Skill and experience are required to throw pots of an acceptable standard and, while the ware may have high artistic merit, the reproducibility of the method is poor.[21] Because of its inherent limitations, throwing can only be used to create wares
with radial symmetry on a vertical axis. Press moulding: a simple technique of shaping by manually pressing a lump of clay body in a semi-dry and granulated form in a mould. The body is pressed into the mould by a porous die through
which water is pumped at high pressure. The fine, free flowing granulated body is prepared by spray drying a high-solids content slip. Granulate pressing, also known as dust pressing and jolleying: These operations are carried out on
the potter's wheel and allow the time taken to bring wares to a standardized form to be reduced. Jiggering is the operation of bringing a shaped tool into contact with the plastic clay of a piece under construction, the piece itself being set on a rotating plaster mould on the wheel. The jigger tool shapes one face while the mould shapes the other.
Jiggering is used only in the production of flat wares, such as plates, but a similar operation, jolleying are usually automated, which allows
the operations to be carried out by semi-skilled labour. Roller-head machine: This machine is for shaping wares on a rotating mould, as in jiggering and jolleying, but with a rotary shaping tool replacing the fixed profile. The rotary shaping tool is a shallow cone having the same diameter as the ware being formed and shaped to the desired form of the
back of the article being made. Wares may in this way be shaped, using relatively unskilled labour, in one operation at a rate of about twelve pieces per minute, though this varies with the size of the articles being produced. Developed in the UK just after World War II by the company Service Engineers, roller-heads were quickly adopted by
manufacturers around the world; it remains the dominant method for producing both flatware and holloware, such as plates and mugs. [28] Pressure casting: Is a development of traditional slipcasting. Specially developed polymeric materials allow a mould to be subject to application external pressures of up to 4.0 MPa so much higher than slip casting.
in plaster moulds where the capillary forces correspond to a pressure of around 0.10.2 MPa. The high pressure leads to much faster production cycles. Furthermore, the application of high pressure air through the polymeric moulds upon demoulding the cast means a new casting cycle can be started immediately in these and, hence, faster production cycles. Furthermore, the application of high pressure air through the polymeric moulds upon demoulding the cast means a new casting cycle can be started immediately in these and, hence, faster production of high pressure air through the cast means a new casting cycle can be started immediately in these and, hence, faster production of high pressure air through the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new casting cycle can be started immediately in the cast means a new cast m
same mould, unlike plaster moulds which require lengthy drying times. The polymeric materials have much greater durability than plaster and, therefore, it is possible to achieve shaped products with better dimensional tolerances and much longer mould life. Pressure casting was developed in the 1970s for the production of sanitaryware although
more recently, it has been applied to tableware. [29][30][31][32]RAM pressing: This is used to shape ware by pressing a bat of prepared clay body into a required shape between two porous moulding plates. After pressing, compressed air is blown through the porous mould plates to release the shaped wares. [33] Filling a plaster mould with slip De-
moulding a large vase after it has been slip castSlip casting: This is suited to the making of shapes that cannot be formed by other methods. A liquid slip, made by mixing clay body covering its internal surfaces and
taking its internal shape. Excess slip is poured out of the mould, which is then split open and the moulded object removed. Slip casting is widely used in the production of sanitaryware and is also used for making other complex shaped ware such as teapots and figurines. Injection moulding: This is a shape-forming process adapted for the tableware
industry from the method long established for the forming of thermoplastic and some metal components. [34] It has been called Porcelain Injection Moulding, or PIM. [35] Suited to the mass production of a cup, including the handle, in a single
process, and thereby eliminates the handle-fixing operation and produces a stronger bond between cup and handle.[36] The feed to the mould die is a mix of approximately 50 to 60 per cent unfired body in powder form, together with 40 to 50 per cent organic additives composed of binders, lubricants and plasticisers.[35] The technique is not as
widely used as other shaping methods. [37]3D printing: There are two methods. One involves the layered deposition of soft clay body in dry powder form is fused together layer upon layer with a liquid. [38] [39] Injection moulding of ceramic
tableware has been developed, though it has yet to be fully commercialised.[40]Prior to firing, the water in an article needs to be removed. A number of different stages, or conditions of the article, can be identified: Greenware refers to unfired objects at any stage of dryness, but is most often used to refer to objects ready to be fired. At sufficient
moisture content, bodies at this stage are in their most plastic form (as they are soft and malleable, and hence can be easily deformed by handling). Prior to firing, any state of clay may be hydrated into any other unfired stage. Plastic, also known as wet, refers to clay that is malleable and sufficiently wet to shape by hand or on a potter's
wheel, but strong enough to hold its shape. At this stage the clay has between 20% and 25% moisture content. [41] This is the stage most commercial clays are sold at, and at which most of the shaping process is done. Leather-hard refers to a clay body that has been dried partially. At this stage the clay object has approximately 15% moisture content.
Clay bodies at this stage are very firm and only slightly pliable. Trimming and handle attachment often occurs at the leather-hard state. Bone-dry refers to clay bodies when they reach a moisture content at or near 0%. At that moisture content, the item is ready to be fired. Additionally, the piece is extremely brittle at this stage and must be handled
with care.[42][43]A modern tunnel kilnFiring produces permanent and irreversible chemical and physical changes in the body. It is only after firing that the article or material is pottery, the changes include sintering, the fusing together of coarser particles in the body at their points of contact with each other. In the case of
porcelain, where higher firing-temperatures are used, the physical, chemical and mineralogical properties of the constituents in the body are greatly altered. In all cases, the reason for firing is to permanently harden the wares, and the firing regime must be appropriate to the materials used. As a rough guide, modern earthenwares are normally fired
at temperatures in the range of about 1,000C (2,190F) to 1,200C (2,190F) to 1,200C (2,190F) to 1,400C (2,550F). Historically, reaching high temperatures was a long-lasting challenge, and earthenware can be fired effectively as low as 600C (1,112F).
achievable in primitive pit firing. The time spent at any particular temperature is also important, the combination of heat and time is known as heatwork. Kilns can be monitored by pyrometers, thermocouples and pyrometers, thermocouples and pyrometers, thermocouples and pyrometers and pyrometers.
the differing colours of the various oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferric oxide or FeO) is associated with brown-red colours, whilst iron(II) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours.
of these iron oxides in fired the body and glaze: for example, where there is a lack of oxygen during firing the associated carbon monoxide (CO) will readily react with oxygen deficient condition, called a reducing atmosphere, is generated by preventing the complete
combustion of the kiln fuel; this is achieved by deliberately restricting the supplying an excess of fuel. [44][45] Firing pottery can be done using a variety of methods, with a kiln being the usual firing method. Both the maximum temperature and the duration of firing influences the final characteristics of the ceramic. Thus, the
maximum temperature within a kiln is often held constant for a period of time to soak the wares to produce the maturity required in the body of the wares. Kilns may be heated by burning combustible materials, such as wood, coal and wood can
introduce smoke, soot and ash into the kiln which can affect the appearance of unprotected wares. For this reason, wares fired in wood- or coal-fired kilns and often wood- or coal-fired kilns are often placed in the kiln in saggars, ceramic boxes, to protect them. Modern kilns fuelled by gas or electricity are cleaner and more easily controlled than older wood- or coal-fired kilns and often wood- or coal-fired kilns are often placed in the kiln in saggars, ceramic boxes, to protect them.
 allow shorter firing times to be used. Pottery firing mound in Kalabougou, Mali. Much of the earliest pottery would have been fired in a similar fashion. Niche techniques include: In a Western adaptation of traditional Japanese raku ware firing, wares are removed from the kiln while hot and smothered in ashes, paper or woodchips which produces a
distinctive carbonised appearance. This technique is also used in Malaysia in creating traditional labu sayong.[47][48]In Mali, a firing mound is used rather than a brick or stone kiln. Unfired pots are first brought to the place where a mound will be built, customarily by the women and girls of the village. The mound's foundation is made by placing
sticks on the ground, then:[...] pots are positioned on and amid the branches and then grass is piled high to complete the mound. When a mound is responsible for her own or her immediate family's pots within the mound. When a mound is responsible for her own or her immediate family is pots within the mound. When a mound is responsible for her own or her immediate family is pots within the mound. When a mound is responsible for her own or her immediate family is pots within the mound. When a mound is responsible for her own or her immediate family is pots within the mound. When a mound is responsible for her own or her immediate family is pots are positioned on and amid the branches and then grass is piled high to complete the mound. When a mound is responsible for her own or her immediate family is pots are positioned on and amid the branches and then grass is piled high to complete the mound. When a mound is responsible for her own or her immediate family is pots are positioned on an amid the branches and the mound. When a mound is responsible for her own or her immediate family is pots are positioned on an amid the branches and the mound. When a mound is responsible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible for her own or her immediate family is possible family is possible family is possible famin
completed and the ground around has been swept clean of residual combustible material, a senior potter lights the fire. A handful of grass is lit and the woman runs around the circumference of the mound touching the burning. [49] Biscuit (or bisque) [50]
[51] refers to the clay after the object is shaped to the desired form and fired in the kiln for the first time, known as "bisque fired" or "biscuit fired". This firing results in both chemical and physical changes to the minerals of the clay body. Glaze fired is the final stage of some pottery making, or glost fired. [21] A glaze may be applied to the biscuit ware
and the object can be decorated in several ways. After this the object is "glazed fired", which causes the glaze material to melt, then adhere to the object and physical changes continue. Pottery may be decorated in many different ways. Some
decoration can be done before or after the firing, and may be undertaken before or after glazing. Hand painting a vase. Painting has been used since early prehistoric times, and may then be overlaid with a glaze afterwards. Many pigments change colour when
fired, and the painter must allow for this.Glaze: Perhaps the most common form of decoration, that also serves as protection to the pottery, by being tougher and opaque. Crystalline glaze: acharacterised by crystalline clusters of various
shapes and colours embedded in a more uniform and opaque glaze. Produced by the slow cooling of the glost fire. Carving: Pottery vessels may be decorated by shallow carving of the classic periods. Burnishing: The surface of pottery vessels may be decorated by shallow carving of the classic periods. Burnishing: The surface of pottery vessels may be decorated by shallow carving of the classic periods. Burnishing: The surface of pottery vessels may be decorated by shallow carving of the classic periods. Burnishing: The surface of pottery vessels may be decorated by shallow carving of the classic periods. Burnishing: The surface of pottery vessels may be decorated by shallow carving of the classic periods. Burnishing: The surface of pottery vessels may be decorated by shallow carving of the classic periods. Burnishing: The surface of pottery vessels may be decorated by shallow carving of the classic periods.
wares may be burnished prior to firing by rubbing with a suitable instrument of wood, steel or stone to produce a polished finish that survives firing. It is possible to produce very highly polished wares when fine clays are used or when the polishing is carried out on wares that have been partially dried and contain little water, though wares in this
condition are extremely fragile and the risk of breakage is high. Terra Sigillata is an ancient form of decorating ceramics that was first developed in Ancient Greece. Lithography, also called litho, although the alternative names of transfer print or "decal" are also common. These are used to apply designs to articles. The litho comprises three layers: the
colour, or image, layer which comprises the decorative design; the cover coat, a clear protective layer, which may incorporate a low-melting glass; and the backing paper on which the design is printed by screen printing or lithography. There are various methods of transferring the design while removing the backing-paper, some of which are suited to
machine application. Banding is the application by hand or by machine of a band of colour to the edge of a plate or cup. Also known as "lining", this operation is often carried out on a potter's wheel. Agateware: named after its resemblance to the mineral agate, is produced by partially blending clays of differing colours. In Japan the term "neriage" is
used, whilst in China, where such things have been made since at least the Tang dynasty, they are called "marbled" wares. Engobe: a clay slip is used to mask undesirable features in the clay to which it is applied. The engobe may be applied by
painting or by dipping to provide a uniform, smooth, coating. Such decoration is characteristic of slipware. For sgraffito decoration with gold is used on some high quality ware. Different methods exist for its application, including:Burnishing a plate's gold
decorationBest gold a suspension of gold powder in essential oils mixed with a flux and a mercury salt extended. This can be applied by a painting technique. From the kiln, the decoration is dull and requires burnishing to reveal the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. These contracts are the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. These contracts are the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. These contracts are the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. These contracts are the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. These contracts are the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. These contracts are the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory of Mintons Ltd. The early 1860s at the English factory
glazed surface is etched with diluted hydrofluoric acid prior to application of the gold. The process demands great skill and is used for the decoration only of ware of the highest class. Bright Gold consists of a solution of gold sulphoresinate together with other metal resonates and a flux. The name derives from the appearance of the decoration
immediately after removal from the kiln as it requires no burnishingMussel Gold an old method of gold decoration. It was made by rubbing together gold leaf, sugar and salt, followed by washing to remove solublesUnderglaze decoration is applied, by a number of techniques, onto ware before it is glazed; an example is blue and white wares. Can be
applied by a number of techniques. In-glaze decoration is applied on the surface of the glaze before the glaze before the glaze decoration is applied on top of the already fired, glazed surface, and then fixed in a second firing at a relatively low temperature. Main article: Ceramic glaze Spraying glaze onto a vaseGlaze is a glassy coating on pottery, and
reasons to use it include decoration, ensuring the item is impermeable to liquids, and minimizing the adherence of pollutants. Glaze may be applied by spraying, dipping, trailing or brushing on an aqueous suspension of the unfired glaze. The colour of a glaze after it has been fired may be significantly different from before firing. To prevent glazed
wares sticking to kiln furniture during firing, either a small part of the object being fired (for example, the foot) is left unglazed or, alternatively, special refractory "spurs" are used as supports. These are removed and discarded after the firing. Some specialised glazing techniques include: Salt-glazing common salt is introduced to the kiln during the
firing process. The high temperatures cause the salt to volatilise, depositing it on the surface of the ware to react with the body to form a sodium aluminosilicate glaze. In the 17th and 18th centuries, salt-glazing was used in the manufacture of domestic pottery. Now, except for use by some studio potters, the process is obsolete. The last large-scale
application before its demise in the face of environmental clean air restrictions was in the production of salt-glazed sewer-pipes. [52][53]Ash glazed jar from 9th century, Japan. Ash glazing ash from the combustion waste from the fuelling
of kilns although the potential of ash derived from arable crop wastes has been investigated.[54] Ash glazes are of historical interest in the United States. They are now limited to small numbers of studio potters who value the
unpredictability arising from the variable nature of the raw material.[55]Although many of the environmental effects of pottery production. The principal factors for consideration fall into two categories: Effects on workers: Notable risks and scales of production. The principal factors for consideration fall into two categories: Effects on workers: Notable risks and scales of production have existed for millennia, some of these have been amplified with modern technology and scales of production have existed for millennia, some of these have been amplified with modern technology and scales of production have existed for millennia, some of these have been amplified with modern technology and scales of production have existed for millennia, some of these have been amplified with modern technology and scales of production have existed for millennia, some of these have been amplified with modern technology and scales of production have existed for millennia, some of these have been amplified with modern technology and scales of production have existed for millennia, some of these have been amplified with modern technology and scales of production have existed for millennia, some of these have been amplified with modern technology and scales of production have existed for millennia, some of the production have exist
include silicosis, heavy metal poisoning, poor indoor air quality, dangerous sound levels and possible over-illumination. Effects on the general environment. Historically, lead poisoning (plumbism) was a significant health concern to those glazing pottery. This was recognised at least as early as the nineteenth century. The first legislation in the UK to
limit pottery workers exposure to lead was included in the Factories Act Extension Act in 1864, with further introduced in 1899. [56] [57] Silicosis is an occupational lung disease caused by inhaling large amounts of crystalline silica dust in the raw
materials; colloquially it has been known as 'Potter's rot'. Less than 10 years after its introduction, in 1720, as a raw material to the British ceramics industry the negative effects of calcined flint on the lungs of workers had been noted. [58] In one study reported in 2022, of 106 UK pottery workers 55 per cent had at least some stage of silicosis. [59]
[60][61] Exposure to siliceous dusts is reduced by either processing and using the source materials as aqueous suspension or as damp solids, or by the use of dust control measures such as The Pottery (Health and Welfare) Special Regulations 1950 in the UK.[62][63] Theorem and the use of dust control measures such as The Pottery (Health and Welfare) Special Regulations 1950 in the UK.[62][63] Theorem and the use of dust control measures such as The Pottery (Health and Welfare) Special Regulations 1950 in the UK.[62][63] Theorem and the use of dust control measures such as The Pottery (Health and Welfare) Special Regulations 1950 in the UK.[62][63] Theorem and the use of dust control measures such as The Pottery (Health and Welfare) Special Regulations 1950 in the UK.[62][63] Theorem and the use of dust control measures such as Theorem 2000 in the UK.[62][63] Theorem 2000 in the UK.[
 Health and Safety Executive in the UK has produced guidelines 64 on controlling exposure to respirable crystalline silica in potteries, and the British Ceramics Federation provide a guidance booklet. 65 Environmental concerns include off-site water pollution, air pollution, disposal of hazardous materials, disposal of rejected ware and fuel
consumption.[66]Main article: Ceramic art HistoryA great part of the history of pottery is prehistoric, part of past pre-literate cultures. Therefore, much of this history can only be found among the artifacts of archaeology. Because pottery is so durable, pottery and shards of pottery survive for millennia at archaeological sites, and are typically the
most common and important type of artifact to survive. Many prehistoric cultures are named after the pottery that is the easiest way to identify their sites, and archaeologists develop the ability to recognise different types from the chemistry of small shards. Before pottery becomes part of a culture, several conditions must generally be met. First, there
must be usable clay available. Archaeological sites where the earliest pottery was found were near deposits of a variety of clay, which gave them an advantage in early development of fine pottery. Many countries have large deposits of a variety of clay. Second, it
must be possible to heat the pottery to temperatures that will achieve the transformation from raw clay to ceramic. Methods to reliably create fires hot enough to fire pottery did not develop until late in the development of cultures. Third, the potter must have time available to prepare, shape and fire the clay into pottery. Even after control of fire was
achieved, humans did not seem to develop pottery until a sedentary life was achieved. It has been hypothesized that pottery was developed only after humans established agriculture, which led to permanent settlements. However, the oldest known pottery is from the Czech Republic and dates to 28,000 BC, at the height of the most recent ice age,
long before the beginnings of agriculture. Fourth, there must be a sufficient need for pottery in order to justify the resources required for its production. [67] An Incipient Jmon pottery vessel reconstructed from fragments (10,0008,000 BC), Tokyo National Museum, Japan Methods of forming: Hand-shaping was the earliest method used to form vessels.
This included the combination of pinching and coiling. Firing: The earliest method for firing pottery wares was the use of bonfires pit fired pottery. Firing times might be short but the peak-temperatures achieved in the fire could be high, perhaps in the region of 900C (1,650F), and were reached very quickly. [68]Clay: Early potters used whatever clay
was available to them in their geographic vicinity. However, the lowest quality common red clay was adequate for low-temperature fires used for the earliest pots. Clay tempered with sand, grit, crushed shell or crushed pottery were often used to make bonfire-fired ceramics because they provided an open-body texture that allowed water and volatile
components of the clay to escape freely. The coarser particles in the clay also acted to restrain shrinkage during drying, and hence reduce the risk of cracking. Form: In the main, early bonfire-fired wares were made with rounded bottoms to avoid sharp angles that might be susceptible to cracking. Glazing: the earliest pots were made with rounded bottoms to avoid sharp angles that might be susceptible to cracking.
wheel was invented in Europe in the 5th millennium BC, and revolutionised pottery production. Earliest potter's wheel dated to the middle of the 5th millennium BC from the CucuteniTrypillia culture in western Ukraine.[69]Moulds were used to a limited extent as early as the 5th and 6th century BC by the Etruscans[70] and more extensively by the
Romans, [71] Slip casting, a popular method for shaping irregular shaped articles. It was first practised, to a limited extent, in China as early as the Tang dynasty, [72] Transition to kilns; The earliest intentionally constructed were pit-kilns or trench-kilns, holes dug in the ground and covered with fuel. Holes in the ground provided insulation and resulted
in better control over firing.[73]Kilns: Pit fire methods were adequate for simple earthenware, but other pottery types needed more sophisticated kilns.Xianren Cave pottery fragments, radiocarbon dated to circa 18,000 BC, China[74][75]Pottery bowl from Jarmo, Mesopotamia, 71005800 BC.Pottery may well have been discovered independently in
various places, probably by accidentally creating it at the bottom of fires on a clay soil. The earliest-known ceramic objects are Gravettian figurine, a statuette of a nude female figure dated to 29,00025,000 BC (Gravettian
industry).[3] But there is no evidence of pottery vessels from this period. Weights for looms or fishing-nets are a very common use for the earliest pottery vessels found anywhere in the world,[77]
dating to 20,000 to 19,000 years before the present, was found at Xianren Cave in the Jiangxi province of China, [78][79]Other early pottery vessels include those excavated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[5][80]The Odai
Yamamoto I site, belonging to the Jmon period, currently has the oldest pottery in Japan. Excavations in 1998 uncovered earthenware fragments which have been dated as early as 14,500 BC.[81]The term "Jmon" means "cord-marked" in Japanese. This refers to the markings made on the vessels and figures using sticks with cords during their
production. Recent research has elucidated how Imon pottery was used by its creators, [82]It appears that pottery was independently developed in Sub-Saharan Africa during the 9,000s7,000s BC.[83][7] The Malian finds date to the
same period as similar finds from East Asia the triangle between Siberia, China and Japan and are associated in both regions to the same climatic changes (at the end of the ice age new grassland develops, enabling hunter-gatherers to expand their habitat), met independently by both cultures with similar developments: the creation of pottery for the
storage of wild cereals (pearl millet), and that of small arrowheads for hunting small game typical of grassland.[6] Alternatively, the creation of freshwater and marine organisms by late glacial foragers, who started developing ceramic containers for their
catch.[82]Main articles: Chinese ceramics, Japanese pottery, and Korean potteryChinese Ming dynasty blue-and-white porcelain dish with a dragonGroup of 13th-century pieces of Longquan celadonIn Japan, the Jmon period has a long history of development of Jmon pottery which was characterized by impressions of rope on the surface of the pottery
created by pressing rope into the clay before firing. Glazed Stoneware was being created as early as the 15th century BC in China. A form of Chinese porcelain became a significant Chinese export from the Tang dynasty (AD 618906) onwards.[10] Korean potters adopted porcelain as early as the 14th century AD.[84] The ceramic industry has
developed greatly since the Goryeo dynasty, and Goryeo ware, a celadon with unique inlaying techniques, was produced. Later, when white porcelain became common and celadon fell, they created unique ceramics such as Buncheong. Japan's white porcelain became common and celadon fell, they created unique single fellowers.
called The Ceramic Wars, and Japanese engineers introduced it during the Fall of the Ming dynasty's. Typically, Korean potters who settled in Arita pass on pottery techniques, Shonzui Goradoyu-go brought back the secret of its manufacture from the Chinese kilns at Jingdezhen.[85]In contrast to Europe, the Chinese social elite used pottery
extensively at table, for religious purposes, and for decoration, and the standards of fine pottery were very high. From the Song dynasty (9601279) for several centuries, the tastes of Chinese elites favoured plain-coloured and exquisitely formed pieces; during this period porcelain was perfected in Ding ware, although it was the only one of the Five
Great Kilns of the Song period to use it. The traditional Chinese category of high-fired wares includes stoneware types such as Ru ware, Longquan celadon and Guan ware had a lower status, though they were acceptable for making pillows. The arrival of Chinese blue and white porcelain was probably a product of
the Mongol Yuan dynasty (12711368) dispersing artists and craftsmen across its large empire. Both the cobalt stains used for the blue colour, and the style of painted decoration, usually based on plant shapes, were initially borrowed from the Islamic world, which the Mongols had also conquered. At the same time Jingdezhen porcelain, produced in
Imperial factories, took the undisputed leading role in production. The new elaborately painted style was now favoured at court, and gradually more colours were added. The secret of making such porcelain was sought in the Islamic world and later in Europe when examples were imported from the East. Many attempts were made to imitate it in Italy
and France. However it was not produced outside of East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinent and East Asia until 1709 in Germany, [86] See also: Pottery in the Indian subcontinen
[87][88] This ceramic style is also found in later Proto-Neolithic phase in nearby regions.[89] This early type of pottery, also found at the site of Lahuradewa, is currently the oldest known pottery tradition in South Asia, dating back to 7,0006,000 BC.[90][91][92][93] Wheel-made pottery began to be made during the Mehrgarh Period II (5,5004,800 BC)
and Merhgarh Period III (4,8003,500 BC), known as the ceramic Neolithic and Chalcolithic. Pottery, including items known as the ed-Dur vessels, originated in regions of the Saraswati River / Indus River and have been found in a number of sites in the Indus Civilization. [94][95]Despite an extensive prehistoric record of pottery, including painted
wares, little "fine" or luxury pottery was made in the subcontinent in historic times. Hinduism discourages eating off pottery, which probably largely accounts for this. Most traditional Indian pottery vessels are large pots or jars for storage, or small cups or lamps, occasionally treated as disposable. In contrast there are long traditions of sculpted
figures, often rather large, in terracotta; this continues with the Bankura horses in Panchmura, West Bengal. See also: Vietnamese ceramics, Thai ceramics, and Philippine ceramics this continues with the Bankura horses in Panchmura, West Bengal. See also: Vietnamese ceramics, and Philippine cera
two figures representing the journey of the soul into the afterlife. Pottery in Southeast Asia is as diverse as its ethnic groups. Each ethnic groups.
[96][97][98][99]See also: Levantine pottery, Persian pottery, and Pottery of ancient CyprusAround 8000 BC during the Pre-pottery Neolithic period, and before the invention of pottery, several early settlements became experts in crafting beautiful and highly sophisticated containers from stone, using materials such as alabaster or granite, and
employing sand to shape and polish. Artisans used the veins in the material to maximum visual effect. Such objects have been found in abundance on the upper Euphrates river, in what is today eastern Syria, especially at the site of Bougras.[100]The earliest history of pottery production in the Fertile Crescent starts the Pottery Neolithic and can be
divided into four periods, namely: the Hassuna period (70006500 BC), the Halaf period (65005500 BC), the Ubaid period (65005500 BC), and the Uruk period (40003100 BC), and the Uruk period (70006500 BC), the Halaf period (70006500 BC), and the Uruk period (70006500 BC), are the Uruk period (70006500 BC), and the Uruk period (70006500 BC), are the Uruk period (70006
The earliest forms, which were found at the Hassuna site, were hand formed from slabs, undecorated with elaborate painted designs and natural forms, incising and burnished. Earthenware Ubaid jar. c. 5,3004,700 BCE. The invention of
the potter's wheel in Mesopotamia sometime between 6,000 and 4,000 BC (Ubaid period) revolutionised pottery production. Newer kiln designs could fire wares to 1,050C (1,920F) to 1,200C (2,190F) which enabled increased possibilities. Production was now carried out by small groups of potters for small cities, rather than individuals making wares
for a family. The shapes and range of uses for ceramics and pottery expanded beyond simple vessels to store and carry to specialized cooking utensils, pot stands and rat traps.[101] As the region developed new organizations and political forms, pottery became more elaborate and varied. Some wares were made using moulds, allowing for increased
production for the needs of the growing populations. Glazing was commonly used and pottery was more decorated.[102]In the Chalcolithic period in Mesopotamia, Halafian pottery with Corinthian and Attic ware. Main articles: Minoan
pottery, Pottery of ancient Greece, and Ancient Roman potteryGreek red-figure vase in the krater shape, between 470 and 460 BC, by the Altamura Painter Europe's oldest pottery, dating from circa 6700 BC, was found on the banks of the Samara River in the middle Volga region of Russia. [103] These sites are known as the Yelshanka culture. The
early inhabitants of Europe developed pottery in the Linear Pottery culture slightly later than the Near East, circa 55004500 BC. In the ancient Western Mediterranean elaborately painted earthenware reached very high levels of artistic achievement in the Greek world; there are large numbers of survivals from tombs. Minoan pottery was
characterized by complex painted decoration with natural themes. [104] The classical Greek culture began to emerge around 1000 BC featuring a variety of well crafted pottery which now included the human form as a decorating motif. The pottery wheel was now in regular use. Although glazing was known to these potters, it was not widely used
Instead, a more porous clay slip was used for decoration. A wide range of shapes for different uses developed early and remained essentially unchanged during Greek potters and painters. Ancient Roman pottery made much less use of painting, but
used moulded decoration, allowing industrialized production on a huge scale. Much of the so-called red Samian ware of the Early Roman Empire was produced in modern Germany and France, where entrepreneurs established large potteries. Excavations at Augusta Raurica, near Basel, Switzerland, have revealed a pottery production site in use from
the 1st to the 4th century AD.[106] Pottery was hardly seen on the tables of elites from Hellenistic times until the Renaissance, and most medieval wares were coarse and utilitarian, as the elites ate off metal vessels. Painted Hispano-Moresque ware from Spain, developing the styles of Al-Andalus, became a luxury for late medieval elites, and was
adapted in Italy into maiolica in the Italian Renaissance. Both of these were faience or tin-glazed earthenware, and fine faience continued to be made until around 1800 in various countries, especially France, with Nevers faience and several other centres. In the 17th century, imports of Chinese export porcelain and its Japanese equivalent raised the
market expectations of fine pottery, and European manufacturers eventually learned to make porcelain, and from the 18th century European porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain, and from the 18th century European manufacturers eventually learned to make porcelain and other waves from a great number of producers became extremely popular, reducing the 18th century European manufacturers eventually learned to make porcelain and other waves from a great number of producers became extremely popular.
Doulton, Mintons, Midwinter Pottery, and SpodeHandpainted bone china cup. England, 18151820The city of Stoke-on-Trent is widely known as "The Potteries" because of the large number of pottery factories or, colloquially, "Pot Banks". It was one of the first industrial cities of the modern era where, as early as 1785, two hundred pottery
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manufacturers employed 20,000 workers.[107][108] Josiah Wedgwood (17301795) was the dominant leader.[109]In North Staffordshire hundreds of companies produced all kinds of pottery, from tablewares and decorative pieces to industrial items. The main pottery types of earthenware, stoneware and porcelain were all made in large quantities, and the Staffordshire industry was a major innovator in developing new varieties of ceramic bodies such as bone china and jasperware, as well as pioneering transfer printing and other glazing and decorating techniques. In general Staffordshire was strongest in the middle and low price ranges, though the finest and most expensive types of wares

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were also made.[110]By the late 18th century North Staffordshire was the largest producer of ceramics in the UK, despite significant hubs elsewhere. Large export markets took Staffordshire was the largest producer of ceramics in the UK, despite significant hubs elsewhere.
industries, and declined notably after World War II. Employment fell from 45,000 in 1975 to 23,000 in 1991, and 13,000 in 1991, and 13,000 in 2002.[112]Main articles: Islamic pottery followed the forms of the regions which the Arabs conquered. Eventually, however, there was cross-fertilization between the regions. This was
most notable in the Chinese influences on Islamic pottery. Trade between China and Islam took place via the system of trading posts over the lengthy Silk Road. Middle Eastern nations imported stoneware and later porcelain from China. China imported the minerals for Cobalt blue from the Islamic ruled Persia to decorate their blue and white
porcelain, which they then exported to the Islamic world. Likewise, Arabic art contributed to a lasting pottery form identified as Hispano-Moresque in Andalucia. Unique Islamic forms were also developed, including fritware, lusterware and specialized glazes like tin-glazing, which led to the development of the popular maiolica. [113]One major
emphasis in ceramic development in the Muslim world was the use of tile and decorative tilework. Bowl painted on slip under transparent glaze (polychrome), 9th or 10th century, Nishapur. National Museum of IranPersian mina'i ware bowl with couple in a garden, around 1200. These wares are the first to use overglaze enamel decoration. Chess set
(Shatrang); Gaming pieces. 12th century, Nishapur glazed fritware. Metropolitan Museum of ArtMain article: Ceramics of indigenous peoples of the AmericasEarthenware effigy of the Sun God. Maya cultures, with the earliest known dates from
Brazil, from 9,500 to 5,000 years ago and 7,000 to 6,000 years ago. [7] Further north in Mesoamerica, dates begin with the Archaic Era (35002000 BC), and into the Formative period (2000 BC AD 200). These cultures did not develop the stoneware, porcelain or glazes found in the Old World. Maya ceramics include finely painted vessels, usually
beakers, with elaborate scenes with several figures and texts. Several cultures, beginning with the Olmec, made terracotta sculpture, and sculpture pieces of humans or animals that are also vessels are produced in many places, with Moche portrait vessels among the finest. Faience lotiform chalice. Egypt 1070664 BCE (reconstructed from eight
fragments) The oldest pottery in the world outside of east Asia can be found in Africa. In 2007, Swiss archaeologists discovered pieces of some of the oldest pottery in the Bosumpra Cave on the Kwahu Plateau in southeastern Ghana, have revealed well
manufactured pottery decorated with channelling and impressed peigne filet rigide dating from the early tenth millennium cal. BC.[114] Following the emergence of pottery traditions in the Ounjougou region of Mali around 11,900 BP and in the Bosumpra region of Ghana soon after, ceramics later arrived in the Iho Eleru region of Nigeria.[115] In
later periods, a relationship of the introduction of pot-making in some parts of Sub-Saharan Africa with the spread of Bantu languages has been reached.[13]Use of pottery was then found in the Bir Kiseiba region, with a surplus of
pottery shards dated roughly 9,300 BC. Archeological digs around Sub-Saharan Africa have continued to bring more history of ceramic use to light, including pottery shards found in Ravin de la Mouche, which were carbon dated to roughly 7,500 BC. After 8,000 BC the prevalence of ceramics in Sub-Saharan Africa surged, becoming a continent wide
phenomenon.[116]Pottery has been found in archaeological sites across the islands of Oceania, attributed to an ancient archaeological culture called the Lapita. Another form of pottery and Plainware is not altogether clear. The need for
pottery eventually diminished with settlement of islands further east towards Polynesia as peoples there adapted to cooking using earth ovens.[117]The Indigenous Australians never developed pottery.[118] After Europeans came to Australia and settled, they found deposits of clay which were analysed by English potters as excellent for making
pottery. Less than 20 years later, Europeans came to Australia and began creating pottery. Since then, ceramic manufacturing, mass-produced pottery terms tierns for the fourished in Australia and began creating pottery. Since then, ceramic manufacturing, mass-produced pottery terms for the fourished in Australia and began creating pottery. Since then, ceramic manufacturing, mass-produced pottery terms for the fourished in Australia and began creating pottery. Since then, ceramic manufacturing, mass-produced pottery and studio pottery terms for the fourished in Australia and began creating pottery.
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in EnglishLesley James McNair (25May 1883 25July 1944) was a lieutenant general of the United States Army who served in both world WarI, he served with the American Expeditionary Forces on the Western Front. At 35, he became the
Army's second-youngest general officer. During the early stages of World WarII, he was the commander of Army units before they departed for overseas combat. He was killed on 25July 1944 while in France as commander of the fictitious First United
States Army Group, part of Operation Quicksilver, a deception plan for the invasion of Normandy. McNair died when the US Eighth Air Force attempted to use heavy bombers in support of ground combat troops, and several planes dropped payloads short of their targets. He received a posthumous promotion to general. (Fullarticle...)Recently
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formally opened, bisecting the narrow Isthmus of Corinth in Greece to connect the Ionian Sea's Gulf of Corinth with the Aegean Sea's Saronic Gulf. 1950 Korean War: After American troops withdrew, North Korean forces captured the village of Yongdong in South Korean War: After American troops withdrew, North Korean forces captured the village of Yongdong in South Korean War: After American troops withdrew, North Korean forces captured the village of Yongdong in South Korean War: After American troops withdrew, North Korean forces captured the village of Yongdong in South Korean War: After American troops withdrew, North Korean forces captured the village of Yongdong in South Korean War: After American troops withdrew, North Korean forces captured the village of Yongdong in South Korean War: After American troops withdrew, North Korean War: After American troops with After 
to New York, crashed in Gonesse, France, killing all 109 passengers on board and four people on the ground.2010 WikiLeaks published 75,000 classified documents about the War in Afghanistan in one of the largest leaks in U.S. military history. Sibylla, Queen of Jerusalem (d.1190)Matt LeBlanc (b.1967)Meg Donnelly (b.2000)Azimzhan Askarov
(d.2020)More anniversaries: July 24July 25July 26ArchiveBy emailList of days of the yearAboutThe Carousel at Glen Echo ParkAmusement rides on the National Register of Historic Places (NRHP) are located throughout the United States. These individual ride listings consist mainly of carousels, but also include roller coasters, trains, and other ride
types. Many NRHP-listed rides operate within amusement parks, with more than one present in Cedar Point, Lagoon, and Santa Cruz Beach Boardwalk, There are also high concentrations in New York state, and Portland, Oregon. The first NRHP amusement ride listing was added in 1975 for the Idora
Park Merry-Go-Round (delisted in 1985). The listing for the Crescent Park Looff Carousel was added in 1976 and is the newest ride entry on the NRHP the longest. The listing for the Portland Zoo Railway Historic District was created in 2020 and is the newest ride entry on the NRHP-listed rides, including the Leap-the-Dips roller
coaster, have a higher National Historic Landmark status. Of the nearly 100,000 NRHP listings, fewer than 100 are for amusement rides. (Fulllist...)Recently featured is a 28-acre (11-hectare) real-estate development located in Hudson
Yards, a neighborhood of the New York City borough of Manhattan. It is situated on the waterfront of the Hudson River, on a platform built over the West Side Yard, a storage depot for the Long Island Rail Road. Related Companies and Oxford Properties are the primary developers and major equity partners in the project, with the master plan
viewed across the Hudson River from Weehawken, New Jersey, in 2021. Photograph credit: Tony JinRecently featured: Emperor angelfishAmlia RodriguesAtari video game burialArchiveMore featured picturesCommunity portal The central hub for editors, with resources, links, tasks, and announcements. Village pump Forum for discussions about
Wikipedia itself, including policies and technical issues. Site news Sources of news about Wikipedia and the broader Wikipedia and the broader Wikipedia Reference desk Ask research questions about encyclopedic topics. Content portals A unique
way to navigate the encyclopedia. Wikipedia is written by volunteer editors and hosted by the Wikimedia Foundation, a non-profit organization that also hosts a range of other volunteer projects: CommonsFree media repository MediaWikiWiki software development Meta-WikiWikimedia project coordination WikibooksFree textbooks and manuals
WikidataFree knowledge base WikinewsFree-content news WikiguoteCollection of quotations WikisourceFree-content library WikispeciesDirectory of species WikivoyageFree travel guide Wikipedia is written in English. Many other Wikipedias are available; some of the largest are
listed below. 1,000,000+ articles DeutschEspaolFranaisItalianoNederlandsPolskiPortugusSvenskaTing Vit 250,000+ articles Bahasa IndonesiaBahasa MelayuBn-lm-gCataletinaDanskEestiEsperantoEuskaraMagyarNorsk bokmlRomnSimple EnglishSloveninaSrpskiSrpskohrvatskiSuomiTrkeOzbekcha 50,000+ articles
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Vikram Samvat13171318- Shaka Samvat11821183- Kali Yuga43614362Holocene calendar11261Igbo calendar261262Iranian calendar1261MCCLXIKorean calendar3594Minguo calendar651 before ROC651Nanakshahi calendar207Thai solar
calendar18031804Tibetan calendar(male Iron-Monkey)1387 or 1006 or 234to(female Iron-Bird)1388 or 1007 or 235Michael VIII Palaiologos (12231282)Year 1261 (MCCLXI) was a common year starting on Saturday of the Julian calendar. March 13 Treaty of Nymphaeum: Emperor Michael VIII Palaiologos signs a trade and defense agreement with the
Republic of Genoa, to counterweight the Venetian presence in the region. Genoa agrees to ally with the Empire of Nicaea, by providing a fleet of up to 50 galleys are to be immediately sent against the Latin Empire.[1]July Michael sends his general Alexios Strategopoulos with a
small advance force of 800 soldiers, most of them Cumans, to keep watch on the Bulgarians and scout the defending positions of the Latin forces in the surroundings of Constantinople. When they reach the village of Selymbria, Strategopoulos is informed by local farmers that the entire Latin garrison and the Venetian fleet, are absent conducting a
raid against the Nicaean island of Daphnousia. He decides not to lose such a golden opportunity and makes plans (without the consent of Michael) to retake the capital.[2]July 25 Reconquest of Constantinople: Alexios Strategopoulos and his men hide at a monastery near the city gates, before entering through a secret passage. After a short struggle
the guards who are completely taken by surprise are killed and the Venetian quarter is set ablaze. Panic spreads through the capital and Emperor Baldwin manages to escape to the still Latin-held parts of Greece, but Constantinople is
lost for good.[3]August 15 Michael enters Constantinople in triumph and is crowned as emperor of the Byzantine Empire at the Hagia Sophia. To solidify his claim, the legitimate ruler, John IV Laskaris, is blinded on Michael's orders to lesser Latin
and Bulgarian nobles in an attempt to wipe out the Laskarid dynasty. [4] Kublai Khan releases 75 Chinese merchants who were captured along the border of the Mongol Empire. By doing this, Kublai hopes to bolster his popularity and depend on the cooperation of his Chinese subjects to ensure that his army receives more resources. [5] June 13 Al-
[6] June 12 King Henry III of England obtains a papal bull to absolve himself from his oath to maintain the Provisions of Oxford. He hires an army of 300 French knights as a bodyguard and takes up position in the Tower of London. He dismisses the baronial officials (led by Simon de Montfort) who wish the royal power to be modified by the principle of
representation. This sets the stage for the Second Barons' War.[7]August Battle of Callann in Ireland: Norman forces under John FitzThomas are defeated by a Gaelic army led by King Fnghin Mac Carthaigh. John FitzThomas are defeated by a Gaelic army led by King Fnghin Mac Carthaigh. John FitzThomas are defeated by a Gaelic army led by King Fnghin Mac Carthaigh. John FitzThomas are defeated by a Gaelic army led by King Fnghin Mac Carthaigh.
Emperor Kameyama (until 1264). Early Following disputes, northern academics from the University of Northampton by royal charter but it is suppressed by the Crown in 1265.[9] The earliest extant Chinese illustration of "Pascal's Triangle" is from Yang Hui's (or Qianguang's) book Xiangjie Jiuzhang Suanfa
published this year. May 25 Pope Alexander IV dies after a pontificate of 6-years at Viterbo. He is succeeded by Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the Catholic Church. August 29 Urban IV as the 182nd pope of the 182nd p
established by Count Rudolf V of Rapperswil in Switzerland. February 1 Walter de Stapledon, English bishop of Exeter (d. 1326) February 28 Margaret of Scotland, queen consort of Norway (d. 1283) March 1 Hugh Despenser the Elder, English chief adviser (d. 1326) July 25
Arthur II, Breton nobleman (House of Dreux) (d. 1312)October 9 Denis I ("the Poet King"), king of Portugal (d. 1325)Abu Abdallah ibn al-Hakim, Andalusian vizier and poet (d. 1309)November 'Ala' al-Dawla Simnani, Persian Sufi mystic and writer (d. 1336)Albertino Mussato, Paduan statesman, poet and chronicler (d. 1329)Constantine Palaiologos,
Byzantine prince and general, son of Michael VIII (d. 1306)Daniel of Moscow (Aleksandrovich), Russian prince (d. 1303)Zangpo Pal, Tibetan religious leader (d. 1
nobleman and condottiero (d. 1356)Wadysaw I okietek ("Elbow-High"), king of Poland (d. 1333)February 28 Henry III ("the Good"), duke of Brabant (b. 1230)April 1 Ahi Evran, Bektashi Sufi preacher and poet (b. 1169)May 25 Alexander IV, pope of the Catholic Church (b. 1199)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman IV of Holstein, German nobleman (House of Schaumburg)July 8 Adolf IV of Holstein, German nobleman Holstein, Germ
25 Nicephorus II of Constantinople, Byzantine patriarchAugust John FitzThomas, 1st Baron Desmond, Norman Irish nobleman, killed in battleAugust 24 Ela of Salisbury, English noblewoman (b. 1187)September 18 Konrad von Hochstaden, German archbishopSeptember 22/27 Plaisance of Antioch, queen consort of Cyprus (b. 1235)October 27 Sancho
of Castile, Spanish archbishop (b. 1233)November 2 Bettisia Gozzadini, Bolognese noblewoman and academic lawyer (b. 1225)November 26 Hj Shigetoki, Japanese samurai (b. 1198)November 27 Athanasius III of Alexandria, Egyptian popeNovember 28 Al-
Mustansir II, Abbasid ruler (caliph) of Cairo, killedAbu Bakr Ibn Sayyid al-Ns, Andalusian theologian (b. 1200)An-Nasir Dawud, Kurdish ruler, Ayyubid ruler (emir) of Damascus (b. 1206)Benedict II of Esztergom, Hungarian chancellor, governor and archbishopConrad I, Burgrave of Nuremberg ("the Pious"), German nobleman and knight (b. 1186)Qin
Jiushao, Chinese mathematician and writer (b. 1202)Sayf al-Din Bakharzi, Persian poet and sheikh (b. 1190)Stephen of Bourbon, French Dominican preacher (b. 1180) Steven Runciman (1952). A History of The Crusades. Vol III: The Kingdom of Acre, p. 240. ISBN978-0-241-29877-0. Bartusis, Mark C. (1997). The Late Byzantine Army: Arms and
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pp.144146. ISBNO-304-35730-8. BBC History, July 2011, p. 12. Lawrence, C. H. (1984). "The University of Oxford University Press.Retrieved from " 30ne hundred years, from 1101 to 1200See also: Renaissance of the 12th
centuryMillennia2ndmillenniumCentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcentury13thcent
12th century The 12th century is the period from 1101 to 1200 in accordance with the Julian calendar. In the history of European culture, this period is considered part of the High Middle Ages and overlaps with what is often called the "'Golden Age' of the Cistercians". The Golden Age of Islam experienced significant development, particularly in
Islamic Spain.In Song dynasty China, an invasion by Jurchens caused a political schism of north and south. The Khmer Empire of Cambodia flourished during this century, while the Fatimids of Egypt were overtaken by the Ayyubid dynasty. Following the expansions of the Ghaznavids and Ghurid Empire, the Muslim conquests in the Indian
subcontinent took place at the end of the century. Main article: 1100sThe Ghurid Empire converted to Islam from Buddhism.1101: In July, the Treaty of Alton is signed between Henry I of England and his older brother Robert, Duke of Normandy in which Robert agrees to recognize Henry as king of England in exchange for a yearly stipend and other
concessions. The agreement temporarily ends a crisis in the succession of the Anglo-Norman kings.11011103: David the Builder takes over Kakheti and Hereti (now parts of Georgia).1102: King Coloman unites Hungary and Croatia under the Hungarian Crown.1102: Muslims conquer Seoro de Valencia.11031104: A church council is convened by King
David the Builder in Urbnisi to reorganize the Georgian Orthodox Church.1104: In the Battle of Ertsukhi, King David the Builder defeats an army of Seljuks.11071111: Sigurd I of Norway becomes the first Norwegian king to embark on a
crusade to the Holy Land. He fights in Lisbon and on various Mediterranean isles and helps the King of Jerusalem to take Sidon from the Byzantine Empire, becoming the vassal of Alexius I.1109: On June 10, Bertrand of Toulouse captures the
County of Tripoli (northern Lebanon/western Syria).1109: In the Battle of Nako, Boleslaus III Wrymouth defeats Emperor Henry V of Germany and stops German expansion eastward. Main article: 1110s1111: Or
April 14, during Henry V's first expedition to Rome, he is crowned Holy Roman Emperor.1113: Paramavishnulok is crowned as King Suryavarman II in Cambodia. He expands the Khmer Empire and builds Angkor Wat during the first half of the century. He establishes diplomatic relations with China.1115: The Georgian army occupies Rustavi in the
war with the Muslims.1115: In Java, King Kamesvara of Kadiri ascends to the throne. Janggala ceases to exist and comes under Kadiri domination, highly possible under royal marriage. During his reign, Mpu Dharmaja writes Kakawin Smaradahana, a eulogy for the king which become the inspiration for the Panji cycle tales, which spread across
Southeast Asia.[1]1116: The Byzantine army defeats the Turks at Philomelion.1116: Death of doa Jimena Daz, governor of Valencia from 1099 to 1102.c. 1119: The Knights Templar are founded to protect Christian pilgrims in Jerusalem. Main article: 1120sA Black and White Photo of the 12th century Cuenca Cathedral (built from 1182 to 1270) in
Cuenca, Spain1120: On January 16, the Council of Nablus, a council of ecclesiastic and secular lords in the crusader Kingdom of Jerusalem, establishes the first written laws for the kingdom.1120: On November 25, William Adelin, the only legitimate son of King Henry I of England, drowns in the White Ship Disaster, leading to a succession crisis
which will bring down the Norman monarchy of England.1121: On August 12, in the Battle of Didgori, the greatest military victory in Georgians, 15,000 Kipchak auxiliaries, 500 Alan mercenaries and 100 French Crusaders defeats a much larger Seljuk-led Muslim coalition army.1121: On December
25, St. Norbert and 29 companions make their solemn vows in Premontre, France, establishing the Premonstratensian Order.1122: The Battle of Beroia (Modern-day Stara Zagora, Bulgaria) results in the disappearance of the Pechenegs Turkish tribe as an independent force.1122: On September 23, the Concordat of Worms (Pactum Calixtinum) is
drawn up between Emperor Henry V and Pope Calixtus II bringing an end to the first phase of the power struggle between the papacy and the Holy Roman Empire.1122: King David the Builder captures Tbilisi and declares it the capital city of Georgia, ending 400 years of Arab rule.1123: The Jurchen dynasty of China forces Koryo (now Korea) to
recognize their suzerainty.1124: In April or May, David I is crowned King of the Scots.1125: On June 11, in the Battle of Azaz, the Crusader states, led by King Baldwin II of Jerusalem, defeat the Seljuk Turks.1125: In November, the Jurchens of the Jin dynasty declare war on the Song dynasty, beginning the JinSong wars.1125: Lothair of Supplinburg.
duke of Saxony, is elected Holy Roman Emperor instead of the nearest heir, Frederick of Swabia, beginning the great struggle between Guelphs and Ghibellines.1127: The Northern Song dynasty loses power over northern China to the Jin dynasty.1128: On June 24, the Kingdom of Portugal gains independence from the Kingdom of Len at the Battle of
So Mamede; (recognised by Len in 1143). Main article: 1130sThe temple complex of Angkor Wat, built during the reign of Suryavarman II in Cambodia of the Khmer Era.11301180: 50-year drought in what is now the American Southwest.11301138: Papal schism, Pope Innocent II vs. Antipope Anacletus II.1130: On March 26, Sigurd I of Norway dies.
A golden era of 95 years comes to an end for Norway as civil wars between the members of Harald Fairhair's family line rage for the remainder of the century.1130: On Christmas Day, Roger II is crowned King of Sicily, the royal title being bestowed on him by Antipope Anacletus II.1132: The Southern Song dynasty establishes China's first permanent
standing navy, although China had a long naval history prior. The main admiral's office is at the port of Dinghai.11321183: the Chinese navy increases from a mere 3,000 to 52,000 marine soldiers stationed in 20 different squadrons. During this time, hundreds of treadmill-operated paddle wheel craft are assembled for the navy to fight the Jin dynasty
in the north.1135: King Jayabaya of Kadiri ascends to the throne.[2]11351154: The Anarchy takes place, during a period of civil war in England.1136: Suger begins rebuilding.1137: On July 22, the future King Louis VII of France marries Eleanor, the
Duchess of Aquitaine.1138: On October 11, the 1138 Aleppo earthquake devastates much of northern Syria.1139: in April, the Second Lateran Council ends the papal schism.1139: On July 5, in the Treaty of Mignano, Pope Innocent II confirms Roger II as King of Sicily, Duke of Apulia, and Prince of Capua and invests him with his titles.1139: On July 5, in the Treaty of Mignano, Pope Innocent II confirms Roger II as King of Sicily, Duke of Apulia, and Prince of Capua and invests him with his titles.1139: On July 5, in the Treaty of Mignano, Pope Innocent II confirms Roger II as King of Sicily, Duke of Apulia, and Prince of Capua and invests him with his titles.1139: On July 5, in the Treaty of Mignano, Pope Innocent II confirms Roger II as King of Sicily, Duke of Apulia, and Prince of Capua and invests him with his titles.1139: On July 5, in the Treaty of Mignano, Pope Innocent II confirms Roger II as King of Sicily, Duke of Apulia, and Prince of Capua and Invests him with his titles.1139: On July 5, in the Treaty of Mignano, Pope Innocent II confirms Roger II as King of Sicily, Duke of Apulia, and Prince of Capua and Invests him with his titles.1139: On July 5, in the Treaty of Mignano, Pope Innocent II as King of Sicily, Duke of Apulia, and Prince of Capua and Invests him with his titles.
25, the Portuguese defeat the Almoravids led by Ali ibn Yusuf in the Battle of Ourique; Prince Afonso Henriques is acclaimed King of Portugal by his soldiers. Main article: 1140sAverroes in a 14th-century painting by Andrea di Bonaiuto11401150: Collapse of the Ancestral Puebloan culture at Chaco Canyon (modern-day New Mexico). 1141: The Treaty
of Shaoxing ends the conflict between the Jin dynasty and Southern Song dynasty, legally establishing the boundaries of the Huai River. The treaty reduces the Southern Song into a quasi-tributary state of the Jurchen Jin dynasty.1143: Manuel I
 Komnenos is crowned as Byzantine emperor after the death of John II Komnenos.1143: Afonso Henriques is proclaimed King of Portugal also recognizes the suzerainty of the pope.1144: On December 24, Edessa falls to the Atabeg
Zengi.11451148: The Second Crusade is launched in response to the fall of the County of Edessa.1147: On October 25, the four-month-long Siege of Lisbon successfully brings the city under definitive Portuguese control, expelling the Moorish overlords.1147: A new Berber dynasty, the Almohads, led by Emir Abd al-Mu'min, takes North Africa from
the Almoravides and soon invades the Iberian Peninsula. The Almohads began as a religious movement to rid Islam of impurities. 1147: The Wendish Crusade against the Polabian Slavs (or "Wends") in what is now northern and eastern Germany. Main article: 1150s1150: Ramon Berenguer IV, Count of Barcelona marries Petronilla, the Queen of
Aragon.1151: The Treaty of Tudiln is signed by Alfonso VII of Len and Raymond Berengar IV, Count of Barcelona, recognizing the Aragonese conquests south of the Jcar and the right to expand in and annex the Kingdom of Murcia.1153: The Treaty of Wallingford, ends the civil war between Empress Matilda and her cousin King Stephen of England
fought over the English crown. Stephen acknowledges Matilda's son Henry of Anjou as heir.1153: The First Treaty of Constance is signed between Emperor Frederick I and Pope Eugene III, by the terms of which, the emperor is to prevent any action by Manuel I Comnenus to reestablish the Byzantine Empire on Italian soil and to assist the pope
against his enemies in revolt in Rome.1154: the Moroccan-born Muslim geographer Muhammad al-Idrisi publishes his Geography.1155: Pope Adrian IV grants overlordship of Ireland to Henry II of England in the bull Laudabiliter.1156: On June 18, the Treaty of
Benevento is entered into by Pope Adrian IV and the Norman Kingdom of Sicily. After years of turbulent relations, the popes finally settles down to peace with the Hauteville kings. The kingship of William I is recognized over all Sicily, Apulia, Calabria, Campania, and Capua. The tribute to the pope of 600 schifati agreed upon by Roger II in 1139 at
Mignano is affirmed and another 400 shift is added for the new lands.1158: The Treaty of Sahagn ends the war between Castile and Len. Main article: 1160sThe Liuhe Pagoda of Hangzhou, China, 11651161: the Song dynasty Chinese navy, employing gunpowder bombs launched from trebuchets, defeats the enormous Jin dynasty navy in the East
China Sea in the Battle of Tangdao and on the Yangtze River in the Battle of Caishi.1161: Kilij Arslan II, Sultan of Rum, makes peace with the Byzantine Empire, recognizing the emperor's primacy.1161: In the siege of Ani, troops from the Kingdom of Georgia take control over the city, only to have it sold for the second time to the Shaddadids, a
Kurdish dynasty.1162: Genghis Khan, the founder of the Mongol Empire, is born as Temjin in present-day Mongolia.1163: The Norwegian Law of Succession takes effect.11651182: Tensions and disputes between the Pagan Empire and the Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the Great to raid Burma.1168: Kingdom of Polonnaruwa causes the Sinhalese under Parakramabahu the 
Valdemar I of Denmark conquers Arkona on the Island of Rgen, the strongest pagan fortress and temple in northern Europe.1169: On May 1, the Norman invasion of Ireland begins. Richard fitzGilbert de Clare ('Strongbow') allies with the exiled Irish chief
Dermot MacMurrough, to help him recover his kingdom of Leinster. Main article: 1170sThe defense of the Carroccio during the battle of Legnano (1176) by Amos Cassioli (18321891)1170: The Treaty of Sahagn is signed by Alfonso VIII agrees to provide Alfonso II with
three hostages, to be used as tribute payments owed by Ibn Mardan of Valencia and Murcia.1170: On December 29, Thomas Becket is murdered in Canterbury Cathedral.1171: Saladin deposes the last Fatimid Caliph Al-'id and establishes the Ayyubid dynasty.1171: On November 11, Henry II of England lands in Ireland to assert his claim as Lord of
Ireland.1172: The Pandyan city of Madurai is sacked by the Sinhalese army due to an attempt to drive off the rival throne claimant, Kulasekara Pandyan city of Madurai is sacked by the Pandyan city of Madurai is sacked by the Sinhalese king Parakramabahu the Great gains a decisive victory by invading the Chola Empire as an ally of the Pandyan city of Madurai is sacked by the Sinhalese king Parakramabahu the Great gains a decisive victory by invading the Chola Empire as an ally of the Pandyan city of Madurai is sacked by the Sinhalese king Parakramabahu the Great gains a decisive victory by invading the Chola Empire as an ally of the Pandyan city of Madurai is sacked by the Sinhalese king Parakramabahu the Great gains a decisive victory by invading the Chola Empire as an ally of the Pandyan city of Madurai is sacked by the Sinhalese king Parakramabahu the Great gains a decisive victory by invading the Chola Empire as an ally of the Pandyan city of Madurai is sacked by the Sinhalese king Parakramabahu the Great gains a decisive victory by invading the Chola Empire as an ally of the Pandyan city of Madurai is sacked by the Sinhalese king Parakramabahu the Great gains and the Chola Empire as an all yellow the Chola 
captured by the English in the Battle of Alnwick. He accepts the feudal overlordship of the English crown and pays ceremonial allegiance at York.1175: The Treaty of Windsor is signed by King Henry II of England and the High King of Ireland, Ruaidr Ua Conchobair.1176: On
May 29, Frederick Barbarossa's forces are defeated in the Battle of Legnano by the Lombard League which results in the emperor's overlordship of the imperial Church.1176: On September 17, The Battle of Myriokephalon (Myriocephalum)
Turkish: Miryakefalon Sava) is fought between the Byzantine Empire and the Seljuk Turks in Phrygia. It is a serious reversal for the Byzantine forces and will be the final, unsuccessful, effort by the Byzantine forces and the Seljuk Turks in Phrygia. It is a serious reversal for the Byzantine forces and will be the final, unsuccessful, effort by the Byzantine forces and will be the final, unsuccessful, effort by the Byzantine forces and will be the final forces and will be th
Frederick I, Holy Roman Emperor. The Norman Kingdom of Sicily also participates in negotiations and the treaty thereby determines the political course of an island far west in the Indian Ocean (possibly Madagascar), from where people
with skin "as black as lacquer" and with frizzy hair were captured and purchased as slaves by Arab merchants.1179: The Treaty of Cazola (Cazorla) is signed by Alfonso II of Aragon and Alfonso VIII of Castile, dividing Andalusia into separate zones of conquest for the two kingdoms, so that the work of the Reconquista would not be stymied by
internecine feuding. Main article: 1180s1180: The Portuguese Navy defeats a Muslim fleet off the coast of Cape Espichel. 11801185: the Genpei War in Japan. 1181: Parakramabahu the Great conducts a large-scale raid on Burma, after a ship transporting a Sinhalese princess to the Khmer Empire is attacked by Burmese naval fleets. 1182: Religious
reformations of Theravada Buddhism in Pagan Burma under the patronage of Narapatisithu are continued with the end of the Polonnaruwa-Pagan War.1182: Revolt of the people of Constantinople against the Latins, whom they massacre, proclaiming Andronicus I Comnenus as co-emperor.1183: On January 25, the final Peace of Constance between
Frederick Barbarossa, the pope and the Lombard towns is signed, confirming the Peace of Venice of 1177.1183: On September 24, Andronicus I Comnenus strangled.1184: On March 24, Queen Tamar, King of Georgia, accedes to the throne as sole ruler after reigning with her father, George III, for six years.1184
Diet of Pentecost organised by Emperor Frederick I in Mainz.1185: The Uprising of Asen and Peter against the Byzantine Empire leads to the restoration of the Norman massacre of the Greeks of Thessalonika.1185: The cathedral school
(Katedralskolan) in Lund, Sweden, is founded. The school is the oldest in northern Europe and one of the oldest in all of Europe.1185: Beginning in this year the Kamakura shogunate deprives the emperor of Japan of political power.1186: On January 27, the future Holy Roman Emperor Henry VI marries Constance of Sicily, the heiress to the Sicilian
throne.1187: On July 4, in the Battle of Hattin, Saladin defeats the king of Jerusalem.1187: In August, the Swedish royal and commercial center Sigtuna is attacked by raiders from Karelia, Couronia, and/or Estonia.[3]1188: The Riah were introduced into the Habt and south of Tetouan by the Almohad caliph, Abu Yusuf Yaqub al-Mansur, and Jochem
 and Acem were introduced in Tamesna.[4]1189: On September 3, Richard I is crowned King of England at Westminster.1189: On November 11, William II of Sicily dies and is succeeded by his illegitimate cousin Tancred, Count of Lecce instead of Constance.11891192: The Third Crusade is an attempt by European leaders to wrest the Holy Land from
Saladin. Main articles: 1190s and 1200sRichard I of England, or Richard I of England, which ultimately leads to the dissolution of the army. 1191: Holy Roman Emperor
Henry VI attacked the Kingdom of Sicily from May to August but fails and withdrawn, with Empress Constance captured (released 1192).1191: On September 7, Saladin is defeated by Richard I of England at the Battle of Arsuf.1192: In April, Isabella I begins her reign as Christian Queen of the Kingdom of Jerusalem1192: In the Battle of Jaffa, King
Richard the Lionheart defeats Saladin.1192: In June, the Treaty of Ramla is signed by Saladin and Richard Lionheart. Under the terms of the agreement, Jerusalem will remain under Muslim control. However, the city will be open to Christian pilgrims. The Latin Kingdom is reduced to a coastal strip that extends from Tyre to Jaffa.1192: Minamoto no
Yoritomo is appointed Sei-i Taishgun, "barbarian-subduing great general", shgun for short, the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator to bear this title.1192: Sultan Shahbuddin Muhammad Ghori establishes the first military dictator the first military dictator the first military dictator the first
destroyed.1194: Emperor Henry VI conquers the Kingdom of Sicily.1195: On June 16, the struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 16, the struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 16, the struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 16, the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 16, the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 16, the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 16, the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 16, the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 16, the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Kingdom of Sicily.1195: On June 18, the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Struggle of Shamqori. Georgian forces annihilate the army of Abu Baqar.1198: The brethren of the Struggle of Shamqori. Georgian forces annihilate
the Teutons in Jerusalem.1199: Pope Innocent III writes to Kaloyan, inviting him to unite the Bulgarian Church with the Roman Catholic Church.1200: Construction begins on the Grand Village of the Natchez near Natchez, Mississippi. This ceremonial center for the Natchez people is occupied and built until the early 17th century.[5] Eastern
Hemisphere at the end of the 12th century China is under the Northern Song dynasty. Early in the century, Zhang Zeduan paints Along the River During the Qingming Festival. It will later end up in the Palace Museum, Beijing. In southeast Asia, there is conflict between the Khmer Empire and the Champa. Angkor Wat is built under the Hindu king
Suryavarman II. By the end of the century, the Buddhist Jayavarman VII becomes the ruler Japan is in its Heian period. The Chj-jinbutsu-giga is made and attributed to Toba Sj. It ends up at the Kzan-ji, Kyoto.In Oceania, the Tui Tonga Empire expands to a much greater area. Europe undergoes the Renaissance of the 12th century. The blast furnace for
the smelting of cast iron is imported from China, appearing around Lapphyttan, Sweden, as early as 1150. Alexander Neckam is the first European to document the mariner's compass, first documented by Shen Kuo during the previous century. Christian humanism becomes a self-conscious philosophical tendency in Europe. Christianity is also
introduced to Estonia, Finland, and Karelia. The first medieval universities are founded. Pierre Abelard teaches. Middle English begins to develop, and literacy begins to develop, and literacy begins to spread outside the Church throughout Europe. [6] In addition, churchmen are increasingly willing to take on secular roles. By the end of the century, at least a third of England's
bishops also act as royal judges in secular matters. [7] The Ars antiqua period in the history of the medieval music of Western Europe begins. The earliest recorded miracle play is performed in Dunstable, England. Gothic architecture and trouvre music begin in France. During the middle of the century, the Cappella Palatina is built in Palermo, Sicily, and
the Madrid Skylitzes manuscript illustrates the Synopsis of Histories by John Skylitzes. Fire and plague insurance first become available in Iceland, and the first documented outbreaks of influenza there happens. The medieval state of Serbia is formed by Stefan Nemanja and then continued by the Nemanji dynasty. By the end of the century, both the
Capetian dynasty and the House of Anjou are relying primarily on mercenaries in their militaries. Paid soldiers are available year-round, unlike knights who expected certain periods off to maintain their manor lifestyles.[8]In India, Hoysala architecture reaches its peak. In the Middle East, the icon of Theotokos of Vladimir is painted probably in
Constantinople. Everything but the faces will later be retouched, and the icon will go to the Tretyakov Gallery of Moscow. The Georgian poet Shota Rustaveli composes his epic poem The Knight in the Panther's Skin. Shahab al-Din Suhrawardi founds his "school of illumination". In North Africa, the kasbah of Marrakesh is built, including the city gate
Bab Agnaou and the Koutoubia mosque. In sub-Saharan Africa, Kente cloth is first woven. In France, the first piedfort coins were minted. The end of the Toltec Empire is established. See also: Timeline of historic inventions 12th century 1104: The Venice Arsenal of Venice, Italy, is
founded. It employed some 16,000 people for the mass production of sailing ships in large assembly lines, hundreds of years before the Industrial Revolution.1106: Finished building of Gelati.1107: The Chinese engineer Wu Deren combines the mechanical compass vehicle of the south-pointing chariot with the distance-measuring odometer.
device.1111: The Chinese Donglin Academy is founded.1165: The Liuhe Pagoda of Hangzhou, China, is built.1170: The Roman Catholic notion of Purgatory is defined.[9]1185: First record of windmills. Wikimedia Commons has media related to 12th century. Soekmono, R. Drs., Pengantar Sejarah Kebudayaan Indonesia 2, 2nd ed. Penerbit Kanisius,
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WhatLinksHere/12th century" Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially.
, provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions You
may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation. No warranties are given. The license may not give you all of the
permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Physically, there is no distinction between ceramics and pottery because they are both made the same way. Each piece must go through a process that includes forming, firing, glazing, and refiring
before it is complete. Even though ceramics and pottery are technically the same thing, people still tend to place different meanings on each term. Ceramics are frequently thought of as pieces of fine art that are created to be visually appealing rather than have a function. Pottery is a term commonly used to describe something made to be useful
thereby serving a purpose in daily life. It is not uncommon to hear someone refer to ceramics to describe the art form as a whole, including pottery is also a word commonly associated with work of lesser or unprofessional quality. Ceramics may be
thought of as a piece of high-quality, fine art. Professional sculptors generally prefer for their work to be referred to as ceramics and pottery earthenware, stoneware, and porcelain. Earthenware is porous and generally
more fragile than other types of pottery. Stoneware is waterproof and frequently used to make dishes, although some artists like to use it as well. The primary difference between porcelain and stoneware is that porcelain is usually more opaque and might appear translucent under bright light. The creation of ceramics and pottery typically begins with
the mixing of clay. Contrary to what some people may think, artists do not often take the clay directly from the ground. They normally use special clay comprised of different ingredients to form what they refer to as the "clay body." After the clay body." After th
A kiln may then be used to fire, or bake, the clay so it will be ready for decoration and finish. Two well-known ceramicists are Bennett Bean and Hideaki Miyamura. Bean, whose work is displayed in the Philadelphia Museum of Art, may be best known for creating bowls and teapots out of earthenware. Miyamura uses iridescent glazes on his works
that appear to change color depending on the angle at which they are viewed. Pieces created by Miyamura can be found at the Art Institute of Chicago and The Smithsonian Institute, as well as numerous other places. HomeQuestionsAnswered is dedicated to providing accurate and trustworthy information. We carefully select reputable sources and
employ a rigorous fact-checking process to maintain the highest standards. To learn more about our commitment to accuracy, read our editorial process. By Anna T. Anna Thurman is a skilled writer who lends her talents to HomeQuestionsAnswered. Her ability to research and present information in an engaging and accessible manner allows her to
create content that resonates with readers across a wide range of subjects. Ancient Egypt Painted Pottery at a museum in Paris, FranceRelatively plain earthenware for everyday use: pottery found at atal Hyk - sixth millennium BCObviously an artistic work as well as practical: Greek red-figure vase in the krater shape, between 470 and 460 BC, by
the Altamura Painter Pottery is the ceramic material which makes up potteryware. [1] Major types include earthenware, stoneware and porcelain. The place where such wares are made is also called a pottery (plural "potteries"). Pottery also refers to the art or craft of a potter or the making of pottery. [2][3] A dictionary definition is simply clay fired in
a kiln.[4] Pottery objects are made from damp clay mixed with other materials. They are then fired in a special oven called a kiln at high temperatures. Firing makes the surface of the pottery shiny, decorative and water-tight. Some
potters make objects which are not useful and are really artistic objects or sculpture. Bare pottery objects without a glaze are called bisque or just earthenware. The finest pottery objects, made of porcelain or bone china are quite strong, yet are translucent. Pottery objects without a glaze are called bisque or just earthenware.
Europe, dating to 25,000 years ago or earlier. It is a female figurine known as the Venus of Doln Vstonice, from a palaeolithic site in Moravia, Czech Republic. It may have been made as part of a fertility ritual. There are some similar figures from other nearby sites.[5]Since the invention of agriculture, and the building of cities, containers for food and
drink have been found at almost all archaeological sites. This means the area of Stoke-on-Trent in England, sometimes called the Staffordshire potteries. There were six towns, Tunstall, Burslem, Hanley, Stoke-upon-Trent. The area was the centre of the English pottery industry. The area had
local supplies of clay, salt, lead and coal. Canals were used to transport the product inland. It was a large exporter of pottery for about 200 years: roughly from 1760 to about 1960.[7] Plastic crockery after World War II and cheap ceramic production in China largely destroyed the Stoke pottery. A man making pottery. An old potter's wheel in
Erfurt, Germany.A woman making pottery. Drying pottery. Drying pottery. Drying pottery. Drying pottery. Drying pottery. 2nd ed, Institute of Institute of Pottery. Bangladesh Dinsdale, Allen 1986. Pottery science: materials, process and products. Ellis Horwood Ltd. "Merriam-Webster.com". Merriam-Webster.com". Drying pottery. Drying p
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growth of the Staffordshire ceramic industry, in Freestone, Ian & Gaimster, David R.M. eds Pottery in the making: world ceramic traditions. British Museum Publications. ISBN 071411782XWikimedia Commons has media related to Pottery is one of humanitys oldest and most enduring crafts. From its humble beginnings as a
practical solution for storage and cooking, pottery has evolved into a sophisticated art form that spans cultures and millennia. Lets take a journey through the history of pottery, exploring its origins, evolution, and its lasting impact on the world. The Origins of Pottery: Neolithic Beginnings Pottery dates back to the Neolithic period, around 10,000 years
ago. The first known pottery pieces were discovered in what is now China, with evidence suggesting that early humans used clay to create functional items like pots and storage vessels. These early creations were rudimentary, shaped by hand and fired in simple kilns or open fires. As societies shifted from nomadic lifestyles to settled agricultural
communities, the need for durable storage containers became more pressing. Pottery provided a solution, allowing early farmers to store surplus food and liquids. This practicality laid the foundation for the widespread adoption of pottery across various cultures. The Evolution of Pottery Techniques pressing across the ancient world, different across various cultures.
cultures developed unique techniques and styles. The invention of the potters wheel around 3,500 BCE in Mesopotamia marked a significant advancement in pottery making. This innovation allowed for more symmetrical and refined shapes, expanding the possibilities for potters. In ancient Egypt, pottery became an essential part of daily life, with
artisans producing everything from storage jars to elaborate burial urns. The Greeks later refined the craft further, introducing intricate designs and painting techniques that depicted scenes from mythology and everyday life. Meanwhile, in Asia, pottery evolved along distinct lines. Chinese potters began experimenting with porcelain during the Han
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dynasty (206 BCE 220 CE), leading to the development of fine ceramics that would become highly prized throughout the world. In Japan, the art of pottery took on a spiritual dimension, with the creation of tea bowls and ceremonial vessels that played a central role in the tea ceremony. Pottery in the Middle Ages and Renaissance During the Middle
Ages, pottery continued to thrive in Europe, with the development of new glazes and decorative techniques. The Islamic world made significant contributions to pottery, particularly in Spain, where Moorish artisans introduced intricate geometric patterns and vibrant colours that influenced European pottery for centuries. The Renaissance brought a
renewed interest in classical forms and techniques, leading to the revival of ancient pottery traditions. Italian majolica, with its vivid colours and intricate designs, became highly sought after, while Dutch Delftware emerged as a popular alternative to expensive Chinese porcelain. Pottery in the Modern EraThe Industrial Revolution in the 18th and
19th centuries brought significant changes to the world of pottery. Mass production techniques allowed for the widespread availability of pottery, making it accessible to a broader audience. However, this shift also led to a decline in traditional craftsmanship, as handmade pottery became less common. In the 20th century, there was a resurgence of
interest in handmade pottery, driven by the Arts and Crafts movement, which emphasized the value of craftsmanship and artisanal production. Today, pottery is celebrated as both an art form and a functional craft, with artists and hobbyists around the world exploring new techniques and pushing the boundaries of what can be achieved with clay. The
Enduring Legacy of PotteryPotterys long history is a testament to its enduring appeal and versatility. From its origins as a practical craft to its evolution into a sophisticated art form, pottery has played a vital role in human civilization. Today, it continues to inspire creativity, with new generations of artists and makers building on thousands of years of
tradition. Whether youre a seasoned potter or just beginning to explore the world of clay, the history of pottery is a rich source of inspiration and knowledge. By understanding the past, we can better appreciate the beauty and significance of pottery in our lives today. Craft of making objects from clayFor the band of the same name, see Pottery
(band). For other uses, see Potteries (disambiguation). Hand building a jar. Pottery is the process and the products of forming vessels and other objects with clay and other raw materials, which are fired at high temperatures to give them a hard and durable form. The place where such wares are made by a potter is also called a pottery (plural
potteries). The definition of pottery, used by the ASTM International, is "all fired ceramic ware, and in technology and industry such as electrical insulators and laboratory ware. In art history
and archaeology, especially of ancient and prehistoric periods, pottery often means only vessels, and sculpted figurines of the America marketPottery is one of the oldest human inventions, originating before the Neolithic period, with ceramic objects
such as the Gravettian culture Venus of Doln Vstonice figurine discovered in Jiangxi, China, which date back to 29,00025,000 BC.[3] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [4] the carliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [5] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [6] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [7] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. [8] However, the earliest known pottery vessels were discovered in Jiangxi, and the potter were discove
Russian Far East (14,000 BC),[5] Sub-Saharan Africa (9,000s7,000s BC),[6] South America (9,000s7,000s BC),[7] and the Middle East (7,000s6,000s BC),[6] South America (9,000s7,000s BC),[6] South America (9,000s7,000s BC),[6] South America (9,000s7,000s BC),[7] and the Middle East (7,000s6,000s BC),[8] South America (9,000s7,000s BC),[8
reactions that lead to permanent changes including increasing the strength and rigidity of the object. Much pottery is purely utilitarian, but some can also be regarded as ceramic art. An article can be decorated before or after firing. Pottery is traditionally divided into three types: earthenware, stoneware and porcelain. All three may be glazed and
unglazed. All may also be decorated by various techniques. In many examples the group a piece belongs to is immediately visually apparent, but this is not always the case; for example fritware uses no or little clay, so falls outside these groups. Historic pottery of all these types is often grouped as either "fine" wares, relatively expensive and well-
made, and following the aesthetic taste of the culture concerned, or alternatively "coarse", "popular", "folk" or "village" wares, mostly undecorated, or simply so, and often less well-made. Cooking in pottery became less popular once metal pots became available, [8] but is still used for dishes that benefit from the qualities of pottery cooking, typically
slow cooking in an oven, such as biryani, cassoulet, daube, tagine, jollof rice, kedjenou, cazuela and types of baked beans.[8]Main article: Earthenware Earthenware from clays that were fired at low temperatures, initially in pit-fires or in open
bonfires. They were hand formed and undecorated. Earthenware is porous, it has limited utility for the storage of liquids or as tableware. However, earthenware has had a continuous history from the Neolithic period to today. It can be made from a wide
variety of clays, some of which fire to a buff, brown or black colour, with iron in the constituent minerals resulting in a reddish-brown. Reddish coloured varieties are called terracotta, especially when unglazed or used for sculpture. The development of ceramic glaze made impermeable pottery possible, improving the popularity and practicality of
pottery vessels. Decoration has evolved and developed through history. Main article: Stoneware storage jar, with partial ash glazeStoneware is pottery that has been fired in a kiln at a relatively high temperature, from about 1,100C to 1,200C, and is stronger and non-porous to liquids. [10] The Chinese, who developed
stoneware very early on, classify this together with porcelain as high-fired wares. In contrast, stoneware could only be produced in Europe from the late Middle Ages, as European kilns were less efficient, and the right type of clay less common. It remained a speciality of Germany until the Renaissance.[11]Stoneware is very tough and practical, and
much of it has always been utilitarian, for the kitchen or storage rather than the table. But "fine" stoneware has been important in China, Japan and the West, and continues to be made. Many utilitarian types have also come to be appreciated as art. Main article: Porcelain Contemporary porcelain plate by SvresPorcelain is made by heating materials,
generally including kaolin, in a kiln to temperatures between 1,200 and 2,600F). This is higher than used for the other types, and achieving these temperatures was a long struggle, as well as realizing what materials were needed. The toughness, strength and translucence of porcelain, relative to other types of pottery, arises mainly
from vitrification and the formation of the mineral mullite within the body at these high temperatures. Although porcelain was first made in China, the Chinese traditionally do not recognise it as a distinct category, grouping it with stoneware as "high-fired" ware, opposed to "low-fired" earthenware. This confuses the issue of when it was first made. A
degree of translucency and whiteness was achieved by the Tang dynasty (AD 618906), and considerable quantities were being exported. The modern level of whiteness was not reached until much later, in the 14th century, after suitable kaolin was located in those
countries. It was not made effectively outside East Asia until the 18th century.[12]Archaeologist cleaning an early mediaeval pottery sherd from Chodlik, Poland. The study of pottery, is important part of archaeology for
understanding the archaeological culture of the excavated site by studying the fabric of artifacts, such as their usage, source material composition, decorative patterns, etc. This helps to understand characteristics, sophistication, habits, technology, tools, trade, etc. of the people who made and used the pottery. Carbon dating reveals
the age. Sites with similar pottery characteristics have the same culture, those sites which have distinct cultural exchange such as trade or living in vicinity or continuity of habitation, etc. Examples are black and red ware, redware, Sothi-Siswal culture and Painted Grey Ware culture. The
six fabrics of Kalibangan is a good example of use of fabric analysis in identifying a differentiated culture which was earlier thought to be typical Indus Valley civilisation (IVC) culture. Pottery is durable, and fragments, at least, often survive long after artifacts made from less-durable materials have decayed past recognition. Combined with other
evidence, the study of pottery artefacts is helpful in the development of the organisation, economic condition and the cultural development of the societies that produced or acquired pottery. The study of pottery may also allow inferences to be drawn about a culture's daily life, religion, social relationships, attitudes towards neighbours,
attitudes to their own world and even the way the culture understood the universe. Terracotta Army following excavation to look into pottery as an archaeological record of potential interaction between peoples. When pottery as an archaeological record of potential interaction between peoples.
social artifact.[13] As proposed by Olivier P. Gosselain, it is possible to understand ranges of cross-cultural interaction by looking closely at the chane opratoire of ceramic production.[14]The methods used to produce pottery in early Sub-Saharan Africa are divisible into three categories: techniques visible to the eye (decoration, firing and post-firing
techniques), techniques related to the materials (selection or processing of clay, etc.), and techniques of molding or fashioning the clay.[14] These three categories can be used to consider the implications of the reoccurrence of a particular sort of pottery in different areas. Generally, the techniques that are easily visible (the first category of those
mentioned above) are thus readily imitated, and may indicate a more distant connection between groups, such as trade in the same market or even relatively close settlements.[14] Techniques that require more studied replication (i.e., the selection of clay) may indicate a closer connection between peoples, as these methods
are usually only transmissible between potters and those otherwise directly involved in production.[14] Such a relationship requires the ability of the involved parties to communicate effectively, implying pre-existing norms of contact or a shared language between the two. Thus, the patterns of technical diffusion in pot-making that are visible via
archaeological findings also reveal patterns in societal interaction. Chronologies based on pottery are often essential for dating non-literate cultures and are often of help in the dating of historic cultures as well. Trace-element analysis, mostly by neutron activation, allows the sources of clay to be accurately identified and the thermoluminescence test
can be used to provide an estimate of the date of last firing. Examining sherds from prehistory, scientists learned that during high-temperature firing, iron materials in clay record the state of the Earth's magnetic field at that moment. The "clay body" is also called the "paste" or the "fabric", which consists of 2 things, the "clay matrix" composed of
grains of less than 0.02mm grains which can be seen using the high-powered microscopes or a scanning electron microscope, and the "clay inclusions" which are larger grains of clay and could be seen with the naked eye or a low-power binocular microscope. For geologists, fabric analysis means spatial arrangement of minerals in a rock. For
Archaeologists, the "fabric analysis" of pottery entails the study of clay matrix and inclusions in the clay body as well as the firing temperature and conditions. Analysis is done to examine the following 3 in detail:[15]How pottery was made e.g. material, design such as shape and style, etc. Its decorations, such as patterns, colors of patterns, slipped
(glazing) or unslipped decorationEvidence of type of use. The Six fabrics of Kalibangan is a good example of fabric analysis. Preparation of clay for pottery in IndiaRemoving a filter cake of porcelain body from a supplier, such an amount of
earthenware body, stoneware body or porcelain body. The compositions of clay bodies varies considerably, and include both prepared and 'as dug'; the former being by far the dominant type for studio and industry. The properties also vary considerably, and include plasticity and mechanical strength before firing; the firing temperature needed to
mature them; properties after firing, such as permeability, mechanical strength and colour. There can be regional variations in the properties of raw materials used for pottery include: [16] Kaolin,
sometimes referred to as china clay, is a key ingredient in porcelain, which was first used in China around the 7th and 8th centuries.[17]Ball clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: A clay having a slightly lower percentage of fluxes than kaolin, but usually quite plastic. It is highly
heat resistant form of clay which can be combined with other clays to increase the firing temperature and may be used as an ingredient to make stoneware type bodies. Stoneware type bodies. Stoneware type bodies between fire clay and ball clay, having finer grain, like ball clay but is more heat resistant like fire
clays. Common red clay and shale clay have vegetable and ferric oxide impurities which make them useful for bricks, but are generally unsatisfactory for pottery except under special conditions of a particular deposit. [18] Bentonite: An extremely plastic clay which can be added in small quantities to short clay to increase the plasticity. It is common for
clays and other raw materials to be mixed to produce clay bodies suited to specific purposes. Various mineral processing techniques are often utilised before mixing the raw materials include: Feldspar, act as fluxes which lower the vitrification
temperature of bodies. Quartz, an important role is to attenuate drying shrinkage. A section cut-through of ball mill, which are widely used to mill raw materials for potteryNepheline syenite, an alternative to feldspar. Calcined alumina, can enhance the fired properties of a body. Chamotte, also called grog, is fired clay which it is crushed, and sometimes
then milled. Helps attenuate drying shrinkage. [19] Bone ash, produced by the calcination of animal bone. A key raw material for bone china. Frit, produced made by quenching and breaking up a glass of a specific composition. Can be used at low additions in some bodies, but common uses include as components of a glaze or enamel, or for the body of
fritware, when it usually mixed with larger quantities of quartz sand. Various others at low levels of addition such as dolomite, limestone, talc and wollastonite. Clay body. Shaping Drying Firing Glazing and decorating. (This can be
undertaken prior to firing. Also, additional firing stages after decoration may be needed.) Before being shaped, clay must be prepared. This may include kneading to ensure an even moisture content throughout the body. Air trapped within the clay body needs to be removed, or de-aired, and can be accomplished either by a machine called a vacuum
pug or manually by wedging. Wedging can also help produce an even moisture content. Once a clay body has been kneaded and de-aired or wedged, it is shaped by a variety of techniques, which include: Hand-building: This is the earliest forming method. Wares can be constructed by hand from coils of clay, combining flat slabs of clay, or pinching
solid balls of clay or some combination of these. Parts of hand-built vessels are often joined with the aid of slip. Some studio potters find hand-building more conducive for one-of-a-kind works of art. A potter using a potter's wheel describes his materials (in Romanian and English)The potter's wheel: In a process called "throwing" (coming from the Old
English word thrawan which means to twist or turn[20]) a ball of clay is placed in the centre of a turntable, called the wheel-head, which the potter rotates with a stick, with foot power or with a variable-speed electric motor. During the process of throwing, the wheel rotates while the solid ball of soft clay is pressed, squeezed and pulled gently
upwards and outwards into a hollow shape. Skill and experience are required to throw pots of an acceptable standard and, while the ware may have high artistic merit, the reproducibility of the method is poor.[21] Because of its inherent limitations, throwing can only be used to create wares with radial symmetry on a vertical axis. Press moulding: a
simple technique of shaping by manually pressing a lump of clay body into a porous mould. [22][23][24]Granulate pressing: a highly automated technique of shaping by pressing by pressing a lump of clay body into a porous mould. [22][23][24]Granulate pressure. The fine, free
flowing granulated body is prepared by spray drying a high-solids content slip. Granulate pressing, also known as dust pressing, is widely used in the manufacture of ceramic tiles and, increasingly, of plates. [25][26][27] iggering a plateJiggering a plateJiggering and jolleying: These operations are carried out on the potter's wheel and allow the time taken to bring
wares to a standardized form to be reduced. Jiggering is the operation of bringing a shaped tool into contact with the plastic clay of a piece under construction, the piece itself being set on a rotating plaster mould on the wheel. The jigger tool shapes one face while the mould shapes the other. Jiggering is used only in the production of flat wares, such
as plates, but a similar operation, jolleying, is used in the production of hollow-wares such as cups. Jiggering and jolleying have been used in the production of pottery since at least the 18th century. In large-scale factory production, jiggering and jolleying are usually automated, which allows the operations to be carried out by semi-skilled
labour.Roller-head machine: This machine is for shaping wares on a rotating mould, as in jiggering and jolleying, but with a rotary shaping tool is a shallow cone having the fixed profile. The rotary shaping tool is a shallow cone having the fixed profile. The rotary shaping tool is a shallow cone having the fixed profile.
this way be shaped, using relatively unskilled labour, in one operation at a rate of about twelve pieces per minute, though this varies with the size of the articles being produced. Developed in the UK just after World War II by the company Service Engineers, roller-heads were quickly adopted by manufacturers around the world; it remains the
dominant method for producing both flatware and holloware, such as plates and mugs. [28] Pressure casting: Is a development of traditional slipcasting. Specially developed polymeric materials allow a mould to be subject to application external pressures of up to 4.0 MPa so much higher than slip casting in plaster moulds where the capillary forces and mugs.
correspond to a pressure of around 0.10.2 MPa. The high pressure leads to much faster casting rates and, hence, faster production cycles. Furthermore, the application of high pressure air through the polymeric moulds which
require lengthy drying times. The polymeric materials have much greater durability than plaster and, therefore, it is possible to achieve shaped products with better dimensional tolerances and much longer mould life. Pressure casting was developed in the 1970s for the production of sanitaryware although, more recently, it has been applied to
tableware.[29][30][31][32]RAM pressing: This is used to shape ware by pressing a bat of prepared clay body into a required shape between two porous moulding plates. After pressing, compressed air is blown through the porous moulding plates. After pressing a bat of prepared clay body into a required shape between two porous moulding plates. After pressing a bat of prepared clay body into a required shape between two porous mould plates to release the shaped wares.[33]Filling a plaster mould with slipDe-moulding a large vase after it has been
slip castSlip casting: This is suited to the making of shapes that cannot be formed by other methods. A liquid slip, made by mixing clay body with water, is poured into a highly absorbent plaster mould. Water from the slip is absorbed into the mould leaving a layer of clay body covering its internal surfaces and taking its internal shape. Excess slip is
poured out of the mould, which is then split open and the moulded object removed. Slip casting is widely used in the production of sanitaryware and is also used for making other complex shaped ware such as teapots and figurines. Injection moulding: This is a shape-forming process adapted for the tableware industry from the method long established
for the forming of thermoplastic and some metal components. [34] It has been called Porcelain Injection Moulding, or PIM. [35] Suited to the mass production of a cup, including the handle, in a single process, and thereby eliminates the handle-fixing
operation and produces a stronger bond between cup and handle.[36] The feed to the mould die is a mix of approximately 50 to 60 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form, together with 40 to 50 per cent unfired body in powder form.
There are two methods. One involves the layered deposition of soft clay body in dry powder form is fused together layer upon layer with a liquid.[38][39]Injection moulding of ceramic tableware has been developed, though it has yet to be fully
commercialised.[40]Prior to firing, the water in an article needs to be removed. A number of different stages, or conditions of the article, can be identified: Greenware refers to unfired objects at any stage are in their most plastic
form (as they are soft and malleable, and hence can be easily deformed by handling). Prior to firing, any state of clay may be hydrated or dehydrated into any other unfired stage. Plastic, also known as wet, refers to clay that is malleable and sufficiently wet to shape by hand or on a potter's wheel, but strong enough to hold its shape. At this stage the
clay has between 20% and 25% moisture content. [41] This is the stage most commercial clays are sold at, and at which most of the shaping process is done. Leather-hard refers to a clay body that has been dried partially. At this stage are very firm and only slightly
pliable. Trimming and handle attachment often occurs at the leather-hard state. Bone-dry refers to clay bodies when they reach a moisture content, the item is ready to be fired. Additionally, the piece is extremely brittle at this stage and must be handled with care. [42][43] A modern tunnel kilnFiring produces
permanent and irreversible chemical and physical changes in the body. It is only after firing that the article or material is pottery, the changes include sintering, the fusing together of coarser particles in the body at their points of contact with each other. In the case of porcelain, where higher firing-temperatures are used, the
 physical, chemical and mineralogical properties of the constituents in the body are greatly altered. In all cases, the reason for firing is to permanently harden the wares are normally fired at temperatures in the range of about 1,000C (1,830F) to
1,200C (2,190F); stonewares at between about 1,200C (2,010F) to 1,400C (2,50F). Historically, reaching high temperatures was a long-lasting challenge, and earthenware can be fired effectively as low as 600C (1,112F), achievable in primitive pit firing. The time spent at any
particular temperature is also important, the combination of heat and time is known as heatwork. Kilns can be monitored by pyrometers, thermocouples and pyrometers are provided by pyrometers.
iron(III) oxide (also known as ferric oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, whilst iron(III) oxide (also known as ferrous oxide or FeO) is associated with much darker colours.
example, where there is a lack of oxygen during firing the associated carbon monoxide (CO) will readily react with oxygen in Fe2O3 in the raw materials and cause it to be reduced to FeO.[44][45]An oxygen deficient condition, called a reducing atmosphere, is generated by preventing the complete combustion of the kiln fuel; this is achieved by
deliberately restricting the supply of air or by supplying an excess of fuel. [44] [45] Firing pottery can be done using a variety of methods, with a kiln being the usual firing method. Both the maximum temperature within a kiln is often held
constant for a period of time to soak the wares to produce the maturity required in the body of the wares. Kilns may be heated by burning combustible materials, such as wood, coal and wood can introduce smoke, soot and ash into the kiln which
can affect the appearance of unprotected wares. For this reason, wares fired in wood- or coal-fired kilns and often allow shorter firing times to be used. Potters
technique is also used in Malaysia in creating traditional labu sayong.[47][48]In Mali, a firing mound is used rather than a brick or stone kiln. Unfired pots are first brought to the place where a mound will be built, customarily by the women and girls of the village. The mound's foundation is made by placing sticks on the ground, then:[...] pots are
positioned on and amid the branches and then grass is piled high to complete the mound. Although the mound contains the pots of many women, who are related through their husbands' extended families, each women is responsible for her own or her immediate family's pots within the mound. When a mound is completed and the ground around has
shaped to the desired form and fired in the kiln for the first time, known as "bisque fired" or "biscuit fired". This firing results in both chemical and physical changes to the minerals of the clay body. Glaze fired is the final stage of some pottery making, or glost fired. [21] A glaze may be applied to the biscuit ware and the object can be decorated in
several ways. After this the object is "glazed fired", which causes the glaze material to melt, then adhere to the object. Depending on the temperature schedule the glaze firing may also further mature the body as chemical and physical changes continue. Pottery may be decorated in many different ways. Some decoration can be done before or after the
firing, and may be undertaken before or after glazing. Hand painting a vase. Painting has been used since early prehistoric times, and may then be overlaid with a glaze afterwards. Many pigments change colour when fired, and the painter must allow for
this.Glaze: Perhaps the most common form of decoration, that also serves as protection to the pottery, by being tougher and keeping liquid from penetrating the most common form of decoration, that also serves as protection to the pottery. Glaze may be colourless, especially over painting, or coloured and opaque. Crystalline glaze: acharacterised by crystalline clusters of various shapes and colours embedded in a more
uniform and opaque glaze. Produced by the slow cooling of the glost fire. Carving: Pottery wares may be decorated by shallow carving of the classic periods. Burnishing: The surface of pottery wares may be burnished prior to firing by
rubbing with a suitable instrument of wood, steel or stone to produce a polished finish that survives firing. It is possible to produce very highly polished wares when fine clays are used or when the polishing is carried out on wares that have been partially dried and contain little water, though wares in this condition are extremely fragile and the risk of
breakage is high. Terra Sigillata is an ancient form of decorating ceramics that was first developed in Ancient Greece. Lithography, also called litho, although the alternative names of transfer print or "decal" are also common. These are used to apply designs to articles. The litho comprises three layers: the colour, or image, layer which comprises the
decorative design; the cover coat, a clear protective layer, which may incorporate a low-melting glass; and the backing paper on which the design is printed by screen printing or lithography. There are various methods of transferring the design is printed by screen printing or lithography. There are various methods of transferring the design while removing the backing paper, some of which are suited to machine application. Banding is the
application by hand or by machine of a band of colour to the edge of a plate or cup. Also known as "lining", this operation is often carried out on a potter's wheel. Agateware: named after its resemblance to the mineral agate, is produced by partially blending clays of differing colours. In Japan the term "neriage" is used, whilst in China, where such
things have been made since at least the Tang dynasty, they are called "marbled" wares. Engobe: a clay slip is used to coat the surface of pottery, usually before firing. Its purpose is often decorative though it can also be used to mask undesirable features in the clay to which it is applied. The engobe may be applied by painting or by dipping to provide
a uniform, smooth, coating. Such decoration is characteristic of slipware. For sgraffito decoration with gold is used on some high quality ware. Different methods exist for its application, including: Burnishing a plate's gold decoration best gold a suspension of gold
powder in essential oils mixed with a flux and a mercury salt extended. This can be applied by a painting technique. From the kiln, the decoration is dull and requires burnishing to reveal the full colourAcid Gold a form of gold decoration is dull and requires burnishing to reveal the full colourAcid Gold a form of gold decoration is dull and requires burnishing to reveal the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. The glazed surface is etched with diluted
hydrofluoric acid prior to application of the gold. The process demands great skill and is used for the decoration only of ware of the highest class. Bright Gold consists of a solution of gold sulphoresinate together with other metal resonates and a flux. The name derives from the appearance of the highest class. Bright Gold consists of a solution of gold sulphoresinate together with other metal resonates and a flux.
decoration is applied on the surface of the glaze before the glost firing. On-glaze decoration is applied on top of the already fired, glazed surface, and then fixed in a second firing at a relatively low temperature. Main article: Ceramic glaze surface, and then fixed in a second firing at a relatively low temperature.
the item is impermeable to liquids, and minimizing the adherence of pollutants. Glaze may be applied by spraying, dipping, trailing or brushing on an aqueous suspension of the unfired glaze. The colour of a glaze after it has been fired may be significantly different from before firing. To prevent glazed wares sticking to kiln furniture during firing
either a small part of the object being fired (for example, the foot) is left unglazed or, alternatively, special refractory "spurs" are used as supports. These are removed and discarded after the firing process. The high temperatures cause the
salt to volatilise, depositing it on the surface of the ware to react with the body to form a sodium aluminosilicate glaze. In the 17th and 18th centuries, salt-glazing was used in the manufacture of domestic pottery. Now, except for use by some studio potters, the process is obsolete. The last large-scale application before its demise in the face of
environmental clean air restrictions was in the production of salt-glazed sewer-pipes. [52][53]Ash glazed jar from 9th century, Japan. Ash glazing ash from the combustion waste from the fuelling of kilns although the potential of ash
derived from arable crop wastes has been investigated. [54] Ash glazes are of historical interest in the Far East although there are reports of small-scale use in other locations such as the Catawba Valley Pottery in the United States. They are now limited to small numbers of studio potters who value the unpredictability arising from the Variable nature.
of the raw material.[55]Although many of the environmental effects of pottery production have existed for millennia, some of these have been amplified with modern technology and scales of production. The principal factors for consideration fall into two categories: Effects on workers: Notable risks include silicosis, heavy metal poisoning, poor indoor
air quality, dangerous sound levels and possible over-illumination. Effects on the general environment. Historically, lead poisoning (plumbism) was a significant health concern to those glazing pottery. This was recognised at least as early as the nineteenth century. The first legislation in the UK to limit pottery workers exposure to lead was included in
the Factories Act Extension Act in 1864, with further introduced in 1899.[56][57]Silicosis is an occupational lung disease caused by inhaling large amounts of crystalline silica dust in the raw materials; colloquially it has been known as 'Potter's rot'
Less than 10 years after its introduction, in 1720, as a raw material to the British ceramics industry the negative effects of calcined flint on the lungs of workers 55 per cent had at least some stage of silicosis.[59][60][61] Exposure to siliceous dusts is reduced by either
processing and using the source materials as aqueous suspension or as damp solids, or by the use of dust control measures such as local exhaust ventilation. These have been mandated by legislation, such as The Pottery (Health and Welfare) Special Regulations 1950 in the UK.[62][63] The Health and Safety Executive in the UK has produced
guidelines[64] on controlling exposure to respirable crystalline silica in potteries, and the British Ceramics Federation provide a guidance booklet.[65]Environmental concerns include off-site water pollution, disposal of hazardous materials, disposal of rejected ware and fuel consumption.[66]Main article: Ceramic art HistoryA great part
of the history of pottery is prehistoric, part of past pre-literate cultures. Therefore, much of this history can only be found among the artifacts of archaeology. Because pottery is so durable, pottery is 
prehistoric cultures are named after the pottery that is the easiest way to identify their sites, and archaeologists develop the ability to recognise different types from the chemistry of small shards. Before pottery becomes part of a culture, several conditions must generally be met. First, there must be usable clay available. Archaeological sites where their sites, and archaeological sites where their sites where their sites are named after the pottery that is the easiest way to identify their sites, and archaeological sites where their sites.
earliest pottery was found were near deposits of a variety of clay, which gave them an advantage in early development of fine pottery to temperatures that will
achieve the transformation from raw clay to ceramic. Methods to reliably create fires hot enough to fire pottery did not develop ment of cultures. Third, the potter must have time available to prepare, shape and fire the clay into pottery. Even after control of fire was achieved, humans did not seem to develop pottery until a
sedentary life was achieved. It has been hypothesized that pottery was developed only after humans established agriculture, which led to permanent settlements. However, the oldest known pottery is from the Czech Republic and dates to 28,000 BC, at the height of the most recent ice age, long before the beginnings of agriculture. Fourth, there must
be a sufficient need for pottery in order to justify the resources required for its production.[67]An Incipient Jmon pottery vessel reconstructed from fragments (10,0008,000 BC), Tokyo National Museum, JapanMethods of forming: Hand-shaping was the earliest method used to form vessels. This included the combination of pinching and coiling. Firing
The earliest method for firing pottery wares was the use of bonfires pit fired pottery. Firing times might be short but the peak-temperatures achieved in the fire could be high, perhaps in the region of 900C (1,650F), and were reached very quickly.[68]Clay: Early potters used whatever clay was available to them in their geographic vicinity. However,
the lowest quality common red clay was adequate for low-temperature fires used for the earliest pots. Clay tempered with sand, grit, crushed shell or crushed pottery were often used for the earliest pots. Clay tempered with sand, grit, crushed shell or crushed 
particles in the clay also acted to restrain shrinkage during drying, and hence reduce the risk of cracking. Form: In the main, early bonfire-fired wares were made with rounded bottoms to avoid sharp angles that might be susceptible to cracking. Glazing: the earliest pots were not glazed. The potter's wheel was invented in Europe in the 5th millennium
BC, and revolutionised pottery production. Earliest potter's wheel dated to the middle of the 5th millennium BC from the CucuteniTrypillia culture in western Ukraine.[69]Moulds were used to a limited extent as early as the 5th and 6th century BC by the Etruscans[70] and more extensively by the Romans.[71]Slipcasting, a popular method for shaping
were adequate for simple earthenware, but other pottery types needed more sophisticated kilns. Xianren Cave pottery fragments, radiocarbon dated to circa 18,000 BC, China[74][75] Pottery bowl from Jarmo, Mesopotamia, 71005800 BC. Pottery may well have been discovered independently in various places, probably by accidentally creating it at the
bottom of fires on a clay soil. The earliest-known ceramic objects are Gravettian figurines such as those discovered at Doln Vstonice in the modern-day Czech Republic. The Venus of Doln Vstonice is a Venus figurine, a statuette of a nude female figure dated to 29,00025,000 BC (Gravettian industry).[3] But there is no evidence of pottery vessels from
this period. Weights for looms or fishing-nets are a very common use for the earliest pottery. Sherds have been found in China and Japan from a period between 12,000 and perhaps as long as 18,000 years before the present, was
found at Xianren Cave in the Jiangxi province of China. [78][79]Other early pottery vessels include those excavated from 14,000 BC. [5][80]The Odai Yamamoto I site, belonging to the Jmon period, currently
has the oldest pottery in Japan. Excavations in 1998 uncovered earthenware fragments which have been dated as early as 14,500 BC.[81]The term "Jmon" means "cord-marked" in Japanese. This refers to the markings made on the vessels and figures using sticks with cords during their production. Recent research has elucidated how Jmon pottery
was used by its creators.[82]It appears that pottery was independently developed in Sub-Saharan Africa during the 9,000s7,000s BC.[83][7] The Malian finds date to the same period as similar finds from East Asia the triangle between
Siberia, China and Japan and are associated in both regions to the same climatic changes (at the end of the ice age new grassland developments: the creation of pottery for the storage of wild cereals (pearl millet), and that of small
arrowheads for hunting small game typical of grassland.[6] Alternatively, the creation of pottery in the case of the Incipient Jmon civilisation could be due to the intensive exploitation of freshwater and marine organisms by late glacial foragers, who started developing ceramic containers for their catch.[82]Main articles: Chinese ceramics, Japanese
pottery, and Korean potteryChinese Ming dynasty blue-and-white porcelain dish with a dragonGroup of 13th-century pieces of Longquan celadonIn Japan, the Jmon period has a long history of development of Jmon pottery which was characterized by impressions of rope on the surface of the pottery created by pressing rope into the clay before firing
Glazed Stoneware was being created as early as the 15th century BC in China. A form of Chinese porcelain became a significant Chinese export from the Tang dynasty (AD 618906) onwards.[10] Korean potters adopted porcelain as early as the 14th century AD.[84] The ceramic industry has developed greatly since the Goryeo dynasty, and Goryeo
ware, a celadon with unique inlaying techniques, was produced. Later, when white porcelain became common and celadon fell, they created unique ceramics such as Buncheong. Japan's white porcelain was influenced by potters kidnapped during the Japanese invasions of Korea (15921598), called The Ceramic Wars, and Japanese engineers
introduced it during the Fall of the Ming dynasty's. Typically, Korean potters who settled in Arita pass on pottery techniques, Shonzui Goradoyu-go brought back the secret of its manufacture from the Chinese kilns at Jingdezhen.[85]In contrast to Europe, the Chinese social elite used pottery extensively at table, for religious purposes, and for
decoration, and the standards of fine pottery were very high. From the Song dynasty (9601279) for several centuries, the tastes of Chinese elites favoured plain-coloured and exquisitely formed pieces; during this period to use it. The
traditional Chinese category of high-fired wares includes stoneware types such as Ru ware, Longquan celadon and Guan ware. Painted wares blue and white porcelain was probably a product of the Mongol Yuan dynasty (12711368)
dispersing artists and craftsmen across its large empire. Both the cobalt stains used for the blue colour, and the style of painted decoration, usually based on plant shapes, were initially borrowed from the Islamic world, which the Mongols had also conquered. At the same time Jingdezhen porcelain, produced in Imperial factories, took the undisputed
leading role in production. The new elaborately painted style was now favoured at court, and gradually more colours were imported from the East. Many attempts were made to imitate it in Italy and France. However it was not
produced outside of East Asia until 1709 in Germany. [86] See also: Pottery in the Indian subcontinent pottery wheel, British Raj (1910) Cord-Impressed style pottery belongs to "Mesolithic period. [87] [88] This ceramic style is also
 found in later Proto-Neolithic phase in nearby regions.[89] This early type of pottery, also found at the site of Lahuradewa, is currently the oldest known pottery began to be made during the Mehrgarh Period II (5,5004,800 BC) and Merhgarh Period III
(4,8003,500 BC), known as the ceramic Neolithic and Chalcolithic. Pottery, including items known as the ed-Dur vessels, originated in regions of the Saraswati River and have been found in a number of sites in the Indus Civilization. [94][95]Despite an extensive prehistoric record of pottery, including painted wares, little "fine" or luxury
pottery was made in the subcontinent in historic times. Hinduism discourages eating off pottery, which probably largely accounts for this. Most traditional Indian pottery vessels are large pots or jars for storage, or small cups or lamps, occasionally treated as disposable. In contrast there are long traditions of sculpted figures, often rather large, in
terracotta; this continues with the Bankura horses in Panchmura, West Bengal.See also: Vietnamese ceramics, and Philippine ceramics 15th-century Vietnamese Chu Dau blue-white porcelain dish with Islamic geometric decorations.Late Neolithic Manunggul Jar from Palawan used for burial, topped with two figures representing the
journey of the soul into the afterlife. Pottery in Southeast Asia is as diverse as its ethnic groups. Each ethnic groups. Each ethnic groups are made due to various reasons, such as trade, food and beverage storage, kitchen usage, religious ceremonies, and burial purposes. [96][97][98][99]See also:
Levantine pottery, Persian pottery, Persian pottery, and Pottery of ancient CyprusAround 8000 BC during the Pre-pottery Neolithic period, and before the invention of pottery, several early settlements became experts in crafting beautiful and highly sophisticated containers from stone, using materials such as alabaster or granite, and employing sand to shape and
polish. Artisans used the veins in the material to maximum visual effect. Such objects have been found in abundance on the upper Euphrates river, in what is today eastern Syria, especially at the site of Bouqras.[100]The earliest history of pottery production in the Fertile Crescent starts the Pottery Neolithic and can be divided into four periods,
namely: the Hassuna period (70006500 BC), the Halaf period (65005500 BC), the Ubaid period (65005500 BC), and the Uruk period (40003100 BC). By about 5000 BC pottery-making was becoming widespread across the region, and spreading out from it to neighbouring areas. Pottery making began in the 7th millennium BC. The earliest forms, which
were found at the Hassuna site, were hand formed from slabs, undecorated with elaborate painted designs and natural forms, incising and burnished. Earthenware Ubaid jar. c. 5,3004,700 BCE. The invention of the potter's wheel in
Mesopotamia sometime between 6,000 and 4,000 BC (Ubaid period) revolutionised pottery production. Newer kiln designs could fire wares for a family. The
shapes and range of uses for ceramics and pottery expanded beyond simple vessels to store and carry to specialized cooking utensils, pot stands and rat traps. [101] As the region developed new organizations and political forms, pottery became more elaborate and varied. Some wares were made using moulds, allowing for increased production for the
needs of the growing populations. Glazing was commonly used and pottery was more decorated. [102] In the Chalcolithic period in Mesopotamia, Halafian pottery with Corinthian and Attic ware. Main articles: Minoan pottery, Pottery of the chalcolithic period in Mesopotamia, Halafian pottery was more decorated.
ancient Greece, and Ancient Roman potteryGreek red-figure vase in the krater shape, between 470 and 460 BC, by the Altamura PainterEurope's oldest pottery, dating from circa 6700 BC, was found on the banks of the Samara River in the middle Volga region of Russia.[103] These sites are known as the Yelshanka culture. The early inhabitants of
Europe developed pottery in the Linear Pottery culture slightly later than the Near East, circa 55004500 BC. In the ancient Western Mediterranean elaborately painted earthenware reached very high levels of artistic achievement in the Greek world; there are large numbers of survivals from tombs. Minoan pottery was characterized by complex
painted decoration with natural themes.[104] The classical Greek culture began to emerge around 1000 BC featuring a variety of well crafted pottery which now included the human form as a decorating motif. The pottery wheel was now in regular use. Although glazing was known to these potters, it was not widely used. Instead, a more porous clay
slip was used for decoration. A wide range of shapes for different uses developed early and remained essentially unchanged during Greek potters and painters. Ancient Roman pottery made much less use of painting, but used moulded decoration,
AD.[106] Pottery was hardly seen on the tables of elites from Hellenistic times until the Renaissance, and most medieval elites are off metal vessels. Painted Hispano-Moresque ware from Spain, developing the styles of Al-Andalus, became a luxury for late medieval elites, and was adapted in Italy into maiolica
in the Italian Renaissance. Both of these were faience or tin-glazed earthenware, and fine faience continued to be made until around 1800 in various countries, especially France, with Nevers faience and several other century, imports of Chinese export porcelain and its Japanese equivalent raised the market expectations of fine
Pottery, and SpodeHandpainted bone china cup. England, 18151820The city of Stoke-on-Trent is widely known as "The Potteries" because of the first industrial cities of the modern era where, as early as 1785, two hundred pottery manufacturers employed 20,000
workers. [107] [108] Josiah Wedgwood (17301795) was the dominant leader. [109] In North Staffordshire hundreds of companies produced all kinds of pottery, from tablewares and decorative pieces to industrial items. The main pottery was a
major innovator in developing new varieties of ceramic bodies such as bone china and jasperware, as well as pioneering transfer printing and other glazing and decorating techniques. In general Staffordshire was strongest in the middle and low price ranges, though the finest and most expensive types of wares were also made.[110]By the late 18th
century North Staffordshire was the largest producer of ceramics in the UK, despite significant hubs elsewhere. Large export markets took Staffordshire pottery around the world, especially in the 19th century, [111] Production had begun to decline in the late 19th century, as other countries developed their industries, and declined notably after
                            ment fell from 45,000 in 1975 to 23,000 in 1991, and 13,000 in 2002.[112] Main articles: Islamic pottery and Persian pottery followed the forms of the regions which the Arabs conquered. Eventually, however, there was cross-fertilization between the regions. This was most notable in the Chinese is
Islamic pottery. Trade between China and Islam took place via the system of trading posts over the lengthy Silk Road. Middle Eastern nations imported to the Islamic ruled Persia to decorate their blue and white porcelain, which they then exported to the Islamic
world.Likewise, Arabic art contributed to a lasting pottery form identified as Hispano-Moresque in Andalucia. Unique Islamic forms were also development of the popular major emphasis in ceramic development in the Muslim world was
the use of tile and decorative tilework. Bowl painted on slip under transparent glaze (polychrome), 9th or 10th century, Nishapur glazed (polychrome), 9th or 10th century, Nishapur glazed
fritware. Metropolitan Museum of ArtMain article: Ceramics of indigenous peoples of the AmericasEarthenware effigy of the Sun God. Maya culture, 500700 CEMost evidence points to an independent development of pottery in the Native American cultures, with the earliest known dates from 9,500 to 5,000 years ago and 7,000 to 6,000
years ago.[7] Further north in Mesoamerica, dates begin with the Archaic Era (35002000 BC), and into the Formative period (2000 BC AD 200). These cultures did not develop the stoneware, porcelain or glazes found in the Old World. May ceramics include finely painted vessels, usually beakers, with elaborate scenes with several figures and texts.
Several cultures, beginning with the Olmec, made terracotta sculpture, and sculpture pieces of humans or animals that are also vessels are produced in many places, with Moche portrait vessels among the finest. Faience lotiform chalice. Egypt 1070664 BCE (reconstructed from eight fragments) The oldest pottery in the world outside of east Asia can
be found in Africa. In 2007, Swiss archaeologists discovered pieces of some of the oldest pottery in Africa at Ounjougou in the Entral region of Mali, dating to at least 9,400 BC.[6] Excavations in the Bosumpra Cave on the Kwahu Plateau in southeastern Ghana, have revealed well-manufactured pottery decorated with channelling and impressed
peigne filet rigide dating from the early tenth millennium cal. BC.[114] Following the emergence of pottery traditions in the Ounjouqou region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in
some parts of Sub-Saharan Africa with the spread of Bantu languages has been long recognized, although the details remain controversial and awaiting further research, and no consensus has been reached. [13] Use of pottery was then found in the Bir Kiseiba region, with a surplus of pottery shards dated roughly 9,300 BC. Archeological digs around
Sub-Saharan Africa have continued to bring more history of ceramic use to light, including pottery shards found in Ravin de la Mouche, which were carbon dated to roughly 7,500 BC. After 8,000 BC the prevalence of ceramics in Sub-Saharan Africa surged, becoming a continent wide phenomenon.[116]Pottery has been found in archaeological sites
across the islands of Oceania, attributed to an ancient archaeological culture called the Lapita. Another form of pottery and Plainware is not altogether clear. The need for pottery eventually diminished with settlement of islands further east
towards Polynesia as peoples there adapted to cooking using earth ovens.[117]The Indigenous Australians never developed pottery. Less than 20 years later, Europeans came to Australia and began
creating pottery. Since then, ceramic manufacturing, mass-produced pottery and studio pottery have flourished in Australia.[119]List of classifications of pottery better art Delftware Faience Majolica reminology Of Ceramic Whitewares And Related Products. ASTM C 24201 (2007.) ASTM
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quotations related to Pottery. Wikimedia Commons has media related to Pottery Pottery manufacture in recent pastStoke-on-Trent Museums Ceramics Collections OnlineUK Pottery ResourceCeramics everywhereRetrieved from "Pottery has been a part of human history for thousands of years. Its a craft that has evolved over time, from simple clay
pots to beautiful works of art. Pottery has played a significant role in the development of civilizations around the world, serving practical purposes as well as being used in religious ceremonies and trade. In this article, well take a journey through the history of pottery, from its earliest beginnings to its place in the modern world. The earliest known
pottery dates back to around 10,000 BCE, during the Neolithic era. At this time, humans were beginning to settle in permanent communities and develop agriculture. Pottery was created out of a need for storage containers and cooking vessels. The first pots were made by hand, using a technique called coiling, where long, snake-like rolls of clay were
stacked and smoothed together to form a pot. The earliest pottery was simple and functional, but over time, people began to decorate their own unique styles of pottery, using locally available materials and techniques. For example,
the Jomon people of Japan created pots with intricate cord-marked designs, while the Yangshao culture of China produced pots with painted geometric patterns. Pottery played a significant role in the development of early civilizations. It allowed for the storage and transportation of food and other goods, which facilitated trade and the growth of
communities. Pottery also had religious and ceremonial significance, with some pots being used in burial rituals or as offerings to the gods. As civilizations developed and grew, so did the art of pottery. In ancient Egypt, pottery was used for a wide range of purposes, from storing grain to holding precious oils and perfumes. The Egyptians developed as
type of pottery called faience, which was made from crushed quartz and other materials and had a bright, colorful glaze. In Mesopotamia, pottery was an important part of daily life and was used for everything from cooking and storage to religious ceremonies. The Mesopotamians were skilled potters and created a variety of vessel types, including
bowls, cups, and jars. They also developed new techniques for decorating their pottery, such as using a potters wheel to create more symmetrical and refined shapes. In ancient China, pottery reached new heights of artistry and sophistication. The Chinese developed a type of pottery called porcelain, which was made from a special type of clay that
produced a white, translucent, and extremely hard-wearing material. Porcelain was highly prized and was used to create everything from delicate tea cups to large vases and sculptures. Pottery also played a significant role in trade during this time period. As civilizations grew and expanded, they began to trade with each other, exchanging goods like
pottery, textiles, and spices. Pottery was a valuable trade commodity, with different regions producing their own unique styles and techniques. During the Middle Ages, pottery cantinued to evolve and developed a type of pottery called lusterware
which had a metallic glaze that shimmered in the light. They also created intricate designs and patterns using a technique called slip-trailing, where liquid clay was used to create fine lines and details. In Europe, pottery production was heavily influenced by the Islamic world. During the Renaissance, European potters began to experiment with new
techniques and styles, creating more elaborate and decorative pieces. The Italian city of Deruta became famous for its maiolica pottery, which featured bright colors and intricate designs. The Renaissance also saw the emergence of distinctive regional styles of pottery. In England, for example, the town of Staffordshire became known for its salt-
glazed stoneware, while in France, the city of Nevers produced a type of pottery called faience, which was characterized by its white glaze and blue decorations. The Age of Exploration and Colonialism brought about significant changes in the world of pottery. As European nations began to explore and colonize new lands, they encountered new
cultures and traditions, including new styles of pottery. This led to a cross-pollination of ideas and techniques, with potters from different regions influencing and inspiring each other. One of the most significant developments during this time period was the introduction of porcelain to Europe. Porcelain had been invented in China centuries earlier,
but it was not until the 16th century that European began to spring up across the continent. The popularity of porcelain had a major impact on the European pottery industry. Many potters began to imitate
the style and techniques of Chinese porcelain, creating their own versions of blue and white pottery. This led to a decline in the production of traditional earthenware and stoneware, as consumers increasingly demanded the fine, white porcelain that was seen as a symbol of luxury and sophistication. The rise of industrialization in the 19th century
also had a significant impact on the pottery industry. With the invention of new machines and techniques, it became possible to mass-produce pottery on a scale that had never been seen before. This led to a decline in the number of small, independent pottery on a scale that had never been seen before. This led to a decline in the number of small, independent pottery on a scale that had never been seen before.
to evolve and change. The influence of modern art movements like Art Nouveau and Art Deco can be seen in the designs and techniques, such as using electric kilns and incorporating mixed media into their work. In the post-World War II era, there was a
renewed interest in handmade pottery and ceramics. Artists like Bernard Leach and Shoji Hamada helped to popularize the idea of the studio potter, who created unique, one-of-a-kind pieces using traditional techniques. Today, pottery continues to be an important part of the art world. Contemporary potters are pushing the boundaries of the medium
experimenting with new forms, glazes, and firing techniques are exploring the use of alternative materials like paper clay and recycled materials. Despite these innovations, the basic techniques and processes of pottery have remained largely
unchanged for thousands of years. Pottery is still created by hand, using the same basic tools and methods that were used by ancient potters and countless cultures and
traditions. From its origins as a simple craft born out of necessity to its evolution into a highly valued art form, potters have continually experimented with new techniques, materials, and styles, pushing the boundaries of what is possible with clay.
Today, pottery continues to be an important part of the art world, with contemporary potters exploring new forms and concepts while still maintaining a connection to the rich history and traditions of the past. As we look to the future, it is clear that pottery will continue to evolve and change. With new technologies and materials constantly emerging
the possibilities for innovation and experimentation are endless. At the same time, the basic techniques and processes of pottery will likely remain unchanged, as they have for thousands of years. This balance between tradition and innovation is what makes pottery such a dynamic and enduring art form, and one that will continue to captivate and
inspire us for generations to come. The oldest known pottery in the world dates back to around 20,000 years ago, during the Paleolithic era. These early pots were simple in design and were likely used for storing food and other goods. The introduction of the potters wheel, which was invented in Mesopotamia around 3,500 BCE, revolutionized pottery
production. With the wheel, potters could create more symmetrical and standardized vessels in a fraction of the time it took to hand-build them. This led to an increase in production and a decrease in the price of pottery, making it more widely available to the general population. There have been many famous pottery styles throughout history, each
 with its own unique characteristics and techniques. Some of the most well-known include Chinese porcelain, Greek black-figure and red-figure pottery, Japanese raku ware, and Mexican Talavera pottery is still used for practical purposes
like cooking and storage, it is also widely collected and displayed as decorative art. Many contemporary potters are pushing the boundaries of the medium, experimenting with new forms, glazes, and concepts. The most common material used in pottery production today is clay, which can be found in a variety of forms and colors. Other materials
commonly used include porcelain, stoneware, and earthenware. Some potters also experiment with alternative materials like paper clay, glass, and even concrete. According to Oxford Languages, pottery is the art or technique of making artifacts of earthenware, clay, and porcelain of every kind and quality. In other words, pottery is the
manufacturing of objects from different types of clay or earthenware such as porcelain, stoneware, and others. Some items made of ceramics, we can find, for example, antique pieces such as vases or sculptures of gods. Everyday
objects are, for example, all objects in connection with table service. Pottery is also a fundamental part of the history of many places in the world. Ceramic is fragile. Ceramic is elastic. Ceramic is elastic and can be
brought into an infinite number of shapes in its initial state. Ceramic is leastic during shaping. However, after a period of time in a kiln, the figure becomes unchangeable. Ceramic is heat resistant.
Ceramic can withstand high temperatures. There are different types of ceramics such as stoneware and porcelain, which can withstand temperatures of up to 3,000 C in specially paints or glazes. Ceramic is abrasion
resistant. Thanks to its hardness, the ceramic is abrasion-resistant, i.e. it does not wear out when polished. History of ceramics The word pottery, it is known that this ancient practice began 10,000 years before Christ.
Then when a group of men decided to experiment with a paste that could be easily shaped by adding water to this mixture. Thereafter, the pieces were exposed to fire to dry. The need at that time arose from the need to make
pots or baskets in which to store crops. Before the invention of pottery, empty gourds were used to store both food and water. However, these were neither heat nor fire resistant. After the pottery technique was discovered, objects were lined with the dough to make them more resilient. Geometric shapes, drawings of birds and nature, and their own
footprints served as decorative techniques. During this time, for example, replicas of human figures were also made, which are better known as Venus. These pieces represented the fertility not only of humans but also of the earth. Pottery was first made in Egypt around 2,800 BC. The first objects were made by women. The Egyptians were also the
first to use the potters wheel. They invented a hand-operated disc. This allowed them to improve their technique and designs of the items they made necklaces, vases, cups, and plates. These artifacts were then buried with the deceased who had made them. It is also known that Egyptians made
terracotta funerary figures that were buried with the deceased to accompany their souls on their way to the afterlife. Other items are pots geometrically decorated with animals, taken from nature, and shapes imitating humans. In addition, so-called Kanopos were made, representing mummified bodies in which the entrails of the deceased were kept.
The Egyptians made their pieces out of two types of clay. The first, is the Nile clay, which was mined from the eroded remains of the Ethiopian mountains found on the banks of the Nile in Egypt, hence its name. A special feature of this clay is that it takes on a brown or reddish color after firing, characteristic of these pieces. The second clay, marl
clay, was mined in the Nile Valley. Distinguished by its yellow or white color, it was mainly used to decorate objects made by the Egyptians because of its color. Pottery was developed in Mesopotamia around 7,000 BC. B.C., and sometime later small pieces were found to aid in farming and animal husbandry tasks. These objects were made of lime and
plaster. In this region, civilizations used clay and pottery techniques to make vessels and also used the household tools at their disposal to sculpt their figures. Because it was a barren area, bricks, were decorated with a substance called colored flint
paste, which produced a vitreous glaze that today is better known as porcelain enamel. The silica paste is obtained from various mixtures of minerals with copper; these materials were taken from nature. Thanks to their ancestors, the Greeks learned many techniques and tricks to make their pottery the finest and most elaborate in history. Pottery
was already known in Greece in the preclassic period. The Greeks used pottery to make vessels of all shapes and sizes to use them to carry water, wheat, wine, and brown. The figurines made by the Greeks are characterized by being decorated with
drawings that not only tell their typical mythological stories but also show their customs, furnishings, and wars. Taken from GRECIA CLSICA. GRANDES CIVILIZACIONES DE LA HISTORIA (2008) Over time, the pieces were made using molds. The
pieces made by the Greeks were unique because the Athenians used clay that contained iron oxide. This took on an orange color as it dried. In addition, slaves made urn-shaped vessels and tombs. These items, typical of their culture, were
made from natural black clay. The figures drawn on these pieces depict mythological figures of the period. They were usually drawn by women. At that time, people also loved metals such as gold, silver, and bronze, so after many years the pieces were decorated with these materials. Meanwhile, the Romans learned about pottery about 1,000 years
ago. They used the techniques of the Greeks in making their pieces but did not improve on them. They produced crockeries such as cups, jugs, and one of the most representative objects: the oblong amphora is a narrow, oblong vessel used by
the Romans to carry food and drink. Their structure and colors make them look very elegant. It should be said that the Romans had two types of pottery. The first was pieces of normal clay with very little detail and embellishment. These served as utility items. The second was the same type of object, but with the difference that they imitated different
metals such as silver and metal. These pieces were used by the upper classes of society. Moreover, according to a study by the Seville School of Fine Arts entitled History of Ceramics in Rome, the glaze was known in the first century. Remember that glazing consists of giving a shine to the item being made. In Africa, women made most pottery as this
process had a lot to do with issues such as fertility. The oldest pottery found dates from the 6th millennium BC. These items for domestic use, such as dishes and Statues portraying moments of life, such as motherhood, and women and men of this community. It is noteworthy that these objects were made by hand
using raw materials found in nature since the potters wheel was still unknown at that time. As in other places, most of the pottery was developed in the 8th century and is characterized by its metallic finishes. Because of this mixture, the objects had to
be fired at lower temperatures than normal glazes. Pots of all sizes and shapes were made in Arabia, in which brown or brown/green colors predominate; bricks and their manufacturing techniques also developed during this period. Due to Islamic beliefs, animals or human figures were never drawn on the pieces. The depiction of idols was forbidden.
Another important point is that a new technique called cuerda seca was born, which consists in dividing parts of the piece with very thin bold lines so that the colors do not mix and in this way achieve better designs. Pottery was first discovered in China 20,000 years ago. The first pieces made in China were human figures representing their dynasties
and warriors. Later, dishes were made. These objects were decorated with drawings of animals, especially fish. China was the first country to make pottery in kilns. The Chinese built these kilns around 2,000 BC. These ovens were built underground and fired with firewood. The Chinese built these kilns around 2,000 BC. These ovens were built underground and fired with firewood.
such as blue and green. Taken from ANTIGUA CHINA. GRANDES CIVILIZACIONES DE LA HISTORIA (2008) In Sung and Qin dynasty China, the trading of ceramics increased and ceramic wares began to be produced; characterized by glazes; black and orange glaze effects, and shapes that conveyed elegance. But when the Yuan dynasty fell, the
countrys trade declined and China found itself in an economic crisis. Fortunately, years later, during the Ming Dynasty were: The inclusion of different
colors in the glazing and enameling technique, The production of pure white porcelain and The fuel for the kilns made pottery making more practical. After this success in ceramic manufacture, tableware items such as mugs began to own endless designs, which led to a surge in tea consumption across the country. Taken from ANTIGUA CHINA.
GRANDES CIVILIZACIONES DE LA HISTORIA (2008) Many of the techniques used in pottery was introduced about 13,000 years ago during the Jmon period. According to NIPPONIA, in the 7th century the Japanese sought help from the Chinese to learn new techniques and incorporate new materials into
their pottery. The new techniques included glazing and at the same time colors such as blue and green were added to the goods. The Japanese adopted many of these techniques and added their history and personal touch to the goods. The Japanese adopted many of these techniques and added their history and personal touch to the goods. The Japanese adopted many of these techniques and added their history and personal touch to the goods.
homage to their emperors and warriors. Taken from JAPN. GRANDES CIVILIZACIONES DE LA HISTORIA (2008) Curiously, the pots manufacturing was intensified thanks to the tea ceremony, a Japanese custom consisting of a hospitable display. Green tea is placed in a cup and hot water is poured over it and then drunk. Thanks to the tea boom,
markets are held in Japan during the months of May and October where, in addition to the typical gastronomy, you can admire all kinds of ceramic figures and their stories. Ceramics came to northern and western Europe from Greece in the 18th century. Since no one knew how to handle this material, the objects made were a little different from
those already known. Bowls, plates, and vases were made in Spain. These objects were distinguished by their blue and green with white. In addition, some have spread from Spain across the entire continent, even if this has not been proven. The so-called
Century of Porcelain came about during this time, because after porcelain were increasingly being made in England; contury of Porcelain came about during this time, because after porcelain were increasingly being made in England;
this clay was soft-paste porcelain. Soft-paste porcelain. Soft-paste porcelain is much whiter, cheaper, more delicate and pure, which caused the porcelain market to decline. This material was also used to make tableware. Various pottery workshops emerged in England from 1567 and, years later, plates, cups, and jugs decorated with contemporary bird and flower designs.
were being made in England. Pottery influenced a custom in England called tea time. The name comes from the fact that people used to meet with their porcelain to drink tea between 4 and 5 p.m., which is still a custom today. After pottery were
nomads of Mongolian origin. They moved from North America to Central America and finally to South America and finally to South America to Central America and finally to South America to Central America and finally to South America and finally to So
clay. The Mayas come from Honduras, Yucatan, and Guatemala. The most representative objects of this community are sacrificial vessels in the form of animals and various pots, bowls, and vessels decorated with drawings of animals and various pots, bowls, and vessels in the form of animals and various pots.
(2008) The Aztecs, founders of modern-day Mexico, made all kinds of clay objects, from jugs and vase-like vessels to cups and plates. These pieces are characterized by their base color of brown, yellow or orange with black drawings of animals such as birds, flowers, human figures, and religious symbols of the respective culture. Taken from IMPERIO
AZTECA. GRANDES CIVILIZACIONES DE LA HISTORIA (2008) The Incas inhabited the entire Andean region of South America, the first pieces were made
punishments, and many other customs of each culture. Ceramic pieces in America are known worldwide for their designs and colors because, unlike in Europe, which uses neutral and light tones, objects in the America are known worldwide for their designs and colors because, unlike in Europe, which uses neutral and light tones, objects in the America are found in abundance in colors such as blue, red, orange, yellow, green, brown and more. Nowadays pottery has evolved all over
the world and thanks to this, we have all kinds of tools to make objects out of clay that facilitates this task. In addition, new techniques are being developed in different parts of the world, which thanks to globalization are known throughout the world and can be put into practice. Each country produces unique ceramic pieces that are still shaped by
the history and culture of that country. In Europe, modern ceramics are characterized by their elegance with neutral or light colors and shapes. In America, there are all kinds of pottery because potters not only make tableware but also figurines and home decorations. Bright colors such as blue, green, and red predominate in these pieces. However
there are also those who prefer more neutral colors as in Europe and these can also be seen on the continent. Todays pottery from Africa is still characterized by unique styles and colors such as red, orange, black, yellow, and brown. The embellishments are still geometric figures, but this time they are more even, making the pieces look more
elaborate and stylish. All over the world, today clay is used to make decorative objects, sculptures, gifts, and objects of art. This development of ceramics is undoubtedly one of the most important and can also be traced to many finds all over the world. Craft of making objects from clayFor the band of the same name, see Pottery (band). For other uses
see Potteries (disambiguation). Hand building a jar. Pottery is the process and the products of forming vessels and other raw materials, which are fired at high temperatures to give them a hard and durable form. The place where such wares are made by a potter is also called a pottery (plural potteries). The definition of
pottery, used by the ASTM International, is "all fired ceramic ware, and in technology and industry such as electrical insulators and laboratory ware. In art history and archaeology, especially of
ancient and prehistoric periods, pottery often means only vessels, and sculpted figurines of the same material are called terracottas.[2] An 18th-century Chinese export porcelain service, for the America marketPottery is one of the oldest human inventions, originating before the Neolithic period, with ceramic objects such as the Gravettian culture
Venus of Doln Vstonice figurine discovered in the Czech Republic dating back to 29,00025,000 BC.[3] However, the earliest known pottery vessels were discovered in Jiangxi, China, which date back to 18,000 BC. Other early Neolithic and pre-Neolithic pottery artifacts have been found, in Jmon Japan (10,500 BC),[4] the Russian Far East (14,000 BC)
[5] Sub-Saharan Africa (9,400 BC),[6] South America (9,000s7,000s BC),[7] and the Middle East (7,000s6,000s BC). The pottery is made by forming a clay body into objects of a desired shape and heating them to high temperatures (6001600C) in a bonfire, pit or kiln, which induces reactions that lead to permanent
changes including increasing the strength and rigidity of the object. Much pottery is purely utilitarian, but some can also be regarded as ceramic art. An article can be decorated before or after firing. Pottery is traditionally divided into three types: earthenware, stoneware and porcelain. All three may be glazed and unglazed. All may also be decorated
by various techniques. In many examples the group a piece belongs to is immediately visually apparent, but this is not always the case; for example fritware uses no or little clay, so falls outside these groups. Historic pottery of all these types is often grouped as either "fine" wares, relatively expensive and well-made, and following the aesthetic taste
of the culture concerned, or alternatively "coarse", "popular", "folk" or "village" wares, mostly undecorated, or simply so, and often less well-made. Cooking in pottery became less popular once metal pots became available, [8] but is still used for dishes that benefit from the qualities of pottery cooking, typically slow cooking in an oven, such as biryani,
cassoulet, daube, tagine, jollof rice, kedjenou, cazuela and types of baked beans.[8]Main article: Earthenware from the Neolithic Majiayao culture China, 3300 to 2000 BCEThe earliest forms of pottery were made from clays that were fired at low temperatures, initially in pit-fires or in open bonfires. They were hand formed and
undecorated. Earthenware can be fired as low as 600C, and is normally fired below 1200C.[9] Because unglazed earthenware is porous, it has limited utility for the storage of liquids or as tableware. However, earthenware is porous, it has limited utility for the storage of liquids or as tableware. However, earthenware is porous, it has limited utility for the storage of liquids or as tableware.
a buff, brown or black colour, with iron in the constituent minerals resulting in a reddish-brown. Reddish coloured varieties are called terracotta, especially when unglazed or used for sculpture. The development of ceramic glaze made impermeable pottery possible, improving the popularity and practicality of pottery vessels. Decoration has evolved
and developed through history. Main article: Stoneware 15th-century Japanese stoneware storage jar, with partial ash glazeStoneware is pottery that has been fired in a kiln at a relatively high temperature, from about 1,100C to 1,200C, and is stronger and non-porous to liquids. [10] The Chinese, who developed stoneware very early on, classify this
together with porcelain as high-fired wares. In contrast, stoneware could only be produced in Europe from the late Middle Ages, as European kilns were less efficient, and the right type of clay less common. It remained a speciality of Germany until the Renaissance.[11]Stoneware is very tough and practical, and much of it has always been utilitarian,
for the kitchen or storage rather than the table. But "fine" stoneware has been important in China, Japan and the West, and continues to be made. Many utilitarian types have also come to be appreciated as art. Main article: Porcelain plate by SvresPorcelain is made by heating materials, generally including kaolin, in a kiln to
temperatures between 1,200 and 1,400C (2,200 and 2,600F). This is higher than used for the other types, and achieving these temperatures was a long struggle, as well as realizing what materials were needed. The toughness, strength and translucence of porcelain, relative to other types of pottery, arises mainly from vitrification and the formation of the toughness.
the mineral mullite within the body at these high temperatures. Although porcelain was first made in China, the Chinese traditionally do not recognise it as a distinct category, grouping it with stoneware as "high-fired" ware, opposed to "low-fired" ware, opposed to "low-fired
was achieved by the Tang dynasty (AD 618906), and considerable quantities were being exported. The modern level of whiteness was not reached until much later, in the 14th century, after suitable kaolin was located in those countries. It was not made effectively
outside East Asia until the 18th century.[12]Archaeologist cleaning an early mediaeval pottery sherd from Chodlik, Poland. The study of pottery can help to provide an insight into past cultures. Fabric analysis (see section below), used to analysis (see section below), used to analysis (see section below).
excavated site by studying the fabric of artifacts, such as their usage, source material composition, decorative pattern, color of patterns, etc. This helps to understand characteristics, sophistication, habits, technology, tools, trade, etc. of the people who made and used the pottery. Carbon dating reveals the age. Sites with similar pottery
characteristics have the same culture, those sites which have distinct cultural exchange such as trade or living in vicinity or continuity of habitation, etc. Examples are black and red ware, so thi-Siswal culture and Painted Grey Ware culture. The six fabrics of Kalibangan is a good
example of use of fabric analysis in identifying a differentiated culture which was earlier thought to be typical Indus Valley civilisation (IVC) culture. Pottery is durable, and fragments, at least, often survive long after artifacts made from less-durable materials have decayed past recognition. Combined with other evidence, the study of pottery artefacts
is helpful in the development of theories on the organisation, economic condition and the cultural development of the societies that produced or acquired pottery. The study of pottery may also allow inferences to be drawn about a culture's daily life, religion, social relationships, attitudes towards neighbours, attitudes to their own world and even the
way the culture understood the universe. Terracotta Army following excavation tis valuable to look into pottery as an archaeological record of potential interaction between peoples. When pottery is placed within the context of linguistic and migratory patterns, it becomes an even more prevalent category of social artifact. [13] As proposed by Olivier P.
Gosselain, it is possible to understand ranges of cross-cultural interaction by looking closely at the chane opratoire of ceramic production. [14] The methods used to produce pottery in early Sub-Saharan Africa are divisible into three categories: techniques visible to the eye (decoration, firing and post-firing techniques), techniques related to the
materials (selection or processing of clay, etc.), and techniques of molding or fashioning the clay.[14] These three categories can be used to consider the implications of the reoccurrence of a particular sort of pottery in different areas. Generally, the techniques that are easily visible (the first category of those mentioned above) are thus readily
imitated, and may indicate a more distant connection between groups, such as trade in the same market or even relatively close settlements. [14] Techniques that require more studied replication (i.e., the selection of clay and the fashioning of clay) may indicate a closer connection between peoples, as these methods are usually only transmissible or even relatively close settlements.
between potters and those otherwise directly involved in production. [14] Such a relationship requires the ability of the involved parties to communicate effectively, implying pre-existing norms of contact or a shared language between the two. Thus, the patterns of technical diffusion in pot-making that are visible via archaeological findings also reveal
patterns in societal interaction. Chronologies based on pottery are often essential for dating non-literate cultures as well. Trace-element analysis, mostly by neutron activation, allows the sources of clay to be accurately identified and the thermoluminescence test can be used to provide an estimate
of the date of last firing. Examining sherds from prehistory, scientists learned that during high-temperature firing, iron materials in clay record the state of the Earth's magnetic field at that moment. The "clay body" is also called the "paste" or the "fabric", which consists of 2 things, the "clay matrix" composed of grains of less than 0.02mm grains
which can be seen using the high-powered microscopes or a scanning electron microscope, and the "clay inclusions" which are larger grains of clay and could be seen with the naked eye or a low-power binocular microscope. For geologists, fabric analysis means spatial arrangement of minerals in a rock. For Archaeologists, the "fabric analysis" of clay and could be seen with the naked eye or a low-power binocular microscope.
pottery entails the study of clay matrix and inclusions in the clay body as well as the firing temperature and conditions. Analysis is done to examine the following 3 in detail:[15]How pottery was made e.g. material, design such as shape and style, etc.Its decorations, such as patterns, colors of patterns, slipped (glazing) or unslipped decoration Evidence and style, etc.Its decorations, such as patterns, slipped (glazing) or unslipped decoration Evidence and style, etc.Its decoration Evidence and evidence 
of type of use. The Six fabrics of Kalibangan is a good example of fabric analysis. Preparation of clay for pottery in India Removing a filter cake of porcelain body, from a supplier, such an amount of earthenware body, stoneware body or
porcelain body. The compositions of clay bodies varies considerably, and include both prepared and 'as dug'; the former being by far the dominant type for studio and industry. The properties after firing, such
as permeability, mechanical strength and colour. There can be regional variations in the properties of raw materials used for pottery, and these can lead to wares that are unique in character to a locality. The main ingredient of the body is clay. Some different types used for pottery include: [16] Kaolin, sometimes referred to as china clay, is a key
ingredient in porcelain, which was first used in China around the 7th and 8th centuries.[17]Ball clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain some organic matter. Fire clay: An extremely plastic, fine grained sedimentary clay, which may contain sedimentary clay.
combined with other clays to increase the firing temperature and may be used as an ingredient to make stoneware clay stoneware type bodies. Stoneware type bodies. Stoneware clay stoneware clay stoneware type bodies. Stoneware type bodies are ingredient to make stoneware type bodies. Stoneware type bodies. Stoneware type bodies are ingredient to make stoneware clay stoneware type bodies.
vegetable and ferric oxide impurities which make them useful for bricks, but are generally unsatisfactory for pottery except under special conditions of a particular deposit. [18] Bentonite: An extremely plastic clay which can be added in small quantities to short clay to increase the plasticity. It is common for clays and other raw materials to be mixed to
produce clay bodies suited to specific purposes. Various mineral processing techniques are often utilised before mixing the raw materials. Examples of non-clay materials include: Feldspar, act as fluxes which lower the vitrification temperature of bodies. Quartz, an important role is to
attenuate drying shrinkage. A section cut-through of ball mill, which are widely used to mill raw materials for potteryNepheline syenite, an alternative to feldspar. Calcined alumina, can enhance the fired properties of a body. Chamotte, also called grog, is fired clay which it is crushed, and sometimes then milled. Helps attenuate drying shrinkage.
[19]Bone ash, produced by the calcination of animal bone. A key raw material for bone china. Frit, produced made by quenching and breaking up a glass of a specific composition. Can be used at low additions in some bodies, but common uses include as components of a glaze or enamel, or for the body of fritware, when it usually mixed with larger
quantities of quartz sand. Various others at low levels of addition such as dolomite, limestone, talc and wollastonite. Clay body being extruded from a de-airing pugThe production of pottery includes the following stages: Preparing the clay body. Shaping Drying Firing Glazing and decorating. (This can be undertaken prior to firing. Also, additional firing
stages after decoration may be needed.) Before being shaped, clay must be prepared. This may include kneading to ensure an even moisture content throughout the body. Air trapped within the clay body needs to be removed, or de-aired, and can be accomplished either by a machine called a vacuum pug or manually by wedging. Wedging can also
help produce an even moisture content. Once a clay body has been kneaded and de-aired or wedged, it is shaped by a variety of techniques, which include: Hand-building: This is the earliest forming method. Wares can be constructed by hand from coils of clay, or pinching solid balls of clay or some combination of these.
Parts of hand-built vessels are often joined with the aid of slip. Some studio potters find hand-building more conducive for one-of-a-kind works of art. A potter using a potter's wheel describes his materials (in Romanian and English) The potter's wheel: In a process called "throwing" (coming from the Old English word thrawan which means to twist or
turn[20]) a ball of clay is placed in the centre of a turntable, called the wheel-head, which the potter rotates with a stick, with foot power or with a variable-speed electric motor. During the process of throwing, the wheel rotates while the solid ball of soft clay is pressed, squeezed and pulled gently upwards and outwards into a hollow shape. Skill and
experience are required to throw pots of an acceptable standard and, while the ware may have high artistic merit, the reproducibility of the method is poor. [21] Because of its inherent limitations, throwing can only be used to create wares with radial symmetry on a vertical axis. Press moulding: a simple technique of shaping by manually pressing a
lump of clay body into a porous mould.[22][23][24]Granulate pressing: a highly automated technique of shaping by pressing clay body in a semi-dry and granulated form in a mould. The body is prepared by spray drying a
high-solids content slip. Granulate pressing, also known as dust pressing, is widely used in the manufacture of ceramic tiles and, increasingly, of plates. [25][26][27] jiggering and jolleying: These operations are carried out on the potter's wheel and allow the time taken to bring wares to a standardized form to be reduced. Jiggering is
the operation of bringing a shaped tool into contact with the plastic clay of a piece under construction, the piece itself being set on a rotating plaster mould on the wheel. The jigger tool shapes one face while the mould shapes the other. Jiggering is used in
the production of hollow-wares such as cups. Jiggering and jolleying have been used in the production, jiggering and jolleying are usually automated, which allows the operations to be carried out by semi-skilled labour. Roller-head machine: This machine is for shaping wares or
a rotating mould, as in jiggering and jolleying, but with a rotary shaping tool replacing the fixed profile. The rotary shaping tool is a shallow cone having the same diameter as the ware being formed and shaped to the desired form of the back of the article being made. Wares may in this way be shaped, using relatively unskilled labour, in one operation
at a rate of about twelve pieces per minute, though this varies with the size of the articles being produced. Developed in the UK just after World War II by the company Service Engineers, roller-heads were quickly adopted by manufacturers around the world; it remains the dominant method for producing both flatware and holloware, such as plates
and mugs.[28]Pressure casting: Is a development of traditional slipcasting of up to 4.0 MPa so much higher than slip casting in plaster moulds where the capillary forces correspond to a pressure of around 0.10.2 MPa. The high pressure leads to
much faster casting rates and, hence, faster production cycles. Furthermore, the application of high pressure air through the polymeric moulds upon demoulding the cast means a new casting cycle can be started immediately in the same mould, unlike plaster moulds which require lengthy drying times. The polymeric materials have much greater
durability than plaster and, therefore, it is possible to achieve shaped products with better dimensional tolerances and much longer mould life. Pressure casting was developed in the 1970s for the products with better dimensional tolerances and much longer mould life. Pressure casting was developed in the 1970s for the products with better dimensional tolerances and much longer mould life.
a bat of prepared clay body into a required shape between two porous moulding plates. After pressing, compressed air is blown through the porous mould plates to release the shaped wares.[33]Filling a plaster mould with slipDe-moulding a large vase after it has been slip castSlip ca
by other methods. A liquid slip, made by mixing clay body with water, is poured into a highly absorbed into the mould leaving a layer of clay body covering its internal surfaces and taking its internal surfaces.
Slip casting is widely used in the production of sanitaryware and is also used for making other complex shaped ware such as teapots and figurines. Injection moulding: This is a shape-forming process adapted for the tableware industry from the method long established for the forming of thermoplastic and some metal components. [34] It has been
called Porcelain Injection Moulding, or PIM.[35] Suited to the mass production of complex-shaped articles, one significant advantage of the technique is that it allows the products a stronger bond between cup and handle.[36] The
feed to the mould die is a mix of approximately 50 to 60 per cent unfired body in powder form, together with 40 to 50 per cent organic additives composed of binders, lubricants and plasticisers. [35] The technique is not as widely used as other shaping methods. [37] Deprinting: There are two methods. One involves the layered deposition of soft clay
body similar to fused deposition modelling (FDM), and the other uses powder binding techniques where clay body in dry powder form is fused together layer upon layer with a liquid.[38][39]Injection moulding of ceramic tableware has been developed, though it has yet to be fully commercialised.[40]Prior to firing, the water in an article needs to be
removed. A number of different stages, or conditions of the article, can be identified: Greenware refers to unfired objects at any stage of dryness, but is most often used to refer to objects ready to be fired. At sufficient moisture content, bodies at this stage are in their most plastic form (as they are soft and malleable, and hence can be easily deformed
by handling). Prior to firing, any state of clay may be hydrated or dehydrated into any other unfired stage. Plastic, also known as wet, refers to clay that is malleable and sufficiently wet to shape by hand or on a potter's wheel, but strong enough to hold its shape. At this stage the clay has between 20% and 25% moisture content. [41] This is the stage the clay has between 20% and 25% moisture content.
most commercial clays are sold at, and at which most of the shaping process is done. Leather-hard refers to a clay body that has been dried partially. At this stage are very firm and only slightly pliable. Trimming and handle attachment often occurs at the leather-hard
state. Bone-dry refers to clay bodies when they reach a moisture content at or near 0%. At that moisture content, the item is ready to be fired. Additionally, the piece is extremely brittle at this stage and must be handled with care. [42][43]A modern tunnel kiln Firing produces permanent and irreversible chemical and physical changes in the body. It is
only after firing that the article or material is pottery. In lower-fired pottery, the changes include sintering, the fusing together of coarser particles in the body at their points of contact with each other. In the case of porcelain, where higher firing-temperatures are used, the physical, chemical and mineralogical properties of the constituents in the
body are greatly altered. In all cases, the reason for firing is to permanently harden the wares, and the firing regime must be appropriate to the materials used. As a rough guide, modern earthenwares are normally fired at temperatures in the range of about 1,000C (2,190F); stonewares at between about 1,100C (2,010F) to 1,300C
(2,370F); and porcelains at between about 1,200C (2,190F) to 1,400C (2,550F). Historically, reaching high temperatures was a long-lasting challenge, and earthenware can be fired effectively as low as 600C (1,112F), achievable in primitive pit firing. The time spent at any particular temperature is also important, the combination of heat and time is
known as heatwork. Kilns can be monitored by pyrometers, thermocouples and pyrometric devices. A bottle kiln during firing can affect the appearance of the body and glaze. Key to this is the differing colours of the various oxide or Fe2O3) which is associated with
brown-red colours, whilst iron(II) oxide (also known as ferrous oxide or FeO) is associated with much darker colours, including black. The oxygen concentration in the kiln influences the type, and relative proportions, of these iron oxides in fired the body and glaze: for example, where there is a lack of oxygen during firing the associated carbon
monoxide (CO) will readily react with oxygen in Fe2O3 in the raw materials and cause it to be reduced to FeO.[44][45]An oxygen deficient condition, called a reducing atmosphere, is generated by preventing the complete combustion of the kiln fuel; this is achieved by deliberately restricting the supply of air or by supplying an excess of fuel.[44]
the body of the wares. Kilns may be heated by burning combustible materials, such as wood, coal and gas, or by electricity. The use of microwave energy has been investigated. [46] When used as fuels, coal and wood can introduce smoke, soot and ash into the kiln which can affect the appearance of unprotected wares. For this reason, wares fired in
wood- or coal-fired kilns are often placed in the kiln in saggars, ceramic boxes, to protect them. Modern kilns fuelled by gas or electricity are cleaner and more easily controlled than older wood- or coal-fired kilns and often allow shorter firing times to be used. Pottery firing mound in Kalabougou, Mali. Much of the earliest pottery would have been
fired in a similar fashion. Niche techniques include: In a Western adaptation of traditional Japanese raku ware firing, wares are removed from the kiln while hot and smothered in ashes, paper or woodchips which produces a distinctive carbonised appearance. This technique is also used in Malaysia in creating traditional labu sayong. [47][48] In Mali,
firing mound is used rather than a brick or stone kiln. Unfired pots are first brought to the place where a mound will be built, customarily by the women and girls of the village. The mound's foundation is made by placing sticks on the ground, then:[...] pots are positioned on and amid the branches and then grass is piled high to complete the mound.
Although the mound contains the pots of many women, who are related through their husbands' extended families, each women is responsible for her own or her immediate family's pots within the mound is completed and the ground around has been swept clean of residual combustible material, a senior potter lights the fire. A handfu
of grass is lit and the woman runs around the circumference of the mound touching the burning (49)Biscuit (or bisque)[50][51] refers to the clay after the object is shaped to the desired form and fired in the kiln for the first time, known as "bisque fired" or
"biscuit fired". This firing results in both chemical and physical changes to the minerals of the clay body. Glaze fired is the final stage of some pottery making, or glost fired. [21] A glaze may be applied to the biscuit ware and the object can be decorated in several ways. After this the object is "glazed fired", which causes the glaze material to melt, then
adhere to the object. Depending on the temperature schedule the glaze firing may also further mature the body as chemical and physical changes continue. Pottery may be decorated in many different ways. Some decoration can be done before or after the firing, and may be undertaken before or after glazing. Hand painting a vase. Painting has been
used since early prehistoric times, and can be very elaborate. The painting is often applied to pottery that has been fired once, and may then be overlaid with a glaze afterwards. Many pigments change colour when fired once, and may then be overlaid with a glaze afterwards. Many pigments change colour when fired once, and the painter must allow for this. Glaze: Perhaps the most common form of decoration, that also serves as protection to the
pottery, by being tougher and keeping liquid from penetrating the pottery. Glaze may be colourless, especially over painting, or coloured and opaque glaze. Produced by the slow cooling of the glost fire. Carving: Pottery
vessels may be decorated by shallow carving of the clay body, typically with a knife or similar instrument used on the wheel. This is common in Chinese porcelain of the classic periods. Burnishing: The surface of pottery wares may be burnished prior to firing by rubbing with a suitable instrument of wood, steel or stone to produce a polished finish that
survives firing. It is possible to produce very highly polished wares when fine clays are used or when the polishing is carried out on wares that have been partially dried and contain little water, though wares in this condition are extremely fragile and the risk of breakage is high. Terra Sigillata is an ancient form of decorating ceramics that was first
developed in Ancient Greece. Lithography, also called litho, although the alternative names of transfer print or "decal" are also common. These are used to apply designs to articles. The litho comprises three layers: the colour, or image, layer which comprises three layers: the colour, or image, layer which comprises three layers: the colour, or image, layer which comprises three layers: the colour, or image, layer which comprises three layers.
melting glass; and the backing paper on which the design is printed by screen printing or lithography. There are various methods of transferring the design while removing the backing-paper, some of which are suited to machine application. Banding is the application by hand or by machine of a band of colour to the edge of a plate or cup. Also known
as "lining", this operation is often carried out on a potter's wheel. Agateware: named after its resemblance to the mineral agate, is produced by partially blending clays of differing colours. In Japan the term "neriage" is used, whilst in China, where such things have been made since at least the Tang dynasty, they are called "marbled" wares. Engobe: a
clay slip is used to coat the surface of pottery, usually before firing. Its purpose is often decoration is characteristic of slipware. For sgraffito decoration
a layer of engobe is scratched through to reveal the underlying clay. Gold: Decoration with gold is used on some high quality ware. Different methods exist for its application, including: Burnishing a plate's gold decoration best gold a suspension of gold powder in essential oils mixed with a flux and a mercury salt extended. This can be applied by a
painting technique. From the kiln, the decoration is dull and requires burnishing to reveal the full colourAcid Gold a form of gold decoration developed in the early 1860s at the English factory of Mintons Ltd. The glazed surface is etched with diluted hydrofluoric acid prior to application of the gold. The process demands great skill and is used for the
decoration only of ware of the highest class. Bright Gold consists of a solution of gold decoration immediately after removal from the kiln as it requires no burnishing Mussel Gold an old method of gold decoration. It was made by rubbing
together gold leaf, sugar and salt, followed by washing to remove solublesUnderglaze decoration is applied by a number of techniques, onto ware before it is glazed; an example is blue and white wares. Can be applied by a number of techniques, onto ware before it is glazed; an example is blue and white wares.
applied on top of the already fired, glazed surface, and then fixed in a second firing at a relatively low temperature. Main article: Ceramic glaze onto a vaseGlaze is a glassy coating on pottery, and reasons to use it include decoration, ensuring the item is impermeable to liquids, and minimizing the adherence of pollutants. Glaze may be
applied by spraying, dipping, trailing or brushing on an aqueous suspension of the unfired glaze. The colour of a glaze after it has been fired may be significantly different from before firing, realing or brushing on an aqueous suspension of the unfired glaze. The colour of a glaze after it has been fired may be significantly different from before firing. To prevent glazed wares sticking to kiln furniture during firing, either a small part of the object being fired (for example, the foot) is left unglazed or,
alternatively, special refractory "spurs" are used as supports. These are removed and discarded after the firing process. The high temperatures cause the salt to volatilise, depositing it on the surface of the ware to react with the body to
form a sodium aluminosilicate glaze. In the 17th and 18th centuries, salt-glazing was used in the manufacture of domestic pottery. Now, except for use by some studio potters, the process is obsolete. The last large-scale application before its demise in the face of environmental clean air restrictions was in the production of salt-glazed sewer-pipes. [52]
[53]Ash glazed jar from 9th century, Japan. Ash glazing ash from the combustion of plant matter has been used as the flux component of glazes. The source of the ash was generally the combustion waste from the fuelling of kilns although the potential of ash derived from arable crop wastes has been investigated. [54] Ash glazes are of historical
interest in the Far East although there are reports of small-scale use in other locations such as the Catawba Valley Pottery in the United States. They are now limited to small numbers of studio potters who value the unpredictability arising from the variable nature of the raw material. [55] Although many of the environmental effects of pottery
production have existed for millennia, some of these have been amplified with modern technology and scales of production. The principal factors for consideration fall into two categories: Effects on workers: Notable risks include silicosis, heavy metal poisoning, poor indoor air quality, dangerous sound levels and possible over-illumination. Effects on workers:
the general environment. Historically, lead poisoning (plumbism) was a significant health concern to those glazing pottery. This was recognised at least as early as the nineteenth century. The first legislation in the UK to limit pottery workers exposure to lead was included in the Factories Act Extension Act in 1864, with further introduced in 1899. [56]
[57]Silicosis is an occupational lung disease caused by inhaling large amounts of crystalline silica dust, usually over many years. Workers in the ceramic industry can develop it due to exposure to silica dust in the raw materials; colloquially it has been known as 'Potter's rot'. Less than 10 years after its introduction, in 1720, as a raw material to the
British ceramics industry the negative effects of calcined flint on the lungs of workers had been noted. [58] In one study reported in 2022, of 106 UK pottery workers 55 per cent had at least some stage of silicosis. [59][60][61] Exposure to siliceous dusts is reduced by either processing and using the source materials as aqueous suspension or as damp
solids, or by the use of dust control measures such as local exhaust ventilation. These have been mandated by legislation, such as The Pottery (Health and Welfare) Special Regulations 1950 in the UK.[62][63] The Health and Safety Executive in the UK has produced guidelines[64] on controlling exposure to respirable crystalline silica in potteries, and
the British Ceramics Federation provide a guidance booklet. [65] Environmental concerns include off-site water pollution, disposal of hazardous materials, disposal of hazardous materials, disposal of pettery is prehistoric, part of past pre-literate cultures. Therefore,
much of this history can only be found among the artifacts of archaeology. Because pottery is so durable, pottery and shards of pottery survive for millennia at archaeological sites, and are typically the most common and important type of artifact to survive. Many prehistoric cultures are named after the pottery that is the easiest way to identify their
sites, and archaeologists develop the ability to recognise different types from the chemistry of small shards. Before pottery becomes part of a culture, several conditions must generally be met. First, there must be usable clay available. Archaeological sites where the earliest pottery was found were near deposits of readily available clay that could be
properly shaped and fired. China has large deposits of a variety of clay, which gave them an advantage in early development of fine pottery. Many countries have large deposits of a variety of clay, which gave them an advantage in early development of fine pottery.
fires hot enough to fire pottery did not develop until late in the development of cultures. Third, the pottery until a sedentary life was achieved. It has been hypothesized that pottery was developed
only after humans established agriculture, which led to permanent settlements. However, the oldest known pottery is from the Czech Republic and dates to 28,000 BC, at the height of the most recent ice age, long before the beginnings of agriculture. Fourth, there must be a sufficient need for pottery in order to justify the resources required for its
production.[67]An Incipient Jmon pottery vessel reconstructed from fragments (10,0008,000 BC), Tokyo National Museum, JapanMethods of forming: Hand-shaping was the earliest method for firing pottery wares was the use of bonfires pit fired
pottery. Firing times might be short but the peak-temperatures achieved in the fire could be high, perhaps in the region of 900C (1,650F), and were reached very guickly. [68]Clay: Early potters used whatever clay was available to them in their geographic vicinity. However, the lowest guality common red clay was adequate for low-temperature fires
used for the earliest pots. Clay tempered with sand, grit, crushed shell or crushed shell or crushed because they provided an open-body texture that allowed water and volatile components of the clay to escape freely. The coarser particles in the clay also acted to restrain shrinkage during drying, and hence
reduce the risk of cracking. Form: In the main, early bonfire-fired wares were made with rounded bottoms to avoid sharp angles that might be susceptible to cracking. Glazing: the earliest potter's wheel dated to the
middle of the 5th millennium BC from the CucuteniTrypillia culture in western Ukraine. [69] Moulds were used to a limited extent, in China as
early as the Tang dynasty. [72] Transition to kilns: The earliest intentionally constructed were pit-kilns or trench-kilns, holes dug in the ground and covered with fuel. Holes in the ground provided insulation and resulted in better control over firing.
sophisticated kilns. Xianren Cave pottery fragments, radiocarbon dated to circa 18,000 BC, China[74][75] Pottery bowl from Jarmo, Mesopotamia, 71005800 BC. Pottery may well have been discovered independently in various places, probably by accidentally creating it at the bottom of fires on a clay soil. The earliest-known ceramic objects are
Gravettian figurines such as those discovered at Doln Vstonice in the modern-day Czech Republic. The Venus of Doln Vstonice is a Venus figurine, a statuette of a nude female figure dated to 29,00025,000 BC (Gravettian industry).[3] But there is no evidence of pottery vessels from this period. Weights for looms or fishing-nets are a very common use
for the earliest pottery. Sherds have been found in China and Japan from a period between 12,000 and perhaps as long as 18,000 years ago.[5][76] As of 2012, the earliest pottery vessels found anywhere in the world,[77] dating to 20,000 to 19,000 years before the present, was found at Xianren Cave in the Jiangxi province of China.[78][79]Other
early pottery vessels include those excavated from the Yuchanyan Cave in southern China, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC,[76] and those found in the Amur River basin in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] and those found in the Russian Far East, dated from 14,000 BC, [76] 
earthenware fragments which have been dated as early as 14,500 BC.[81] The term "Imon" means "cord-marked" in Japanese. This refers to the markings made on the vessels and figures using sticks with cords during their production. Recent research has elucidated how Jmon pottery was used by its creators.[82] It appears that pottery was
independently developed in Sub-Saharan Africa during the 10th millennium BC, with findings dating to at least 9,400 BC from central Mali,[6] and in South America during the 9,000s7,000s BC.[83][7] The Malian finds date to the same period as similar finds from East Asia the triangle between Siberia, China and Japan and are associated in both
regions to the same climatic changes (at the end of the ice age new grassland develops, enabling hunter-gatherers to expand their habitat), met independently by both cultures with similar developments: the creation of pottery for the storage of wild cereals (pearl millet), and that of small arrowheads for hunting small game typical of grassland.[6]
Alternatively, the creation of pottery in the case of the Incipient Jmon civilisation could be due to the intensive exploitation of freshwater and marine organisms by late glacial foragers, who started developing ceramic containers for their catch. [82] Main articles: Chinese ceramics, Japanese pottery, and Korean pottery in the case of the Incipient Jmon civilisation could be due to the intensive exploitation of freshwater and marine organisms by late glacial foragers, who started developing ceramic containers for their catch.
white porcelain dish with a dragonGroup of 13th-century pieces of Longquan celadonIn Japan, the Jmon period has a long history of development of Jmon pottery which was characterized by impressions of rope on the surface of the pottery created by pressing rope into the clay before firing. Glazed Stoneware was being created as early as the 15th
century BC in China. A form of Chinese porcelain became a significant Chinese export from the Tang dynasty (AD 618906) onwards.[10] Korean potters adopted porcelain as early as the 14th century AD.[84] The ceramic industry has developed greatly since the Goryeo dynasty, and Goryeo ware, a celadon with unique inlaying techniques, was
produced. Later, when white porcelain became common and celadon fell, they created unique ceramics such as Buncheong. Japan's white porcelain was influenced by potters kidnapped during the Fall of the Ming dynasty's. Typically,
Korean potters who settled in Arita pass on pottery techniques, Shonzui Goradoyu-go brought back the secret of its manufacture from the Chinese kilns at Jingdezhen. [85]In contrast to Europe, the Chinese social elite used pottery were very high. From the
Song dynasty (9601279) for several centuries, the tastes of Chinese elites favoured plain-coloured and exquisitely formed pieces; during this period to use it. The traditional Chinese category of high-fired wares includes stoneware types such
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as Ru ware, Longquan celadon and Guan ware. Painted wares such as Cizhou ware had a lower status, though they were acceptable for making pillows. The arrival of Chinese blue and white porcelain was probably a product of the Mongol Yuan dynasty (12711368) dispersing artists and craftsmen across its large empire. Both the cobalt stains used for
the blue colour, and the style of painted decoration, usually based on plant shapes, were initially borrowed from the Islamic world, which the Mongols had also conquered. At the same time Jingdezhen porcelain, produced in Imperial factories, took the undisputed leading role in production. The new elaborately painted style was now favoured at court,
and gradually more colours were added. The secret of making such porcelain was sought in the Islamic world and later in Europe when examples were imported from the East. Many attempts were made to imitate it in Italy and France. However it was not produced outside of East Asia until 1709 in Germany. [86] See also: Pottery in the Indian
subcontinentA potter with his pottery wheel, British Raj (1910)Cord-Impressed style pottery belongs to "Mesolithic period.[87][88] This ceramic style is also found in later Proto-Neolithic phase in nearby regions.[89] This early type of pottery,
also found at the site of Lahuradewa, is currently the oldest known pottery tradition in South Asia, dating back to 7,0006,000 BC.[90][91][92][93] Wheel-made pottery began to be made during the Mehrgarh Period II (4,8003,500 BC), known as the ceramic Neolithic and Chalcolithic. Pottery, including items
known as the ed-Dur vessels, originated in regions of the Saraswati River / Indus River and have been found in a number of sites in the Indus Civilization.[94][95]Despite an extensive prehistoric record of pottery, including painted wares, little "fine" or luxury pottery was made in the subcontinent in historic times. Hinduism discourages eating off
pottery, which probably largely accounts for this. Most traditional Indian pottery vessels are large pots or jars for storage, or small cups or lamps, occasionally treated as disposable. In contrast there are long traditions of sculpted figures, often rather large, in terracotta; this continues with the Bankura horses in Panchmura, West Bengal. See also:
Vietnamese ceramics, Thai ceramics, and Philippine ceramics15th-century Vietnamese Chu Dau blue-white porcelain dish with Islamic geometric decorations. Late Neolithic Manunggul Jar from Palawan used for burial, topped with two figures representing the journey of the soul into the afterlife. Pottery in Southeast Asia is as diverse as its ethnic
groups. Each ethnic group has their own set of standards when it comes to pottery arts. Potteries are made due to various reasons, such as trade, food and beverage storage, kitchen usage, religious ceremonies, and burial purposes. [96][97][98][99]See also: Levantine pottery, Persian pottery, and Pottery of ancient CyprusAround 8000 BC during the
 Pre-pottery Neolithic period, and before the invention of pottery, several early settlements became experts in crafting beautiful and highly sophisticated containers from stone, using materials such as alabaster or granite, and employing sand to shape and polish. Artisans used the veins in the material to maximum visual effect. Such objects have been
found in abundance on the upper Euphrates river, in what is today eastern Syria, especially at the site of Bouqras.[100]The earliest history of pottery production in the Fertile Crescent starts the Pottery Neolithic and can be divided into four periods, namely: the Hassuna period (70006500 BC), the Halaf period (65005500 BC), the Ubaid period
(55004000 BC), and the Uruk period (40003100 BC). By about 5000 BC pottery-making was becoming widespread across the region, and spreading out from it to neighbouring areas. Pottery making began in the 7th millennium BC. The earliest forms, which were found at the Hassuna site, were hand formed from slabs, undecorated, unglazed low-fired
pots made from reddish-brown clays.[73] Within the next millennium, wares were decorated with elaborate painted designs and natural forms, incising and burnished. Earthenware Ubaid jar. c. 5,3004,700 BCE. The invention of the potter's wheel in Mesopotamia sometime between 6,000 and 4,000 BC (Ubaid period) revolutionised pottery production.
 Newer kiln designs could fire wares to 1,050C (1,920F) to 1,200C (2,190F) which enabled increased possibilities. Production was now carried out by small groups of pottery expanded beyond simple vessels to store and carry to
specialized cooking utensils, pot stands and rat traps.[101] As the region developed new organizations and political forms, pottery became more elaborate and varied. Some wares were made using moulds, allowing for increased production for the needs of the growing populations. Glazing was commonly used and pottery was more decorated.[102]In
the Chalcolithic period in Mesopotamia, Halafian pottery achieved a level of technical competence and sophistication, not seen until the later developments of Greek pottery with Corinthian and Attic ware. Main articles: Minoan pottery, Pottery of ancient Roman pottery achieved a level of technical competence and sophistication, not seen until the later developments of Greek pottery with Corinthian and Attic ware. Main articles: Minoan pottery achieved a level of technical competence and sophistication, not seen until the later developments of Greek pottery with Corinthian and Attic ware.
460 BC, by the Altamura PainterEurope's oldest pottery, dating from circa 6700 BC, was found on the banks of the Samara River in the middle Volga region of Russia.[103] These sites are known as the Yelshanka culture. The early inhabitants of Europe developed pottery in the Linear Pottery culture slightly later than the Near East, circa 55004500
BC. In the ancient Western Mediterranean elaborately painted earthenware reached very high levels of artistic achievement in the Greek world; there are large numbers of survivals from tombs. Minoan pottery was characterized by complex painted decoration with natural themes. [104] The classical Greek culture began to emerge around 1000 BC
featuring a variety of well crafted pottery which now included the human form as a decorating motif. The pottery wheel was now in regular use. Although glazing was known to these potters, it was not widely used. Instead, a more porous clay slip was used for decoration. A wide range of shapes for different uses developed early and remained
essentially unchanged during Greek history. [105] Fine Etruscan pottery was heavily influenced by Greek potters and painters. Ancient Roman pottery made much less use of painting, but used moulded decoration, allowing industrialized production on a huge scale. Much of the so-called red Samian ware of the Early
Roman Empire was produced in modern Germany and France, where entrepreneurs established large potteries. Excavations at Augusta Raurica, near Basel, Switzerland, have revealed a pottery production site in use from the 1st to the 4th century AD.[106] Pottery was hardly seen on the tables of elites from Hellenistic times until the Renaissance,
and most medieval wares were coarse and utilitarian, as the elites ate off metal vessels. Painted Hispano-Moresque ware from Spain, developing the styles of Al-Andalus, became a luxury for late medieval elites, and was adapted in Italy into maiolica in the Italian Renaissance. Both of these were faience or tin-glazed earthenware, and fine faience or tin-glazed earthenware, and fine faience or tin-glazed earthenware.
continued to be made until around 1800 in various countries, especially France, with Nevers faience and several other century, imports of Chinese export porcelain and its Japanese equivalent raised the market expectations of fine pottery, and European manufacturers eventually learned to make porcelain, often in the form of soft
paste porcelain, and from the 18th century European porcelain and other wares from a great number of producers became extremely popular, reducing Asian imports. Main articles: Wedgwood, Staffordshire figure, Royal Doulton, Mintons, Midwinter Pottery, and SpodeHandpainted bone china cup. England, 18151820The city of Stoke-on-Trent is
widely known as "The Potteries" because of the large number of pottery factories or, colloquially, "Pot Banks". It was one of the first industrial cities of the modern era where, as early as 1785, two hundred pottery manufacturers employed 20,000 workers. [107][108] Josiah Wedgwood (17301795) was the dominant leader. [109]In North Staffordshire
hundreds of companies produced all kinds of pottery, from tablewares and decorative pieces to industrial items. The main pottery types of earthenware, stoneware and porcelain were all made in large quantities, and the Staffordshire industry was a major innovator in developing new varieties of ceramic bodies such as bone china and jasperware, as
well as pioneering transfer printing and other glazing and decorating techniques. In general Staffordshire was strongest in the middle and low price ranges, though the finest and most expensive types of wares were also made.[110] by the late 18th century North Staffordshire was the largest producer of ceramics in the UK, despite significant hubs
elsewhere. Large export markets took Staffordshire pottery around the world, especially in the 19th century, as other countries developed their industries, and declined notably after World War II. Employment fell from 45,000 in 1975 to 23,000 in 1991, and 13,000 in 2002.[112]Main
articles: Islamic pottery and Persian pottery and Persian pottery Early Islamic pottery followed the forms of the regions which the Arabs conquered. Eventually, however, there was cross-fertilization between the regions which the Arabs conquered between the regions. This was most notable in the Chinese influences on Islamic pottery. Trade between the regions which the Arabs conquered.
lengthy Silk Road. Middle Eastern nations imported stoneware and later porcelain from China. China imported the minerals for Cobalt blue from the Islamic world. Likewise, Arabic art contributed to a lasting pottery form identified as Hispano-Moresque in
Andalucia. Unique Islamic forms were also developed, including fritware, lusterware and specialized glazes like tin-glazing, which led to the development of the popular major emphasis in ceramic development of the popular major emphasis in cera
9th or 10th century, Nishapur. National Museum of IranPersian mina'i ware bowl with couple in a garden, around 1200. These wares are the first to use overglaze enamel decoration. Chess set (Shatrang); Gaming pieces. 12th century, Nishapur glazed fritware. Metropolitan Museum of IranPersian mina'i ware bowl with couple in a garden, around 1200. These wares are the first to use overglaze enamel decoration.
Americas Earthenware effigy of the Sun God. Maya culture, 500700 CEMost evidence points to an independent development of pottery in the Native American ago and 7,000 to 6,000 years ago. [7] Further north in Mesoamerica, dates begin with the Archaic Era (35002000) and 7,000 to 6,000 years ago.
BC), and into the Formative period (2000 BC AD 200). These cultures did not develop the stoneware, porcelain or glazes found in the Old World. Maya ceramics include finely painted vessels, usually beakers, with elaborate scenes with several figures and texts. Several cultures, beginning with the Olmec, made terracotta sculpture, and sculptural
pieces of humans or animals that are also vessels are produced in many places, with Moche portrait vessels among the finest. Faience lotiform chalice. Egypt 1070664 BCE (reconstructed from eight fragments) The oldest pottery in the world outside of east Asia can be found in Africa. In 2007, Swiss archaeologists discovered pieces of some of the
oldest pottery in Africa at Ounjougou in the central region of Mali, dating to at least 9,400 BC.[6] Excavations in the Bosumpra Cave on the Kwahu Plateau in southeastern Ghana, have revealed well-manufactured pottery decorated with channelling and impressed peigne filet rigide dating from the early tenth millennium cal. BC.[114] Following the
emergence of pottery traditions in the Ounjougou region of Mali around 11,900 BP and in the Bosumpra region of Ghana soon after, ceramics later arrived in the Iho Eleru region of Mali around 11,900 BP and in the Bosumpra region of Ghana soon after, ceramics later arrived in the Iho Eleru region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in the Bosumpra region of Mali around 11,900 BP and in th
recognized, although the details remain controversial and awaiting further research, and no consensus has been reached. [13] Use of pottery was then found in the Bir Kiseiba region, with a surplus of pottery was then found in the Bir Kiseiba region, with a surplus of pottery shards dated roughly 9,300 BC. Archeological digs around Sub-Saharan Africa have continued to bring more history of ceramic use to light
including pottery shards found in Ravin de la Mouche, which were carbon dated to roughly 7,500 BC. After 8,000 BC the prevalence of ceramics in Sub-Saharan Africa surged, becoming a continent wide phenomenon.[116] Pottery has been found in archaeological sites across the islands of Oceania, attributed to an ancient archaeological culture called
the Lapita. Another form of pottery called Plainware is found throughout sites of Oceania.[citation needed] The relationship between Lapita pottery and Plainware is found throughout sites of Oceania.[117]The
Indigenous Australians never developed pottery. [118] After Europeans came to Australia and began creating pottery. Since then, ceramic manufacturing, mass-produced pottery and
studio pottery have flourished in Australia.[119]List of classifications of potteryPotter's wheelGlossary of pottery termsHistory of ceramic artDelftwareFaienceMajolica^ 'Standard Terminology Of Ceramic Whitewares And Related Products.' ASTM C 24201 (2007.) ASTM International.^ "terracottas (sculptural works)", Getty Art & Architecture
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pastStoke-on-Trent Museums Ceramics Collections OnlineUK Pottery ResourceCeramics everywhereRetrieved from "you ever wondered about the difference between ceramics vs pottery? After all, its all clay, right? Well, yes, but there are also a few differences among the two artistic subjects. From coffee mugs, serving bowls and vases to intricate
sculpture and detailed figurines, artisans have been creating ceramics and pottery for thousands of years. Whether youre trying to get into a new creative outlet or just have a renewed curiosity after visiting a museum exhibit filled with Aztec, ancient Chinese, Neolithic and 15th-century Japanese pottery collections, the form and function of these
decorative and useful objects is an interesting study. According to the National Library of Medicine, creative expression and artistic engagement even have positive effects on health. You cant beat that! But whats the difference between ceramics vs pottery when it is an interesting study. According to the National Library of Medicine, creative expression and artistic engagement even have positive effects on health. You cant beat that! But whats the difference between ceramics vs pottery anyway? Keep reading to find out! Jump to Section Understanding Ceramics vs pottery when it is an interesting study.
comes to pottery for beginners, one of the best ways to understand ceramics vs pottery is to take an interactive classes in San Diego teach the fundamentals of pottery wheels and throwing techniques while teaching you how to make vases, cups, mugs and small sculptures. Check out
pottery classes near you to find a wide array of fun and informative sessions where you can learn the basics of ceramics vs pottery, which is probably why it causes such confusion. Theyre both made from clay, but the main difference comes in the
use of the item thats created. Ceramics are items made from a non-metal material (such as clay) that changes when exposed to high heat (like that lump of clay turning into a beautiful sculpture). Pottery is a type of ceramic, specifically a vessel that holds something (coffee mug, cereal bowl you get the idea). To put it simply, an art piece made from
clay would be called a ceramic. A coffee mug or vase made from clay would be considered ceramic pottery via CanvaPottery Definition The best way to understand the pottery definition is to think of it as a vessel made of clay that holds something, such as a mug, vase or a serving bowl. Pottery consists of three main categories: earthenware,
stoneware and porcelain. Earthenware Earthenware is clay thats fired at a low temperature (1,000 1,150 degrees Celcius). It becomes porous and coarse, then is glazed and re-fired. The glaze sits atop the earthenware in its own separate layer. The clay used to make earthenware is made from quartz (a crystalline mineral) and feldspar (a rocket layer.
forming mineral) as well as iron oxide, which gives it that orange-ish color. The impurities in the clay are due to traveling distances and mixing with water and dirt along the way. via CanvaStoneware is clay thats fired at a high temperature (1,200 degrees Celcius) in a process thats called vitrification. During this process, the object
becomes the consistency of glass. Its non-porous. When glaze is applied, the glaze and clay become a mixed layer. Stoneware refers to a variety of diverse types of clay. via CanvaPorcelain Porcelain, also known as fine china, is that extremely delicate stuff in Grandmas cabinet that youre not allowed to touch. Its a hard and translucent white ceramic
Granite and feldspar minerals are mixed with a fine white clay and water. It then gets fired at 1,200 to 1,450 degrees Celcius, decorated with glaze and then re-fired. It also contains kaolinite (a primary clay). This type of clay doesnt travel far from the point of origin, so it doesnt have as many impurities as earthenware. via CanvaPottery Techniques
and Ideas Pottery can be made on a potters wheel or formed by hand. Lets take a look at some of the basic technique for creating pottery. A pottery wheel is used, which is a fun aspect of learning ceramics vs pottery. A big piece of wet clay is clumped
onto the wheel, and the potter uses their hands to form it into shapes. Its then taken off the wheel and left to dry, via CanvaTrimming For this ceramics technique, when the piece is dry enough to handle, its then put back on the wheel and left to dry, via CanvaTrimming For this ceramics technique, when the piece is dry enough to handle, its then put back on the wheel where a wide array of tools are used to shape it into its final state. Then it sits to dry again. Bisque Firing Once the
piece is completely dry, its placed in a kiln where it gets fired at the temperature designed for that particular type of clay. The piece is quite strong after the ceramics vs pottery firing process. Special paints and underglazes are used. via CanvaGlaze Firing At this
point, the ceramics vs pottery piece gets fired again. The colors of the glaze really pop after firing and form a hard, strong and less porous surface for this type of ceramics vs pottery. Ceramics vs pottery. Ceramics definition A broad term, ceramics definition refers to something made from a nonmetallic and inorganic material (such as clay). Technically, bricks and
cement could be called ceramic. Ceramics are durable and can withstand high temperatures and pressure. Theyre not susceptible to chemical corrosion, are non-magnetic and dont conduct electrical currents. Examples of Ceramics An example of a ceramic making would be a figurine made from clay. Think of ceramics as fine art. Traditional ceramics
can be very fine and brittle while modern ceramics are more durable. via CanvaCeramics Techniques and Ideas There are several ceramics vs pottery. Hand Building Hand building is just what it sounds like. The clay is
formed and shaped by hand. Sometimes the pottery wheel is used in this ceramics vs pottery technique since the turning of the wheel helps aid the shaping of the piece to shape it. It starts out as a ball. The artist holds it in one
hand while pushing down with their thumb going around in a circular motion until complete. This is one of the basic methods used in ceramics projects for beginners. via CanvaSlab and Coil In this ceramics vs pottery technique, the artist uses pre-made strips or slabs of clay to fold, form and join them into a shape. Decorative ceramic tiles are often
made using this technique. via CanvaSlip Casting Slip (known as liquid clay) is water and clay mixed into a pasty runny mixture. It is then put into a mold and left to dry. This is a great technique for creating a large amount of the same design. Porcelain figurines from the 18th century were often made using this technique. via CanvaWhether youre
looking for a new creative craft to discover or just dipping your fingers into the clay, we hope weve cleared up any questions or misconceptions about ceramics. Ceramics is more of an artistic medium while pottery is a practical and useful
medium, such as a container to hold flowers, water or that morning jolt of java. For even more creative ideas and inspiration, check out other experiences happening on Classpop! Pottery is the first synthetic material ever created by humans. The term refers to objects made of clay that have been fashioned into the desired shape, dried, and either
fired or baked to fix their form. Due to its abundance and durability, pottery is one of the most common types of items found by archaeologists during excavations, and it has the potential of providing valuable information about the human past. More about: Pottery in Antiquity Search through the entire ancient history timeline. Specify between which
dates you want to search, and what keywords you are looking for. Pottery has been uncovered and evolved into what it is today. Pottery is a little more complex than you might think, so to simplify things, we are going to
be discussing a few relevant topics from the history of pottery to pottery to pottery types, and how you go about making pottery. Read on to learn all about this fascinating subject! What Is Pottery? A basic definition of pottery is that it is a process of using clay and other raw materials to shape and form vessels or objects. These are then fired at high
temperatures, which helps to harden them and make them more durable. The person who does this is known as a potter, and the place this process is performed is known as pottery. It is one of the oldest forms of decorative art, which has gained popularity around the world. Clay items consist of both functional vessels, such as plates and bowls as
well as decorative pieces, which are often given a color glaze. Many of the clay items are also decorated with designs or carvings. The items require high heat, which is done either through a fire pit or a kiln. Both processes lead to a change in the rigidity and strength of the clay materials. Other examples of pottery include the
following:TablewareDecorative itemsSanitaryware (for example, toilets)Technological and industrial applications, people from ancient civilizations used pottery for vessels only. Even though made from similar materials
sculptures are referred to as terracottas. Brief History of Pottery During archeological excavations, historical pottery is usually a common item found, as it is so durable and abundant in many cultures. Each pottery is believed to be
the oldest human innovation and is said to date back to the Neolithic period. Where Does Pottery come From? Who invented? You cannot pin down an individual place or person for the invention of pottery items. Artifacts and pottery items.
have been unearthed in many parts of the world that date back thousands of years. Pottery items have been found in China, Japan, And all over the Asian continent, South America, and the United Kingdom. Historical pottery can be categorized into two groups, one being described in the Middle East. Pottery also found in China, Japan, And all over the Asian continent, South America, and the United Kingdom. Historical pottery can be categorized into two groups, one being described in the Middle East. Pottery also found its way to Europe and the United Kingdom. Historical pottery can be categorized into two groups, one being described in the Middle East. Pottery also found its way to Europe and the United Kingdom. Historical pottery can be categorized into two groups, one being described in the Middle East. Pottery also found its way to Europe and the United Kingdom. Historical pottery can be categorized into two groups, one being described in the United Kingdom. Historical pottery can be categorized into two groups, one being described in the United Kingdom. Historical pottery can be categorized into two groups, one being described in the United Kingdom.
the fine pottery, which is more aesthetically appealing and is well-made and expensive. The other is folk or course pottery items were likely created by a hand-shaping technique like coiling. These pottery items were unglazed, uneven in form, and were most
probably fired in a pit or on an open fire. Many of these pottery items most probably began as storage vessels for water and food, and as time progressed, the functional aspect remained but more artistic techniques and uses developed. The potters wheel is believed to have been invented between 6.000 and 4.000 BC by the Mesopotamians, which
transformed how pottery was produced. It was also found that molds were also used as early as the fifth and sixth centuries. Slip casting has also been proven to be in use during the Tang Dynasty (618 907 A.D) in China. This is a way to shape irregularly shaped clay items that can also be mass-produced by filling molds with slip. Slip is a blend of dry
clay with water. Archeologists have gained great insight into various cultures, just by observing and studying pottery. Since it is such a durable material, pottery is one of the more common materials found at dig sites. Pottery and the Industrial Revolution (1760 1840), pottery has transformed from being a village
craft to being mass-produced in factories. For example, before the revolution, people mostly used wood or pewter, but mass-produced ceramic dinner plates became more popular. During this transition, much of the skill and knowledge of old craftsmen were lost. The bisque firing also came from this time before pottery went through a single firing
process. Single firing takes time and requires skill to produce a pottery item. This might have been okay for a village potter but is not the best technique to create large quantities of duplicated pots. Bisque firing involves a first firing, which transforms the clay is still porous and will absorb the glaze. The pottery item is then fired a second
time, which sets the clay and glaze further. The process helps form a more uniform item. Pottery in the Modern WorldBy the twentieth century, most traditional pottery craftsmen were only found in a few villages, mainly in Japan, China, and other Third World countries. It has been brought back to places like London and the United States with the
help of people like Bernard Leach (1887 1979), a British potter who spent time in Japan learning from a Japanese master potter. He opened up a pottery shop in England, which is known today as Leach Pottery. He also visited the United States and taught classes, which influenced up-and-coming American artists like Warren MacKenzie (1924 2018)
reviving the traditional craft of making pottery. Today, you can get electric or gas kilns and the diversity of what you can do with pottery is diverse, ranging from heavy stoneware to delicate porcelain items. Materials and Tools for Making Pottery There are various pottery types available, which we will be discussing further down in the article
However, the general materials and tools you will need are included in the following list. ClayKilnPottery wheelModeling toolsGlazes and paintsThese are the basic materials you will need, and you can always upgrade as you get more experienced. The type of kiln you purchase will depend on various factors, such as what clay you will be working with
or the type of glaze you will be using, as well as the size and quantity you will be making. An electric kiln is quite popular as it can adjust the temperature requirements if you need to. Potters all have their own techniques they use and depend on the idea and purpose of the potter. If you are only starting and simply want to hand-shape the clay, then
you do not need a potters wheel. However, this can produce uneven clay shapes, so if you want to be more consistent and produce more, then you should invest in a potters wheel. Clay ToolsThere are quite a few different tools you can use with only the first three items on the materials are quite a few different effects. You can get away with only the first three items on the materials are quite a few different effects.
list, but if you want to be more creative, then adding some of the following tools can help. Needle tools: These are used for carving, piercing, trimming, and trimming. Cutter wires: These are perfect for cutting large blocks of clay
easily. Brushes: These can help you to apply the glaze and clay slip and other purposes. Clay scrapers can be used to smooth out the clay surface, and are used for sculpting. Sponges for cleaning and shaping the clay surface, and are used for sculpting. Sponges for cleaning and shaping the clay surface, and are used for sculpting. Sponges for cleaning and shaping the clay surface, and are used for sculpting. Sponges for cleaning and shaping the clay surface, and are used for sculpting. Sponges for cleaning and shaping the clay surface, and are used for sculpting. Sponges for cleaning and shaping the clay surface, and are used for sculpting. Sponges for cleaning and shaping the clay surface, and are used for sculpting.
can help. Glazes and PaintsThe most common way of decorating clay items is by applying glazes and paints. There are other more challenging techniques after you have mastered the basics. Glazing is very easy to do and is a liquid that is available in many different colors.
you can apply to the clay. It will produce a smooth and glossy surface once it has been fired. The glaze also helps to waterproof clay pieces. The paints used on clay can include liquid latex or acrylic paints. Both glazes and points are readily available and affordable. Pottery and Ceramics and pottery the same? Many use these terms of clay pieces. The paints used on clay can include liquid latex or acrylic paints. Both glazes and points are readily available and affordable. Pottery and Ceramics are readily available and affordable. Pottery are readily available and affordable. Pottery are readily available and affordable. Pottery are readily available and affordable and affordable and affordable. Pottery are readily available and affordable a
interchangeably, and in many ways they are similar. The term ceramics comes from the Greek language and means for or of pottery. Both follow the same process of taking clay objects, shaping, and decorating them, and then hardening them at high temperatures. Clay is itself a natural substance that is malleable and will harden when super-heated
You can say that pottery is a form of ceramics and mainly focuses on the creation of a functional vessel, such as a bowl or mug. A ceramic piece focuses more on the artistic side of the clay, such as silica carbide that
 improve strength and durability. As mentioned, many use either term, but others again distinguish between the two. You will also find that modern pottery is divided into two categories, which include commercial pottery TypesNow that we
have covered the basic materials and tools needed for pottery, let us take a closer look at the different pottery types available. There are three main categories for clay, including earthenware, stoneware, and porcelain. All of these pottery types can be unglazed or glazed and can also be decorated using different techniques. Earthenware This is the
most common type of clay or pottery and is often what is used for things like roof tiles and bricks. The name comes from its earthy type of color and the origins of the clay can then be glazed and
fired again. The earthenware clay matures around 1700 and 2075 degrees Fahrenheit (927-1135 degrees Fahrenheit (927-1135 degrees Fahrenheit (927-1135 degrees Fahrenheit). The clay itself contains iron oxide, and this is what gives the earthenware its distinctive reddish-brown color. The wet clay
also comes in a range of colors from brown, red, and orange to gray. Once fired, the clay can also be similar colors as well as white. The clay is easy to manipulate and is also easier to fire than stoneware. There are a variety of types of glaze and glaze colors that
can be applied. The glaze remains on the surface of the clay and does not mix with the clay and does not mix with the clay was hand formed and decorated, and often only had a single firing. Since the clay remained porous, it was not much use for storing liquids, or as
certain tableware items. The reddish-brown clay is popularly referred to as terracotta in its unglazed state, or when it is used for sculpting. The use of ceramic glaze helped make the pottery type is fired at higher temperatures 2192 degrees Fahrenheit
(1200 degrees Celsius). The process is known as vitrification, where the item becomes non-porous and similar to a glass surface. There is a range of types of stoneware clay, the most common being traditional and fine stoneware clay, the most common being traditional and fine stoneware.
fired, it can show colors from light to medium gray, and brown. The Chinese are credited for developing stoneware, it is grouped together with porcelain that is fired at higher temperatures. Stoneware to the European region during the Middle Ages, as proper clay was less abundant, and the kilns were not as effective. Stoneware became a
specialty with German potters, until the Renaissance period. Stoneware can be further categorized as a midrange or high-fire stoneware in a kiln by using a few clay cones that melt at specific temperatures. This type of stoneware is
easier to achieve at home in an electric kiln. The high-fire stoneware is non-porous and extremely durable due to the high temperatures used, which can be 2300-2400 degrees Fahrenheit (1260-1315 degrees Celsius). This stoneware is often used for functional pottery, but the process is usually expensive and time-consuming. Due to the higher
temperatures, kilns tend to wear out faster. Stoneware is quite durable and is most commonly used in cookware for cooking and baking, as it can evenly distribute heat during the cooking process. It is also used for storage containers, or as vases and serving dishes. Porcelain was also something that was developed first in China, during what
is known as the Tang Dynasty (618-907). When suitable amounts of kaolin clay were found in Japan and Korea by the late 16th century, porcelain made outside East Asia. The process involves heating materials that include kaolin at temperatures ranging from 2200-2600
degrees Fahrenheit (1200-1400 degrees Celsius). This is higher than for your other pottery types. The strength, durability, white color, and translucent look of porcelain are achieved through a vitrification process, where the mineral mullite is formed at high temperatures. Porcelain is used in a wide application range from delicate tableware to being
used as dental crowns or for electrical insulation. The Basics of How to Make Pottery creating pottery is a fun, creative and fun activity that can help to relieve stress and maybe even make some extra cash out of it. How to make pottery? There are a few steps you need to follow, and we will be dealing with a basic overview of what you need to do when
making pottery. Choosing the Type of ClayWe have already dealt with the different pottery types. So, depending on the purpose, you will need to choose a suitable clay. The most common clay is the earthenware option. Potters clay is usually readily available from a local ceramic store or even online at Amazon. Preparing the ClayThis is also known as
wedging clay when done manually and is a process of kneading the clay to eliminate air bubbles, which also helps make the clay easier to work with. The process also gives the clay a more even consistency and maintains even moisture levels. You can also achieve this process by working with a machine known as a vacuum pug. Shaping the Clay The
most simple way of shaping clay is through using various hand-building techniques. The two more common methods are coiling and pinching. Another popular technique is called throwing, which uses a potters wheel. Other more technique is called throwing, which uses a potters wheel. Other more technique is called throwing, and RAM pressing. Let us look at
the clay. When working with clay, the walls remain intact and will not collapse, which makes it quite a versatile technique. The clay needs to be moist, soft, and pliable to work. The coils are attached by scoring and slipping to create a nice seal. Scoring simply means marking the area with a needle tool. Slip is a little bit of dry clay that is mixed with
water, which can be applied by using a brush. This is an ideal technique for beginners and does not require many tools to complete. However, the coils must be sealed properly if you want the item to hold liquid. Pinching Technique and shape it by pinching the
clay. This does limit you in that the size of an item will be smaller. The technique does allow more control, and there are no tools needed, which makes it ideal for beginners. You will develop an awareness of the clay and how it feels. However, you can mistakenly make the walls a bit too thin, which can render the item useless. Once you master this
technique, you can advance to wheel throwing. Throwing TechniqueThis is where the pottery wheel comes into play, which helps you to shape the clay. As a beginner, you can also start with the wheel, but it is a bit more challenging than the previous techniques. You need to make sure that the clay is perfectly centered on the wheel, and the walls
 need to be created so they do not collapse. This can take time to learn and perfect. For this technique, you will need the pottery wheel and a few other tools. These can include various tools like a wire clay cutter, sponges, a needle tool, a modeling tool, and a metal scraper among others. You can purchase tool sets for this purpose. This technique
much faster than the previous techniques, and the clay item comes off the wheel looking better than the hand-building methods. This technique does cost more and does take time to master. If you do mess up, you can simply use another clay piece or the same clay to start over. The pot you are making should have a uniform thickness, which can be
about a guarter of an inch thick. If not, the pot can crack if it is uneven and too thin. Drying the ClayBefore firing, any moisture in the clay must be removed. There are a few different stages and identifying names to this process. You have what is known as greenware, which is unfired items that are still malleable. The next stage is known as leather-
hard, which means it has dried partially and has a leather-type feel. Items at this stage are firm, but slightly pliable and can be trimmed, sculpted, or carved, or you can add handles, depending on what you are making. You can also add underglaze. The third stage is known as bone-dry, where there is very little to no moisture present. When this stage
is reached, the pottery item can be fired. The item is quite fragile at this point and should be treated carefully. Also, if the item is not dry and it is fired, it could take up to a week or more to dry properly, as it depends on the
climate you live in. Firing the ClayFiring starts a process that changes the body of the clay. Some of these changes include sintering, which is the fusing of coarse particles, which can also mean something along the lines of forming a solid mass. The reason for the firing is to permanently harden the pottery item. The most common method used for this
process is a kiln, which today, can be electrical or gas operated. Other methods are available, such as using the traditional fire pit, where wood or coal is used. There are also different stages to firing, which include Bisque and glazed fired. Bisque are also different stages to firing stage after the clay has been shaped and becomes bone-dry. The result is both
chemical and physical changes in the clay. The portery item is usually heated slowly and must cool slowly and must cool slowly and more porous. This makes the glazes and stains bond to the surface well. The bisque firing also
removes any residual moisture and will burn off any organic matter. Glaze FiredThis is the final stage and is applied to bisque ware that has been glazed. Underglazes and stains have also been applied before this stage. The heat causes the physical and chemical changes of the
clay. Taking into account packing the kiln, heating it, and cooling it down, it can take up to three days for the firing process. Glazing the PotteryThis is done before the final firing process and after bisque firing. At this stage, you can apply an underglaze or glaze. Underglaze is a color or design that is applied before adding the glaze. There are a few
ways you can apply the glaze, from using a brush to spraying it on, dipping the pottery item into it, or pouring the glaze over. The three main types of glaze include satin, matte, and gloss. There are also other methods of decorating clay, such as burnishing or applying a transfer print known as lithography, amongst others. Uses of PotteryThe original print three main types of glaze include satin, matte, and gloss.
purpose of pottery was as storage vessels or bowls and plates. However, other used for ritual or ceremonial purposes and are often found in burial grounds or
tombs. The Greeks made pottery into an art form, and back in those days, the potters were considered craftsmen. Again, many of the items were made for storing things like olive oil and wine. The vessels were beautifully decorated with images from Greek mythology. In Africa, pottery is also used for similar purposes, but also for other religious or
magical purposes. Some pots were even used as musical instruments in parts of Nigeria. These are only a limited number of example, floor
tiles and bricks. Depending on the pottery type, various modern items are made from clay. There are diverse ceramic applications including being used in spark plugs, artificial joints, or fiber optics. Below is a short list of other uses as there are many other places where pottery can be used. Pizza ovens Electrical insulators Perfume bottles Musical
instrumentsFlower potsLampsJewelryToysCooking potsDentures and crownsDecorative itemsArt piecesMaking pottery is something that can be done by anybody, both young and old. There are also easy techniques you can use that require little to no tools to begin with. You can also challenge yourself with more advanced pottery techniques, so there
is something for everyone when it comes to creating amazing pottery pieces! Take a look at our pottery webstory here! Frequently Asked Questions What Is Pottery? Pottery can be described as the process of taking clay, whatever pottery clay type, and shaping it to form an object. This object is then decorated and fired to form a hardened and more
durable pottery item. Who Invented Pottery? Where was pottery invented and who invented it cannot be pinpointed to an exact time, person, or place. Pottery developed in various countries at different times. Many of the techniques came from China, but many countries at different times. Many of the techniques came from China, but many countries at different times.
know of pottery today. What Are the Three Main Pottery Types? There are many different forms of clay, but there are three main pottery types you can choose from. These include the more common eartherware, durable stoneware, and beautiful porcelain. In 2005, Charlene completed her Wellness Diplomas in Therapeutic Aromatherapy and
Reflexology from the International School of Reflexology and Meridian Therapy. She worked for a company offering corporate wellness programs for a couple of years, before opening up her own therapy practice. It was in 2015 that a friend, who was a digital marketer, asked her to join her company as a content creator, and this is where she found
her excitement for writing. Since joining the content writing world, she has gained a lot of experience over the years writing on a diverse selection of topics, from beauty, health, wellness, travel, and more. Due to various circumstances, she had to close her therapy practice and is now a full-time freelance writer. Being a creative person, she could not
pass up the opportunity to contribute to the Art in Context team, where is was in her element, writing about a variety of art and craft topics. Contributing articles for over three years now, her knowledge in this area has grown, and she has gotten to explore her creativity and improve her research and writing skills. Charlene Lewis has been working
for artincontext.org since the relaunch in 2020. She is an experienced writer and mainly focuses on the topics of color theory, painting and drawing. Learn more about Charlene Lewis and the Art in Context Team. Visual Arts Decorative Art pottery, one of the oldest and most widespread of the decorative arts, consisting of objects made of clay and
hardened with heat. The objects made are commonly useful ones, such as vessels for holding liquids or plates or bowls from which food can be served. Clay, the basic material of pottery, has two distinctive characteristics: it is plastic (i.e., it can be molded and will retain the shape imposed upon it); and it hardens on firing to form a brittle but
otherwise virtually indestructible material that is not attacked by any of the agents that corrode metals or organic materials. Firing also protects the clay body against the effects of water. If a sun-dried clay vessel is filled with water, it will eventually collapse, but, if it is heated, chemical changes that begin to take place at about 900 F (500 C)
preclude a return to the plastic state no matter how much water is later in contact with it. Clay is a refractory substance; it will vitrify at a lower temperature (about 2,200 F, or 1,200 C) and the mixture is subjected to heat of this order, the clay will hold the
object in shape while the other substance vitrifies. This forms a nonporous opaque body known as stoneware. When feldspar or soapstone (steatite) is added to the clay and exposed to a temperature of 2,000 to 2,650 F (1,100 to 1,450 C), the product becomes translucent and is known as porcelain. In this section, earthenware is used to denote all
pottery substances that are not vitrified and are therefore slightly porous and coarser than vitrified materials. The line of demarcation between the two classes of vitrified materialsstoneware and porcelain does have
this property and stoneware is regarded as partially vitrified material that is not translucent. The Chinese, on the other hand, define porcelain as any ceramic material that will give a ringing tone when tapped. None of these definitions is completely satisfactory; for instance, some thinly potted stonewares are slightly translucent if they have been fired
at a high temperature, whereas some heavily potted porcelains are opaque. Therefore, the application of the terms is often a matter of personal preference and should be regarded as descriptive, not definitive. creamware vase, Luxembourg, late 18th century; in the Victoria and Albert Museum, London. Earthenware was the first kind
of pottery made, dating back about 9,000 years. In the 21st century, it is still widely used. The earthenware body varies in colour from buff to dark red and from gray to black. The body can be covered or decorated with slip (a mixture of clay and water in a creamlike consistency, used for adhesive and casting as well as for decoration), with a clear
glaze, or with an opaque tin glaze. Tin-glazed earthenware body is a cream colour, it is called creamware. Much of the commercial earthenware produced beginning in the second half of the 20th century was heat- and cold-proof and could thus
be used for cooking and freezing as well as for serving. Everything in Art and Design (Part Four) Quiz Stoneware is very hard and, although sometimes translucent, usually opaque. The colour of the body varies considerably; it can be red, brown, gray, white, or black. Yixing ware teapotDome-shaped Yixing ware teapot with a six-lobed body, by
Gongchun, 1513, Ming dynasty; in the Hong Kong Museum of Art, Hong Kong. Fine white stoneware was first made during the Silla dynasty (57 bce935 ce); in Japan, during the 13th century (Kamakura period). The first production of stoneware in Europe was in 16th-
century Germany. When tea was first imported to Europe from China in the 17th century, each chest was accompanied by a red stoneware pot made at the Yixing kilns in Jiangsu province. This ware was copied in Germany, the Netherlands, and England. At the end of the 17th century, English potters made a salt-glazed white stoneware that was
regarded by them as a substitute for porcelain (see below Decorative glazing). In the 18th century, the Englishman Josiah Wedgwood made a black stoneware called Ironstone china, was introduced in England early in the 19th century. In the
20th century, stoneware was used mostly by artist-potters, such as Bernard Leach and his followers. BOOK A COOKING CLASS NEAR YOU We are independent, advertising-supported platform. We provide our
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between ceramics and pottery because they are both made the same way. Each piece must go through a process that includes forming, firing, glazing, and refiring before it is complete. Even though ceramics and pottery are technically the same thing, people still tend to place different meanings on each term. Ceramics are frequently thought of as
pieces of fine art that are created to be visually appealing rather than have a function. Pottery is a term commonly used to describe something made to be useful, thereby serving a purpose in daily life. It is not uncommon to hear someone refer to ceramics to describe the art form as a whole, including pottery. Likewise, some people use the word
pottery to describe the creation of both. In artistic circles, pottery is also a word commonly associated with work of lesser or unprofessional sculptors generally prefer for their work to be referred to as ceramics instead of pottery because of the difference in
sophistication associated with each word. There are three main types of ceramics and portery, earthenware is waterproof and frequently used to make dishes, although some artists like to use it as well. The primary difference between
porcelain and stoneware is that porcelain is usually more opaque and might appear translucent under bright light. The creation of ceramics and pottery typically begins with the mixing of clay. Contrary to what some people may think, artists do not often take the clay directly from the ground. They normally use special clay comprised of different
ingredients to form what they refer to as the "clay body." After the clay body." After the clay body." After the clay body. A kiln may then be used to fire, or bake, the clay so it will be ready for decoration and finish. Two well-known ceramicists are Bennett Bean and Hideaki Miyamura. Bean,
whose work is displayed in the Philadelphia Museum of Art, may be best known for creating bowls and teapots out of earthenware. Miyamura uses iridescent glazes on his works that appear to change color depending on the angle at which they are viewed. Pieces created by Miyamura can be found at the Art Institute of Chicago and The Smithsonian
Institute, as well as numerous other places. HomeQuestionsAnswered is dedicated to providing accurate and trustworthy information. We carefully select reputable sources and employ a rigorous fact-checking process to maintain the highest standards. To learn more about our commitment to accuracy, read our editorial process. By Anna T. Anna
Thurman is a skilled writer who lends her talents to HomeQuestionsAnswered. Her ability to research and present information in an engaging and accessible manner allows her to create content that resonates with readers across a wide range of subjects.
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