

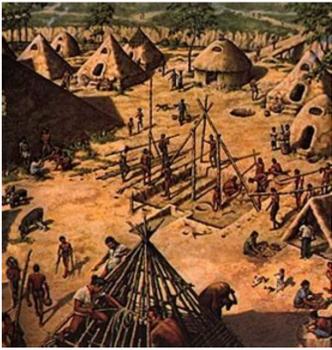


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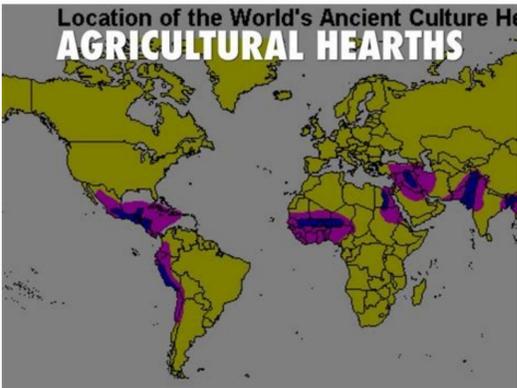
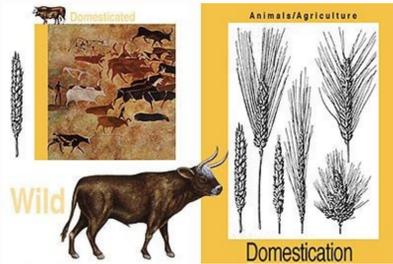


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Neolithic agricultural revolution pdf



The most important inventions of the Agricultural Revolution were the plow and moldboard, the sickle, and the mechanical reaper.



Neolithic agricultural revolution occurred between. Neolithic agricultural revolution meaning. Neolithic agricultural revolution definition. Neolithic agricultural revolution marked conclusion of. Neolithic agricultural revolution timeline. Neolithic agricultural revolution quizlet. Neolithic agricultural revolution inventions. Neolithic agricultural revolution ap human geography.

^ Peterson, V. PMID 12714734. S2CID 10644185. S2CID 211663314. ^ Enzel, Yehouda; Bar-Yosef, Ofer (2017). According to bioarchaeological research, the effects of agriculture on physical and dental health in Southeast Asian rice farming societies from 4000 to 1500 BP was not detrimental to the same extent as in other world regions.[98] Jonathan C. (2014). (2007). ^ Key, Felix M.; Posth, Cosimo; Esquivel-Gomez, Luis R.; Hübner, Ron; Spyrou, Maria A.; Neumann, Gunnar U.; Furtwängler, Anja; Sabin, Susanna; Burri, Marta; Wissgott, Antje; Lankapalli, Aditya Kumar; Vågøene, Ashild J.; Meyer, Matthias; Nagel, Sarah; Tukhbatova, Rezeda; Khokhlov, Aleksandr; Chizhevsky, Andrey; Hansen, Svend; Belinsky, Andrey B.; Kalmaykov, Alexey; Kantorovich, Anatoly R.; Maslov, Vladimir E.; Stockhammer, Philipp W.; Vai, Stefania; Zavattaro, Monica; Riga, Alessandro; Caramelli, David; Skeates, Robin; Beckett, Jessica; Gradoli, Maria Giuseppina; Steuri, Noah; Hafner, Albert; Ramstein, Marianne; Siebek, Inga; Lössch, Sandra; Erdal, Yilmaz Selim; Alikhan, Nabil-Fareed; Zhou, Zheming; Achtman, Mark; Bos, Kirsten; Reinhold, Sabine; Haak, Wolfgang; Kühnert, Denise; Herbig, Alexander; Krause, Johannes (March 2020). ISBN 978-0-19-955995-4. Asian yams and taro were also cultivated in Africa.[73] The most famous crop domesticated in the Ethiopian highlands is coffee. //www.hort.purdue.edu/newcrop/history/lecture03/fr_3-1.html Wright, Gary A. In their approximately 10,000 years of shared proximity with animals, such as cows, Eurasians and Africans became more resistant to those diseases compared with the indigenous populations encountered outside Eurasia and Africa.[97] For instance, the population of most Caribbean and several Pacific Islands have been completely wiped out by diseases. Journal of Archaeological Science, 35 (8), 2400-2414. 124-132 in P. PMID 32508752. PMC 6051582. 27 (12): 1885-1898. (2009). "Autonomous Cultivation Before Domestication". Some of the earliest domesticated animals included dogs (East Asia, about 15,000 years ago),[81] sheep, goats, cows, and pigs. Holland (eds.) Excavations at Jericho 5, pp. "Emergence of human-adapted *Salmonella enterica* is linked to the Neolithization process". p. 13. ""Lording It over the Goddess: Water, Gender, and Human-Environmental Relations."" Asian Perspectives. The first is in the lower Yangtze River, believed to be the homelands of pre-Austronesians and associated with the Kauhuiqiao, Hemudu, Majiabang, and Songze cultures. Journal of the History of Ideas. ^ Bayliss-Smith, Tim; Golsong, Jack; Hughes, Philip (2017). Consequences Social Change World population (estimated) did not rise for a few millennia after the Neolithic revolution. 301 (5630): 189-193. Q 11 (11): e0167151. An "Orange slice" sickle blade element with inverse, discontinuous retouch on each side, not denticulated. doi:10.1073/pnas.1104686108. doi:10.1080/10408398.2011.635817. For instance, wheat does not normally grow in tropical climates, just like tropical crops such as bananas do not grow in colder climates. PMC 7253633. ISBN 978-0-393-31755-8. Our earliest evidence for this new technology comes [...] from the lowland steppe of Khuzistan. (1992). Bibcode:2012PLASo...7521462. PMC 7186082. 54 (6): 408-423. ^ Compare:Levin, Roger (2009-02-18) [1984]. "Mapping Post-Glacial expansions: The Peopling of Southwest Asia". D.; Boyko, A. ISBN 0-7432-4360-9. New York: Norton Press. It is supposed that the cultivation of cereals started somewhere in the Near East, in the hills of Israel or Egypt. PMC 2759199. Thissen (eds.), The Neolithic of Central Anatolia. McDonald Institute for Archaeological Research. This trend may have been exacerbated by the greater seasonality of farming diets and with it the increased risk of famine due to crop failure.[6] Throughout the development of sedentary societies, disease spread more rapidly than it had during the time in which hunter-gatherer societies existed. Guns, germs and steel. ISBN 978-0-674-01570-8. ^ Sands DC, Morris CE, Dratz EA, Pilgeram A (2009). Berkeley: University of California Press. Maize is deficient in certain essential amino acids (lysine and tryptophan) and is a poor source of iron. p. 252. / Social Evolution & History. Gérard and L. ISBN 978-1-902937-52-6. ^ Richerson, Peter J.; Boyd, Robert (2001). ^ "BBC - History - Ancient History in depth: Overview: From Neolithic to Bronze Age, 8000-800 BC". During this period, there is evidence of large settlements and intensive rice cultivation in Taiwan and the Penghu Islands, which may have resulted in overexploitation. S2CID 55763047. 9 (5): e95714. 188. Diamond, Jared (2002). ^ Guns, Germs, and Steel: The Fates of Human Societies. A. 32 (4): 311-351. (2004). "From the mouths of babes: Dental caries in infants and children and the intensification of agriculture in mainland Southeast Asia". Archaeology and Language III: Artefacts languages, and texts. doi:10.1093/aob/mcm048. Journal of Feminist Studies in Religion. ISBN 0-300-02016-3. Somewhere between 5500 and 5000 B.C. in the Sabz phase of the Deh Luran Plain, irrigation water was apparently diverted from stream channels in a fashion similar to that employed in early Mesopotamia. Annals of Botany. Bakker-Heeres, J.A.H., Archaeobotanical Studies in the Levant 1. W. ^ Jacques Cauvin (2000). "Origins and ecological effects of early domestication in Iran and the Near East". Plants that rapidly shed their seeds on maturity tended not to be gathered at harvest, therefore not stored and not seeded the following season; successives years of harvesting spontaneously selected for strains that retained their edible seeds longer. PMC 3101000. Routledge Publishers. Nature Ecology & Evolution. PMC 1181965. ^ a b Zhang, Jianping; Lu, Houyuan; Gu, Wanfa; Wu, Naifan; Zhou, Kunshu; Hu, Yaji; Xu, Yingjun; Wang, Can; Kashkush, Khalil (17 December 2012). Retrieved 15 August 2012. Retrieved 2019-01-12. J.; Tayles, N.; Ikehara-Quebral, R.; Pietruszewsky, M. S2CID 180646880. This was at the altitudinal limits of these crops, and it has been suggested that cultivation in more favourable ranges in the lowlands may have been even earlier. (2005). S2CID 13350469. "Post-Pleistocene Adaptations". ^ Shermier, Michael (2001). The Neolithic cultures of southeastern Europe (the Balkans and the Aegean) show some continuity with groups in southwest Asia and Anatolia (e.g., Çatalhöyük). PLOS Biology. Crops domesticated in the Sahel region include sorghum and pearl millet. So Grinin dates the beginning of the agricultural revolution within the interval 12,000 to 9,000 BP, though in some cases the first cultivated plants or domesticated animals' bones are even of a more ancient age of 14-15 thousand years ago.[29] Andrew Moore suggested that the Neolithic Revolution originated over long periods of development in the Levant, possibly beginning during the Epipaleolithic. Leonid Grinin argues that whatever plants were cultivated, the independent invention of agriculture always took place in special natural environments (e.g., South-East Asia). Wescombe (1996). UNESCO World Heritage Centre. Madison: Prehistory Press. Genetic analysis on the spread of barley from 9,000 to 2,000 BP[40] Spread of crops: the case of barley Main article: Barley One of the world's most important crops, barley, was domesticated in the Near East around 11,000 years ago (c. Transitions to Agriculture in Prehistory. 150 (3): 409-420. The second is in the middle Yangtze River, believed to be the homelands of the early Hmong-Mien-speakers and associated with the Pengtoushan and Daxi cultures. S2CID 85210429. "Evidence for the Austronesian Voyages in the Indian Ocean" (PDF). ^ Rindos, David (December 1987). "Evolution, Consequences and Future of Plant and Animal Domestication". PMID 24806472. ISSN 1932-6203. Monographie du CRA 6, Éditions Centre National de Recherches Scientifiques, Paris, 1992. ^ a b Weiss, Ehud; Kisilev, Mordochai E.; Hartmann, Anat (2006). 8 (11): e1000536. Routledge. p. 250. ^ a b c Wells, Jonathan C. Plant-food preparation area on an Upper Paleolithic brush hut floor at Ohalo II, Israel. S2CID 133600908. In Anne Birgitte Gebauer and T. However, today this theory has little support amongst archaeologists because subsequent climate data suggests that the region was getting wetter rather than drier.[21] The Hilly Flanks hypothesis, proposed by Robert Braidwood in 1948, suggests that agriculture began in the hilly flanks of the Taurus and Zagros mountains, where the climate was not drier as Childe had believed, and fertile land supported a variety of plants and animals amenable to domestication.[22] Associations of wild cereals and other wild grasses in Israel The Feasting model by Brian Hayden[23] suggests that agriculture was driven by ostentatious displays of power, such as giving feasts, to exert dominance. The Demographic theories proposed by Carl Sauer[24] and adapted by Lewis Binford[25] and Kent Flannery posit an increasingly sedentary population that expanded up to the carrying capacity of the local environment and required more food than could be gathered. ANU Press. doi:10.4065/79.1.101. D. The Goddess and the Bull: Catalhöyük, An Archaeological Journey to the Dawn of Civilization. The new tropical island environments also had new food plants that they exploited. He noted that the full range of domesticated animals (goats, sheep, cattle and pigs) were not found until the sixth millennium at Tell Ramad. Balter, Michael (2005). This led to an increase in the frequency of carious teeth[7] and slower growth in childhood and increased body fat, and studies have consistently found that populations around the world became shorter after the transition to agriculture. (Bellwood, 2011)[61] The agricultural centers in southern China are clustered around the Yangtze River basin. H.; Lawton, H.W. (eds.). New York: Free Press. ^ a b c d e f g h Material was copied from this source, which is available under a Creative Commons Attribution 4.0 International License Shukurov, Anvar; Sarson, Graeme R.; Gangal, Kavita (7 May 2014). 133-142 ^ Hillman, G. Current evidence suggests that Neolithic material culture was introduced to Europe via western Anatolia. (eds.). These included: hides and skins (from undomesticated animals) manure for soil conditioning (from all domesticated animals) wool (from goats, llamas, alpacas, and Angora goats) milk (from goats, cattle, yaks, sheep, horses, and camels) traction (from oxen, onagers, donkeys, horses, camels, and mules) guarding and herding assistance (dogs) Sherratt argued that this phase in agricultural development enabled humans to make use of the energy possibilities of their animals in new ways, and permitted permanent intensive subsistence farming and crop production, and the opening up of heavier soils for farming. In Blech, Roger; Spriggs, Matthew (eds.). doi:10.1002/ajpa.22215. "Farmers and Their Languages: The First Expansions". ^ Bellwood 2004, pp. 68-69. "The Near-Eastern Roots of the Neolithic in South Asia". 177 (5): 377-389. Imprimerie Catholique. Ultimately, Childe argued that this growing social complexity, all rooted in the original decision to settle, led to a second Urban Revolution in which the shepherd Neolithic flint industry from the Bekaa Valley in Lebanon and Neolithic farmers' diets were higher in carbohydrates but lower in fibre, micronutrients, and protein. JSTOR 10.2979/femistudrelli.30.1.85. Two potentially significant economic species, taro (*Colocasia esculenta*) and yam (*Dioscorea* sp.), have been identified dating at least to 10,200 calibrated years before present (cal BP). ISSN 1573-7802. J. "The Origins of Sex Differences in Human Behavior: Evolved Dispositions Versus Social Roles". "Evidence for food storage and predomestication granaries 11,000 years ago in the Jordan Valley". p. 23. "Brain Evolution, the Determinants of Food Choice, and the Omnivore's Dilemma". terra australis. "Molecular evidence for a single evolutionary origin of domesticated rice". Bibcode:2018PLoSO...1396652L. In "A Reassessment of the Neolithic Revolution". Frank Hole further expanded the relationship between plant and animal domestication. 30 (1): 85-109. (1979). Many grinding stones are found with the early Egyptian Sebilian and Mechian cultures and evidence has been found of a neolithic domesticated crop-based economy dating around 7,000 BP.[74][75] Unlike the Middle East, this evidence appears as a "false dawn" to agriculture, as the sites were later abandoned, and permanent farming then was delayed until 6,500 BP with the Tassian culture and Badarian culture and the arrival of crops and animals from the Near East. 150 (1): 12-20. London: Thames and Hudson. American Journal of Physical Anthropology. ScienceDaily. Worlds together, worlds apart. Because the advent of agriculture made it possible to support larger groups, agriculturalists lived in more permanent dwellings in areas that were more densely populated than could be supported by the hunter-gatherer lifestyle. Brami, Maxime N. ^ Beaujard, Philippe (August 2011). doi:10.1371/journal.pone.0052146. The Holocene. Also, during this time property ownership became increasingly important to all people. In Europe, the spread of the Neolithic culture has been associated with distribution of the E11b1 lineages and Haplogroup J that are thought to have arrived in Europe from North Africa and the Near East respectively.[100][101] In Africa, the spread of farming, and notably the Bantu expansion, is associated with the dispersal of Y-chromosome haplogroup E1b1a from West Africa.[100] [unrelated Link] Comparative chronology See also Anthropocene Behavioral modernity Broad spectrum revolution Haplogroup G (Y-DNA) Haplogroup J2 (Y-DNA) Haplogroup K (mtDNA) Neolithic tomb Original affluent society Surplus product Gobekli Tepe References ^ Jean-Pierre Bocquet-Appel (July 29, 2011). 300 (5619): 597-603. ^ a b c d e f Material was copied from this source, which is available under a Creative Commons Attribution 4.0 International License Jones, Martin K.; Kovaleva, Olga (18 July 2018). Vol. 1 (concise ed.). As the climate in the Middle East changed and became drier, many of the farmers were forced to leave, taking their domesticated animals with them. Remains of food-producing societies in the Aegean have been carbon-dated to around 6500 BCE at Knossos, Franchthi Cave, and a number of mainland sites in Thessaly. Bibcode:2003Sci...300..597D. UCL Press Ltd, London, 1996 ^ Zohary, D., Monophyletic vs. ^ Brami, Maxime N. American Psychologist. Genetic Resources and Crop Evolution 46 (2) pp. Henri Fleisch discovered and termed the Shepherd Neolithic flint industry from the Bekaa Valley in Lebanon and suggested that it could have been used by the earliest nomadic shepherds. The Baltic region was penetrated a bit later, around 5500 BP, and there was also a delay in settling the Pannonian plain. 10,000 BP. ISSN 1553-7404. "Emergence of Agriculture in the Foothills of the Zagros Mountains of Iran". ^ van Zeist, W. doi:10.1126/science.1085255. ^ Kessler, Lisa (2003). ISSN 1040-6182. Cambridge University Press. PMID 20467463. PMID 28059138. ISBN 978-1-76046-116-4. ^ The Cambridge History of Africa ^ Smith, Philip E.L., Stone Age Man on the Nile. Scientific American Vol. In Ucko, Peter John; Dimbleby, G. S2CID 44575525. Geographical Project. Hole concluded that "close attention should be paid to future investigations to the western margins of the Euphrates basin, perhaps as far south as the Arabian Peninsula, especially where wadis carrying Pleistocene rainfall runoff flowed."[30] Early harvesting of cereals (23,000 BP) Composite sickles for cereal harvesting at 23,000 Years-Old Use-wear analysis of five glossed flint blades found at Ohalo II, a 23,000-years-old fisher-hunter-gatherers' camp on the shore of the Sea of Galilee, Northern Israel, provides the earliest evidence for the use of composite cereal harvesting tools.[31] The Ohalo site is at the junction of the Upper Paleolithic and the Early Epipaleolithic, and has been attributed to both periods.[32] The wear traces indicate that tools were used for harvesting near-ripe semi-green wild cereals, shortly before grains are ripe and disperse naturally.[31] The studied tools were not used intensively, and they reflect two harvesting modes: flint knives held by hand and inserts hafted in a handle.[31] The finds shed new light on cereal harvesting techniques some 8,000 years before the Natufian and 12,000 years before the establishment of sedentary farming communities in the Near East.[31] Furthermore, the new finds accord well with evidence for the earliest ever cereal cultivation at the site and the use of stone-made grinding implements.[31] Domestication of plants Further information: History of agriculture Once agriculture started gaining momentum, around 9000 BP, human activity resulted in the selective breeding of cereal grasses (beginning with emmer, einkorn and barley), and not simply of those that favoured greater caloric returns through larger seeds. Guns, Germs, and Steel. "The Worst Mistake in the History of the Human Race". ^ a b L. Besides being a direct source of food, certain animals could provide leather, wool, hides, and fertilizer. PMID 24564590. 11,000 years ago. Westview Press. Some examples of infectious diseases spread from animals to humans are influenza, smallpox, and measles.[95] Ancient microbial genomics has shown that progenitors to human-adapted strains of *Salmonella enterica* infected up to 5,500 year old agro-pastoralists throughout Western Eurasia, providing molecular evidence for the hypothesis that the Neolithization process facilitated the emergence of human-disease.[96] In concordance with a process of natural selection, the humans who first domesticated the big mammals quickly built up most of the population to the diseases as within each generation the individuals with better immunities had better chances of survival. "The Dispersal of Austronesian boat forms in the Indian Ocean". doi:10.1007/s12284-011-9068-9. ^ Hayden, Brian (1992). Cambridge, MA: MIT Press. New Haven and London: Yale University Press. ISBN 978-1-4051-5614-1. ^ a b c d e f Bellwood, Peter (9 December 2011). Vol. 46. Subsequent revolutions Domesticated cow being milked in Ancient Egypt Sherratt has argued that following upon the Neolithic Revolution was a second phase of discovery that he refers to as the secondary products revolution. In addition, the denser populations could form and support legions of professional soldiers. BC." in: F. ^ Bellwood 2004, pp. 68-72. Once trade and a secure food supply were established, populations could grow, and society could diversify into food producers and artisans, who could afford to develop their trade by virtue of the free time they enjoyed because of a surplus of food. ^ Hermanussen, Michael; Poustka, Fritz (July-September 2003). The Neolithic Revolution greatly narrowed the diversity of foods available, resulting in a downturn in the quality of human nutrition compared with that obtained previously from foraging.[5][6][7] The Neolithic Revolution involved far more than the adoption of a limited set of food-producing techniques. hdi:10125/17181. C. ISBN 978-0-521-65135-6. The Archaeology of South Asia: From the Indus to Asoka, c. "AFIP analysis of a collection of tetraploid wheats indicates the origin of emmer and hard wheat domestication in southeast Turkey". Their diet was well-balanced and depended on what the environment provided each season. ISBN 978-0-12-589281-0. Bocquet-Appel, Jean-Pierre, editor and Ofer Bar-Yosef, editor, The Neolithic Demographic Transition and its Consequences. Springer (October 21, 2008), hardcover, 544 pages, ISBN 978-1-4020-8538-3, trade paperback and Kindle editions are also available. (2005). ^ Feltenburg, E.J.; Wasse, Alexander; Council for British Research in the Levant (2004). Crops & Man: Views on Agricultural Origins ASA, CSA, Madison, WI. PMC 3524165. Peter Richerson, Robert Boyd, and Robert Bettinger[27] make a case for the development of agriculture coinciding with an increasingly stable climate at the beginning of the Holocene. PMID 27808039. Based on analysis of the genes of domesticated plants, he preferred theories of a single, or at most a very small number of domestication events for each taxon that spread in an arc from the Levantine corridor around the Fertile Crescent and later into Europe.[33][34] Gordon Hillman and Stuart Davies carried out experiments with varieties of wild wheat to show that the process of domestication would have occurred over a relatively short period of between 20 and 200 years.[35] Some of the pioneering attempts failed at first and crops were abandoned, sometimes to be taken up again and successfully domesticated thousands of years later; ryie, tried and abandoned in Neolithic Anatolia, made its way to Europe as weed seeds and was successfully domesticated in Europe, thousands of years after the earliest agriculture.[36] Wild lentils presented a different problem: most of the wild seeds do not germinate in the first year; the first evidence of lentil domestication, breaking dormancy in their first year, appears in the early Neolithic at Jerf el Ahmar (in modern Syria), and lentils quickly spread south to the Netiv HaGudud site in the Jordan Valley.[36] The process of domestication allowed the founder crops to adapt and eventually become larger, more easily harvested, more dependable[clarification needed] in storage and more useful to the human population. 106. No. 27, pp. 10966-10970. The animal's ability as a worker (for example ploughing or towing), as well as a food source, also had to be taken into account. Balkan Prehistory: Exclusions, Incorporation and Identity. Trends in Ecology & Evolution. ^ a b Graeme Barker (2009). doi:10.1186/1743-422X-7-52. In Sally R. Background Hunter-gatherers had different subsistence requirements and lifestyles from agriculturalists. ^ Binford, Lewis R. doi:10.1007/s10963-019-09135-y. In Anderson, Athol; Barrett, James H.; Boyle, Katherine V. Various social and economic factors helped drive the need for food. Binford and Lewis R. ^ Scarre, Chris (2005). ^ Siddiqi, Mohammad Rafiq (2001). During the next millennia it transformed the small and mobile groups of hunter-gatherers that had hitherto dominated human pre-history into sedentary (non-nomadic) societies based in built-up villages and towns. The development of larger societies led to the development of different means of decision making and to governmental organization. Internal developments and external relations during the 9th-6th millennia cal BC, Proc. 312 (5780): 1608-1610. ^ Armelagos,

Gordon J. R.; Rugganmann, M., Volume 6, Number 2 / September 2007 [1] ^ Hole, Frank, A Reassessment of the Neolithic Revolution, *Paléorient*, Volume 10, Issue 10-2, pp. B5PF, vol. Bellwood, Peter (2004). He noted that no transition site had been found documenting the shift from he termed immediate and delayed return social systems doi:10.1037/26942421. The peiotic acid in the diet was likely to have been absorbed. New crops domesticated in West Africa include African rice, yams and the oil palm.[73] Agriculture spread to the Balkans and Southern Africa in the Bantu expansion during the 1st millennium BCE to the 1st millennium CE. PMC 2916717. PMID 30020920. ^ McGourty, Christine (2002-11-22). ISBN 978-1-316-41898-. The birth of agriculture corresponds to the period of quickly rising temperature at the end of the cold spell of the Younger Dryas and the beginning of the long and warm period of the Holocene.[12] Map of the world showing approximate centers of origin of agriculture and its spread in prehistory: the Fertile Crescent (11,000 BP), the Yangtze and Yellow River basins (9,000 BP) and the Papua New Guinea Highlands (9,000-6,000 BP), Central Mexico (5,000-4,000 BP), Northern South America (5,000-4,000 BP, sub-Saharan Africa (5,000-4,000 BP, exact location unknown), eastern North America (4,000-3,000 BP). [13] The term 'neolithic revolution' was coined by V. Mayo Clin Proc (Review). Plants with traits such as small seeds or bitter taste were seen as undesirable. 90% or more of many populations of the Americas were wiped out by European and African diseases before recorded contact with European explorers or colonists. Transition from hunter-gatherer to settled peoples in human history This article is about the introduction of agriculture during the Stone Age. ISBN 978-1-107-09046-0. The Agricultural Revolution in Prehistory: Why Did Foragers Become Farmers?. The Borderlands of Science. Therefore, it became necessary to bring animals permanently to their settlements, although in many cases there was a distinction between relatively sedentary farmers and nomadic herders.[80][original research?] The animals' size, temperament, diet, mating patterns, and life span were factors in the desire and success in domesticating animals. Vol. 34 (reprint ed.). Neolithic: grindstone or quern for processing grain Selectively propagated figs, wild barley and wild oats were cultivated at the early Neolithic site of Gilgal I, where in 2006[37] archaeologists found caches of seeds of each in quantities too large to be accounted for even by intensive gathering, at strata dated to c. Inventory of Stone-Age Sites in Lebanon: North, South and East-Central Lebanon. World History Encyclopedia. SCID 25488602. ^ "Tamed 11,400 Years Ago, Figs Were Likely First Domesticated Crop". The process was not as linear as was once thought, but a more concerted effort, which was undertaken by different human populations in different regions in many different ways. "Prehistoric evolution of the dualistic structure of mixed rice and millet farming in China" This emigration was mainly on an east-west axis of similar climates, as crops usually have a narrow optimal climatic range outside of which they cannot grow for reasons of light or rain changes. doi:10.1177/0959683617708455. SCZID 211663314. There is good evidence for the local domestication of barley and the zebu cattle at Mehrgarh, but the wheat varieties are suggested to be of Near-Eastern origin, as the modern distribution of wild varieties of wheat is limited to Northern Levant and Southern Turkey.[59] A detailed satellite map study of a few archaeological sites in the Baluchistan and Khybar Pakhtunkhwa regions also suggests similarities in early phases of farming with sites in Western Asia.[59] Pottery prepared by sequential slab construction, circular fire pits filled with burnt pebbles, and large granaries are common to both Mehrgarh and many Mesopotamian sites.[59] The postures of the skeletal remains in graves at Mehrgarh bear strong resemblance to those at Ali Kosh in the Zagros Mountains of southern Iran.[59] Despite their scarcity, the 14C and archaeological age determinations for early Neolithic sites in Southern Asia exhibit remarkable continuity across the vast region from the Near East to the Indian Subcontinent, consistent with a systematic eastward spread at a speed of about 0.65 km/yr.[59] In East Asia See also: Rice domestication, Neolithic China, and Domesticated plants and animals of Austronesia Spatial distribution of rice, millet and mixed farming sites in Neolithic China (He et al., 2017)[60] Agriculture in Neolithic China can be separated into two broad regions, Northern China and Southern China.[60][61] The agricultural center in northern China is believed to be the homelands of the early Sino-Tibetan-speakers, associated with the Houli, Peiligang, Cishan, and Xinglongwa cultures, clustered around the Yellow River basin.[60][61] It was the domestication center for foxtail millet (*Setaria italica*) and broomcorn millet (*Panicum milaceum*), with early evidence of domestication approximately 8,000 years ago.[62] and widespread cultivation 7,500 years ago.[62] Soybean was first domesticated in northern China 4,500 years ago.[63] Orange and peach also originated in China, being cultivated around 2500 BCE.[64][65] Possible language family homelands, and likely routes of early rice transfer (c. Diamond, Jared (1997). SCZID 83125044. doi:10.1016/j.plantsci.2009.07.011. "The Theoretical Development of the Sociology of Religion: A Chapter in the History of Modern Social Science". Strang, Veronica (2014). Press. 3. Un pollicisor on plain air. Azania: Archaeological Research in Africa. The development of trading networks and complex societies brought them into contact with outside groups.[11] However, population increase did not necessarily correlate with improved health. Agriculture in Semi-Arid Environments. ^ Thacker, Christopher (1985). SCZID 162916204. PMC 5120854. Corn and Culture in the Prehistoric New World. "Early Mixed Farming of Millet and Rice 7800 Years Ago in the Middle Yellow River Region, China". ^ Walter, Annie; Lebot, Vincent (2007). ISSN 1664-2392. ^ a b Diamond, Jared (1999). S. Tylenchida: Parasites of Plants and Insects. Archeological investigations on the Deh Luran Plain of Iran have provided a model for the internal dynamics of the culture sequence of prehistoric Khuzistan [...]. EMuseum. Ronald Wright's book and Massey Lecture Series A Short History of Progress[28] popularized this hypothesis. "Ancient DNA Analysis of 8000 B.C. Near Eastern Farmers Supports an Early Neolithic Pioneer Maritime Colonization of Mainland Europe through Cyprus and the Aegean Islands". ^ a b c d e Material was copied from this source, which is available under a Creative Commons Attribution 4.0 International License Nadel, Dani; Weiss, Ehud; Groman-Yaroslavski, Iris (23 November 2016). "35: The origin of agriculture and the first villagers". (October 2002). pp. 239-268. Bibcode:2017NatSR...740338P. CABI. PMID 32094538. Retrieved 2006-11-29. ^ Mithen, Steven (2006). doi:10.1016/j.qunt.2006.01.004. Thank you very much for your cooperation. "Was Agriculture Impossible during the Pleistocene but Mandatory during the Holocene?". 42 (1): 72–95. 7500 BCE. K.; Powell, W.; Allaby, R. 19 (10): 1797–801. "The complex origins of domesticated crops in the Fertile Crescent" (PDF). Both shared the temperate climate ideal for the first agricultural ventures, both were near a number of easily domesticable plant and animal species, and both were safer from attacks of other people than civilizations in the middle part of the Eurasian continent. ^ Webber, Herbert John (1967-1969). "Y Haplogroups, Archaeological Cultures and Language Families: a Review of the Multidisciplinary Comparisons using the case of E-M35" (PDF). Gordon Childie in his 1936 book Man Makes Himself[14][15] Childie introduced it as the first in a series of agricultural revolutions in Middle Eastern history.[citation needed] calling it a "revolution" to denote its significance, the degree of change to communities adopting and refining agricultural practices.[citation needed] The beginning of this process in different regions has been dated from 10,000 to 8,000 BCE in the Fertile Crescent,[16][17] and perhaps 8000 BCE in the Kuk Early Agricultural Site of Papua New Guinea in Melanesia.[18][19] Everywhere, this transition is associated with a change from a largely nomadic hunter-gatherer way of life to a more settled, agrarian one, with the domestication of various plant and animal species – depending on the species locally available, and probably influenced by local culture. ^ a b Semino, O; et al. Bibcode:2016PLoSO...1167151G. For later historical breakthroughs in agriculture, see Agricultural revolution (disambiguation). 108 (20): 8351–83516. New Brunswick, New Jersey: Transaction Publishers (published 2007). Retrieved 2017-08-20. doi:10.1126/science.1127235. Being among the first to adopt agriculture and sedentary lifestyles, and neighboring other agricultural societies with whom they could compete and trade, both Europeans and East Asians were also among the first to benefit from technologies such as firearms and steel swords.[99] Archaeogenetics Further information: Genetic history of the Middle East and Early European Farmers The dispersal of Neolithic culture from the Middle East has recently been associated with the distribution of human genetic markers. p. 57. 53. PMC 4012948. American Antiquity. ^ Brown, T. Critical Reviews in Food Science and Nutrition. They resided in temporary shelters and were highly mobile, moving in small groups, and had limited contact with outsiders. Archived from the original on 2013-02-12. "Art of cheese-making is 7,500 years old". 698 (12). "The Development of Agriculture". Neolithic groups appear soon afterwards in the Balkans and south-central Europe. He suggested the events could have occurred independently over different periods of time, in as yet unexplored locations. The Agricultural Revolution in Prehistory: Why Did Foragers Become Farmers?. University of California ^ Molina, J.; Sikora, M.; Garud, N.; Flowers, J. ^ Fleisch, Henri. Notes de Préhistoire Libanaise - 1) Ard Essouf, Neolithic Sites in the Damascus Basin: Aswad, Ghorafie, Ramad., Palaeohistoria, 24, 165–256, 1982. Eventually granaries were developed that allowed villages to store their seeds longer. Impact of rapid environmental changes on humans and ecosystems. ^ a b c d e f He, Keyang; Lu, Houyuan; Zhang, Jianping; Wang, Can; Huan, Xujia (7 June 2017). Human Evolution: An Illustrated Introduction (5d.). In general, colonization shows a "saltatory" pattern, as the Neolithic advanced from one patch of fertile alluvial soil to another, bypassing mountainous areas. PMID 15069642. So with more food, the population expanded and communities developed specialized workers and more advanced tools. doi:10.1371/journal.pgen.1004401. doi:10.1093/oxfordjournals.molbev.a004002. Reconstitution of Pre-Pottery Neolithic B housing in Aşkılı Höyük, modern Turkey. In the Americas Further information: New World crops, Ancestral Puebloans, Oaissamerica, and Proto-Uto-Aztecan Maize (corn), beans and squash were among the earliest crops domesticated in Mesoamerica: squash as early as 6000 BCE, beans no later than 4000 BCE, and maize beginning about 4000 BCE.[76] Potatoes and manioc were domesticated in South America. ISSN 1040-8398. Despite the significant technological advance, the Neolithic revolution did not lead immediately to a rapid growth of population. "Cardiovascular disease resulting from a diet and lifestyle at odds with our Paleolithic genome: how to become a 21st-century hunter-gatherer". CSIRO has found evidence that taro was introduced into the Solomon Islands for human use, from 28,000 years ago, making taro cultivation the earliest crop in the world.[78][79] It seems to have resulted in the spread of the Trans-New Guinea languages from New Guinea east into the Solomon Islands and west into Timor and adjacent areas of Indonesia. San Francisco: Freeman. ISBN 0-500-28531-4. Charles E. International Feminist Journal of Politics. ISSN 2045-2322. From such a position, it is argued[by whom?], prehistoric people were able to stockpile food to survive lean times and trade unwanted surpluses with others. The dispersal rate amounts to about 0.6 km per year[66] The earliest Neolithic sites in South Asia are the Mehrgarh sites in the Kachi plain of Baluchistan, Pakistan; the site has evidence of farming (wheat and barley) and herding (cattle, sheep and goats). doi:10.1371/journal.pone.0095714. PMID 23359102. Blackwell. The earliest known civilization developed in Sumer in southern Mesopotamia (c. 6,500 BP); its emergence also heralded the beginning of the Bronze Age.[8] The relationship of the above-mentioned Neolithic characteristics to the onset of agriculture, their sequence of emergence, and empirical relation to each other at various Neolithic sites remains the subject of academic debate, and varies from place to place, rather than being the outcome of universal laws of social evolution.[9][10] The Levant saw the earliest developments of the Neolithic Revolution from around 10,000 BCE, followed by sites in the wider Fertile Crescent. ^ James C. PMID 19100651. ISSN 1573-7802. Starting with domestication by protection of wild plants, it led to specialization of location and then full-fledged domestication. "Life History Transitions at the Origins of Agriculture: A Model for Understanding How Niche Construction Impacts Human Growth, Demography and Health". (1968). In addition, khat, ensete, noog, teff and finger millet were also domesticated in the Ethiopian highlands. ^ Thissen, L. (received July 2005) "Early and mid Holocene tool-use and processing of taro (*Colocasia esculenta*), yam (*Dioscorea sp.*) and other plants at Kuk Swamp in the highlands of Papua New Guinea" (Journal of Archaeological Science, Volume 33, Issue 5, May 2006) ^ Loy, Thomas & Matthew Spriggs (1992). "Direct evidence for human use of plants 28,000 years ago: starch residues on stone artefacts from the northern Solomon Islands" (Antiquity Volume: 66, Number: 253, pp. K.; Stock, Jay T. The Origins of Agriculture: An Evolutionary Perspective. Recent archaeological research suggests that in some regions, such as the Southern Asian peninsula, the transition from hunter-gathering to agriculturalism was not linear, but region-specific.[20] There are several theories (not mutually exclusive) as to factors that drove populations to take up agriculture. Retrieved 2017-07-21. 79 (1): 101–108. Archived from the original on June 18, 2008. p. 89. "Appendix 1. The GANEW 14C dates, Anatolia 10,000–5000 cal. Harlan, Jack R. 16 (3): 389–409. Some of the plants tried and then abandoned during the Neolithic period in the Ancient Near East, at sites like Gilgal, were later successfully domesticated in other parts of the world. Frontiers in Endocrinology. Int. Plant Sci (Review). Vol. 34. "Origin, Diffusion, and Differentiation of Y-Chromosome Haplogroups E and J: Inferences on the Neolithization of Europe and Later Migratory Events in the Mediterranean Area". Genetic data suggest that no independent domestication of animals took place in Neolithic Europe, and that all domesticated animals were originally domesticated in Southwest Asia.[51] The only domesticate not from Southwest Asia was broomcorn millet, domesticated in East Asia.[52] The earliest evidence of cheese-making dates to 5500 BCE in Kujawy, Poland.[53] The diffusion across Europe, from the Aegean to Britain, took about 2,500 years (8500–6000 BP). Found in large quantities at Qaraoun II and often with Heavy Neolithic tools in the flint workshops of the Beqaa Valley in Lebanon. (2010). 13 (7): e0196652. PMC 4046922. One World Archaeology. Spike (2014-07-03). Binford (ed.). Living in one spot permitted the accrual of personal possessions and an attachment to certain areas of land. PMC 2838858. Anderson-Gerfaud (ed.) Préhistoire de l'agriculture: nouvelles approches expérimentales et ethnographiques. Diamond, in agreement with feminist scholars such as V. Some authors, like Jared Diamond, have postulated that this east-west axis is the main reason why plant and animal domestication spread so quickly from the Fertile Crescent to the rest of Eurasia and North Africa, while it did not reach through the north–south axis of Africa to reach the Mediterranean climates of South Africa, where temperate crops were successfully imported by ships in the last 500 years.[83] Similarly, the African Zebu of central Africa and the domesticated bovines of the fertile-crescent – separated by the dry sahara desert – were not introduced into each other's regions. ISBN 0-415-33312-8. Bananas and plantains, which were first domesticated in Southeast Asia, most likely Papua New Guinea, were re-domesticated in Africa possibly as early as 5,000 years ago. The kola nut was first domesticated in West Africa. Suggested by James Mellaart to be older than the Pottery Neolithic of Byblos (around 8,400 cal. The Birth of the Gods and the Origins of Agriculture. p. ^ Grinin L.E. Production Revolutions and Periodization of History: A Comparative and Theoretic-mathematical Approach. Its benefits appear to have been offset by various adverse effects, mostly diseases and warfare.[84] The introduction of agriculture has not necessarily led to unequivocal progress. ^ Flannery, Kent V. Domestication was a slow process that unfolded across multiple regions, and was preceded by centuries if not millennia of pre-domestication cultivation.[41] Finds of large quantities of seeds and a grinding stone at the Epipalaeolithic site of Ohalo II, dating to around 19,400 BP, has shown some of the earliest evidence for advanced planning of plants for food consumption and suggests that humans at Ohalo II processed the grain before consumption.[42][43] Tell Aswad is the oldest site of agriculture, with domesticated emmer wheat dated to 10,800 BP.[44][45] Soon after came hulled, two-row barley – found domesticated earliest at Jericho in the Jordan valley and at Iraq ed-Dubb in Jordan.[46] Other sites in the Levantine corridor that show early evidence of agriculture include Wadi Faynan 16 and Netiv Hagdud.[16] Jacques Cauvin noted that the settlers of Aswad did not domesticate on site, but "arrived, perhaps from the neighbouring Anti-Lebanon, already equipped with the seed for planting".[47] In the Eastern Fertile Crescent, evidence of cultivation of wild plants has been found in Choga Gholan in Iran dated to 12,000 BP, suggesting there were multiple regions in the Fertile Crescent where domestication evolved roughly contemporaneously.[48] The Heavy Neolithic Qaraoun culture has been identified at around fifty sites in Lebanon around the source springs of the River Jordan, but never reliably dated.[49][50] Europe Main article: Neolithic Europe Spread of farming from Southwest Asia to Europe, between 9600 and 4000 BCE Archaeologists trace the emergence of food-producing societies in the Levantine region of southwest Asia at the close of the last glacial period around 12,000 BCE, and developed into a number of regionally distinctive cultures by the eighth millennium BCE. doi:10.2979/jemistudiesi.30.1.85. If you're seeing this message, it means we're having trouble loading external resources on our website. Once early farmers perfected their agricultural techniques like irrigation (traced as far back as the 6th millennium BCE in Khuzistan[38][39]), their crops yielded surpluses that needed storage. doi:10.1371/journal.pone.0196652. 4 (3): 324–333. CiteSeerX 10.1.1.1013.4523. W.; Wilke, P. Genetic mitralineal distances between European Neolithic Linear Pottery Culture populations (5,500-4,900 calibrated BP) and modern Western Eurasian populations.[55] The spread of the Neolithic from the Near East (Neolithic to Europe was first studied quantitatively in the 1970s, when a sufficient number of Carbon 14 age determinations for early Neolithic sites had become available.[56] Ammerman and Cavalli-Sforza discovered a linear relationship between the age of an Early Neolithic site and its distance from the conventional source in the Near East (Jericho), demonstrating that the Neolithic spread at an average speed of about 1 km/yr.[56] More recent studies confirm these results and yield the speed of 0.6–1.3 km/yr (at 95% confidence level).[56] Analysis of mitochondrial DNA Since the original human expansions out of Africa 200,000 years ago, different prehistoric and historic migration events have taken place in Europe.[57] Considering that the movement of the people implies a consequent movement of their genes, it is possible to estimate the impact of these migrations through the genetic analysis of human populations.[57] Agricultural and husbandry practices originated 10,000 years ago in a region of the Near East known as the Fertile Crescent.[57] According to the archaeological record this phenomenon, known as "Neolithic", rapidly expanded from these territories into Europe.[57] However, whether this diffusion was accompanied or not by human migrations is greatly debated.[57] Mitochondrial DNA – a type of maternally inherited DNA located in the cell cytoplasm – was recovered from the remains of Pre-Pottery Neolithic B (PPNB) farmers in the Near East and then compared to available data from other Neolithic populations in Europe and also to modern populations from South Eastern Europe and the Near East.[57] The obtained results show that substantial human migrations were involved in the Neolithic spread and suggest that the first Neolithic farmers entered Europe following a maritime route through Cyprus and the Aegean islands.[57] Map of the spread of Neolithic farming cultures from the Near-East to Europe, with dates. "The Checked Prehistory of Rice Movement Southwards as a Domesticated Cereal – from the Yangzi to the Equator" (PDF). The most prominent ear: The Oasis Theory, originally proposed by Raphael Pumpelly in 1908, popularized by V. p. 335. PMID 17495986. It was this massive emigration from the Middle East that later helped distribute these animals to the rest of Afroeurasia. Fertilizers and irrigation may have increased crop yields but also would have promoted proliferation of insects and bacteria in the local environment while grain storage attracted additional insects and rodents.[11] Agricultural transition See also: Ancient grains Evolution of temperatures in the Post-Glacial period after the Last Glacial Maximum (LGM) according to Greenland ice cores. 7. 52. JSTOR 2694241. Modern distribution of the haplotypes of PPNB farmers Genetic distance between PPNB farmers and modern populations South Asia See also: South Asian Stone Age Expansion to South Asia Early Neolithic sites in the Near East and Southwest Asia 10,000–3,800 BPNeolithic dispersal from the Near East to South Asia suggested by the time of establishment of Neolithic sites as a function of distance from Geshur, Israel. 7. 40338. Bibcode:2013Sci...341...65R. PMID 20202190. p. 517. 10 (6): e1004401. doi:10.1080/14616742.2014.913384. E.; Cannell, G. "Ancient DNA from European Early Neolithic Farmers Reveals Their Near Eastern Affinities". ^ a b Larsen, Clark Spencer (2006-06-01). 46 (2): 169–189. Most hunter-gatherers could not easily store food for long due to their migratory lifestyle, whereas those with a sedentary dwelling could store their surplus grain. ^ Zalloua, Pierre A.; Mattisoo-Smith, Elizabeth B. (6 January 2017). (1969). SCZID 143567275 - via JSTOR. (2020). The region was the centre of domestication for three cereals (einkorn wheat, emmer wheat and barley), four legumes (lentil, pea, bitter vetch and chickpea), and flax. In what is now the eastern United States, Native Americans domesticated sunflower, sunpewee and goosefoot around 2500 BCE. ^ Bellwood 2004, pp. 74, 118. First Farmers: The Origins of Agricultural Societies. JSTOR 797393 - via JSTOR. PMID 14708953. A short history of everybody for the last 13,000 years. BP). Bibcode:2014PLoSO...995714G. In order to continue enjoying our site, we ask that you confirm your identity as a human. ^ Zohary, D. The mode of domestication of the founder crops of Southwest Asian agriculture. ^ O'Keefe JH, Cordain L (2004). PNAS. Vol. Quaternary of the Levant. PLOS Genetics. ISBN 978-1-84217-132-5. "Stature of early Europeans". Redman (1978). SCZID 45375155. "Origins of Food Production in Southwestern Asia: A Survey of Ideas" Current Anthropology, Vol. It also made possible nomadic pastoralism in semi arid areas, along the margins of deserts, and eventually led to the domestication of both the dromedary and Bactrian camel.[94] Overgrazing of these areas, particularly by herds of goats, greatly extended the areal extent of deserts. These societies radically modified their natural environment by means of specialized food crop cultivation, with activities such as irrigation and deforestation which allowed the production of surplus food. ^ a b Pollard, Elizabeth; Rosenberg, Clifford; Tignor, Robert (2015). Nature News. "When the World's Population Took Off: The Springboard of the Neolithic Demographic Transition". Such relative complexity would have required some form of social organisation to work efficiently, so it is likely that populations that had such organisation, perhaps such as that provided by religion, were better prepared and more successful. Some cultures like the Inca Empire did have a large domestic mammal, the llama, but llama milk was not drunk, nor did llamas live in a closed space with humans, so the risk of contagion was limited. CANEW Round Table, Istanbul 23–24 November 2001, (2002) ^ Denham, Tim P.; Haberle, S. doi:10.1126/science.1236743. Minnesota State University. BBC News. ^ Diamond, J.; Bellwood, P. The Global Origins and Development of Seafaring. Journal of Genetic Genealogy. Gardens of Oceania. This required assembling large quantities of food, which drew agricultural technology. He highlighted the importance of wheat, barley and rye, and suggested that domestication of flax, peas, chickpeas, bitter vetch and lentils came a little later. A.; Bustamante, C. PMID 21798934. K. ISSN 2397-334X. Material was copied from this source, which is available under a Creative Commons Attribution 4.0 International License. ^ a b c d e f g Material was copied from this source, which is available under a Creative Commons Attribution 4.0 International License Turbón, Daniel; Arroyo-Pardo, Eduardo (5 June 2014). p. American Journal of Human Genetics. SCZID 163474968. and M. In Golsan, Jack; Denham, Tim; Hughes, Philip; Swadling, Pamela; Muke, John (eds.). Cohen, Mark Nathan (1977)The Food Crisis in Prehistory: Overpopulation and the Origins of Agriculture. Virology journal. p. 111. The approximate coastlines during the early Holocene are shown in lighter blue. They carried useful plants and animals during each colonization voyage, resulting in the rapid introduction of domesticated and semi-domesticated species throughout Oceania. ^ Mahdi, Waruno (1999). Chicago: Aldine Publishing Company. (2013). PLOS ONE. Anansi. Rice was domesticated in this region, together with the development of paddy field cultivation, between 13,500 and 8,200 years ago.[60][66][67] There are two possible centers of domestication for rice. Maya Haidir Boustani, Flint workshops of the Southern Beqa' valley (Lebanon): preliminary results from Qar'oun 'n Neolithic revolution: new perspectives on southwest Asia in light of recent discoveries on Cyprus. 9,000 BCE).[40] Barley is a highly resilient crop, able to grow in varied and marginal environments, such as in regions of high altitude and latitude.[40] Archaeobotanical evidence shows that barley had spread throughout Eurasia by 2,000 BCE.[40] To further elucidate the routes by which barley cultivation was spread through Eurasia, genetic analysis was used to determine genetic diversity and population structure in extant barley taxa.[40] Genetic analysis shows that cultivated barley spread through Eurasia via several different routes, which were most likely separated in both time and space.[40] Development and diffusion Beginnings in the Levant Main articles: Pre-Pottery Neolithic and Pottery Neolithic The Neolithic is characterized by fixed human settlements and the invention of agriculture from c. Reliance on a single crop can adversely affect health even while making it possible to support larger numbers of people. Rise of Civilization: From Early Hunters to Urban Societies in the Ancient Near East. ^ a b c d Original text published under Creative Commons license CC BY 4.0. Shukurov, Anvar; Sarsion, Graeme R.; Gangal, Kavita (2014). pp. 11–18. "Phase 4: Major Disposal Channels, Slot-Like Ditched and Grid-Patterned Fields". Map of Southwest Asia showing the main archaeological sites of the Pre-Pottery Neolithic period. c. Harris (ed.) The Origins and Spread of Agriculture and Pastoralism in Eurasia, paperback ed., 142–158 in D. ^ Hopf, Maria. "Jericho plant remains" in Kathleen M. Analysis of radiocarbon dates show clearly that Mesolithic and Neolithic populations lived side by side for as much as a millennium in many parts of Europe, especially in the Iberian peninsula and along the Atlantic coast.[54] Carbon 14 evidence Ancient European Neolithic farmers were genetically closest to modern Near-Eastern Anatolian populations. New York: W.W. Norton & Company. [...] the Neolithic transition involved increasing sedentism and social complexity, which was usually followed by the gradual adoption of plant and animal domestication. "Origin of measles virus: Divergence from rinderpest virus between the 11th and 12th centuries". Chapter I. He dated this industry to the Epipalaeolithic or Pre-Pottery Neolithic as it is evidently not Palaeolithic, Mesolithic or even Pottery Neolithic.[50][82] The presence of these animals gave the region a large advantage in cultural and economic development. In Hall, A. Animals that provided milk, such as cows and goats, offered a source of protein that was renewable and therefore quite valuable. ^ Eagly, Alice H.; Wood, Wendy (June 1999). 6500 BCE-200 CE. Scientific Reports. "Elevating optimal human nutrition to a central goal of plant breeding and production of plant-based foods". Journal of World Prehistory. Oxbow Books. R. This seems to confirm the theories of Carl Sauer who, in "Agricultural Origins and Dispersals", suggested as early as 1952 that this region was a centre of early agriculture. Spike Peterson, points out that agriculture brought about deep social divisions and encouraged gender inequality.[90][91] This social reshuffle is traced by historical theorists, like Veronica Strang, through developments in theological depictions.[92] Strang supports her theory through a comparison of aquatic deities before and after the Neolithic Agricultural Revolution, most notably the Venus of Lespugue and the Greco-Roman deities such as Circe or Charybdis; the former venerated and respected, the latter dominated and conquered. The theory, supplemented by the widely accepted assumption from Parsons that "society is always the object of religious veneration"[93] argues that with the centralization of government and the dawn of the Anthropocene, roles within society became more restrictive and were rationalized through the conditioning effect of religion; a process that is crystallized in the progression from polytheism to monotheism. ^ Denham, Tim et al. 2 (3): 175–178. doi:10.1126/science.1078208. Jared Diamond, 1997 ^ Halvors, S. 7 (12): e52146. doi:10.1080/00667270X.2011.580142. In many regions, the adoption of agriculture by prehistoric societies caused episodes of rapid population growth, a phenomenon known as the Neolithic demographic transition. Academic Press. 4 (3–4): 93–103. Science. A.; Jones, M. SCZID 147633811. The artisans, in turn, were able to develop technology such as metal weapons. IRD Editions-CIRAD. ^ a b Fuller, D. ^ "The Slow Birth of Agriculture" Archived 2011-01-01 at the Wayback Machine, Heather Pringle ^ "Wizard Keith Shanidar", 235 No. 2, August 1976: "With the benefit of hindsight we can now see that many Late Palaeolithic peoples in the Old World were poised on the brink of plant cultivation and animal husbandry as an alternative to the hunter-gatherer way of life". PMID 24901650. PMC 2866137. Bailey, Douglass. ISSN 978-1-86320-470-5. ^ a b The Cambridge World History of Food. ^ Riehl, Simone; Zeigler, Mohsen; Conrad, Nicholas (2013-07-05). Molecular Biology and Evolution. Animals, it appears, were first domesticated purely as a source of meat.[94] The Secondary Products Revolution occurred when it was recognised that animals also provided a number of other useful products. Retrieved 2012-12-06. "The World Transformed: From Foragers and Farmers to States and Empires" in The Human Past: World Prehistory and the Development of Human Societies (Ed. Chris Scarre), "Neolithic Period". ISBN 0-415-21598-6. (2008). doi:10.1371/journal.pbio.1000536. Agriculture appeared first in Southwest Asia about 2,000 years later, around 10,000-9,000 years ago. ISBN 978-0-262-36557-2. 4 June 2006. Cambridge University Press Cambridge World Archaeology. (2001). "Ancient Agricultural Systems in Dry Regions of the Old World". "Origin of dogs traced". pp. 144–179. This area was also the first region to domesticate the dromedary. "The first migrants to Madagascar and their introduction of plants, linguistic and ethnological evidence" (PDF). E.; Harris, N. ISBN 978-3-642-67328-3. Domestication of animals in the Middle East Dromedary caravan in Algeria The Middle East served as the source for many animals that could be domesticated, such as sheep, goats and pigs. After the ice a global human history, 20,000-5,000 BC (1. Sedentary village life based on farming did not develop until the "formative period" in the second millennium BCE.[77] In New Guinea See also: Domesticated plants and animals of Austronesia Evidence of drainage ditches at Kuk Swamp on the borders of the Western and Southern Highlands of Papua New Guinea indicates cultivation of taro and a variety of other crops, dating back to 11,000 BP. doi:10.1086/386295. Further evidence of bananas and sugarcane dates to 6,950 to 6,440 BCE. 3,500 to 500 BCE. doi:10.2307/2707383. Discover Magazine: 64–66. doi:10.1037/0003-066X.54.6.408. "The Invention of Prehistory and the Rediscovery of Europe: Exploring the Intellectual Roots of Gordon Childie's 'Neolithic Revolution' (1936)". ^ a b Sherratt 1981 ^ Furse, Y.; Suzuki, A.; Oshitani, H. "The agricultural revolution as environmental catastrophe: Implications for health and lifestyle in the Holocene". ^ Violatti, Cristian (2 April 2018). 54 (10): 1330–1341. 74 (5): 1023–1034. Jared Diamond (1997). Bellwood (2011) proposes that this may have been the impetus of the Austrasian expansion which started with the migration of the Austronesian-speakers from Taiwan to the Philippines at around 5,000 BP.[61] Austronesians carried rice cultivation technology to Island Southeast Asia along with other domesticated species. (2019-12-01). "Barley heads east: Genetic analyses reveal routes of spread through diverse Eurasian landscapes". doi:10.1126/science.1208880. A full five thousand years later it has risen only to 5 million...One likely explanation for this apparent human progress in subsistence techniques together with a long period of demographic stagnation is that demographically this was perhaps the most lethal period in human history". ^ The Kuk Early Agricultural Site". ISSN 1461-6742. ^ Johannessen, S.; Hastorf, C. doi:10.3389/fendo.2020.00325. "Origins of Agriculture at Kuk Swamp in the Highlands of New Guinea" (PDF). Kenyon and T. They also came into contact with the early agricultural centers of Papuan-speaking populations of New Guinea as well as the Dravidian-speaking regions of South India and Sri Lanka by around 3,500 BP. Bibcode:2017Holoc...27.1885H. Douglas Price (ed.). Bibcode:2006QuInt.150...12L. It is characterized by typical pre-Austronesian features, including stilt houses, jade carving, and boat technologies. Gordon Childie in 1928 and summarised in Childie's book Man Makes Himself.[14] This theory maintains that as the climate got drier due to the Atlantic depressions shifting northward, communities contracted to oases where they were forced into close association with animals, which were then domesticated together with planting of seeds. 100 (5): 903–924. (1952). The evolutionary/intentionality theory, developed by David Rindos[26] and others, views agriculture as an evolutionary adaptation of plants and humans. The result is that a population can increase more rapidly. 24 (2): 103–109. Man Makes Himself. "Models of Domestication". ^ Blech, Roger (2010). PMID 12270906. Ten Thousand Years of Cultivation at Kuk Swamp in the Highlands of Papua New Guinea. Part of a series onHuman historyHuman Era 1 Prehistory (Pleistocene epoch) Holocene TimelinesNeolithic - Contemporary(10,000 BCE - Present) Age of the human race Recorded history Earliest records Protohistory Proto-writing Ancient Bronze age Iron Age Antiquity Classical antiquity Late antiquity Africa North America South America Oceania East Asia South Asia Southeast Asia West Asia Europe Modern Early modern Late modern Africa North America South America Oceania East Asia South Asia Southeast Asia West Asia Europe See also Modernity Futurology Paleontology history 1 Future vte History of technology By technological era Pre-modern history Prehistoric Stone Age Neolithic Revolution Bronze Age Iron Age Ancient modern history Proto-industrialization First Industrial Revolution Steam Age Standardization Second Industrial Revolution(Technological Revolution) Machine Age Atomic Age Jet Age Space Age Third Industrial Revolution(Digital Revolution) Digital transformation Information Age Fourth Industrial Revolution Future Imagination Age Emerging technologies By historical regions Ancient Africa Ancient Egypt Indian subcontinent Ancient China Maya civilization Hellenistic world Roman Empire Byzantine Empire Medieval Europe Medieval world Arab Agricultural Revolution Medieval Europe Renaissance Europe By type of technology History of agriculture History of biotechnology History of communication History of computer hardware History of electrical engineering History of manufacturing History of materials science History of measurement History of medicine History of nuclear technology History of transport Technology timelines Timeline of historic inventions Complete list by category Article indices Outline of technology Outline of prehistoric technology vte The Neolithic Revolution, or the (First) Agricultural Revolution, was the wide-scale transition of many human cultures during the Neolithic period from a lifestyle of hunting and gathering to one of agriculture and settlement, making an increasingly large population possible.[1] This settled communities permitted humans to observe and experiment with plants, learning how they grew and developed.[2] This new knowledge led to the domestication of plants.[2][3] Archaeological data indicates that the domestication of various types of plants and animals happened in separate locations worldwide, starting in the geological epoch of the Holocene 11,700 years ago.[4] It was the world's first historically verifiable revolution in agriculture. 576–621. British School of Archaeology at Jerusalem, London, 1983. Proceedings of the National Academy of Sciences. ^ Ozkan, H.; Brandolini, A.; Schäfer-Pregl, R.; Salamini, F. Both of these regions were heavily populated and had regular trade contacts with each other, as well as with early Kra-Dai speakers to the west, and early Austrasiatic speakers to the south, facilitating the spread of rice cultivation throughout southern China.[67][60][61] Chronological dispersal of Austronesian peoples across the Indo-Pacific (Bellwood in Chambers, 2008) The millet and rice-farming cultures also first came into contact with each other at around 9,000 to 7,000 BP, resulting in a corridor between the millet and rice cultivation centers where both rice and millet were cultivated.[60] At around 5,500 to 4,000 BP, there was increasing migration into Taiwan from the early Austronesian Dapenkeng culture, bringing rice and millet cultivation technology with them. Oxford University Press. Copeland, P. "Contrasting Patterns in Crop Domestication and Domestication Rates: Recent Archaeobotanical Insights from Old World". PMID 23828939. PMID 21536870. Daniel Zohary identified several plant species as "pioneer crops" or Neolithic founder crops. These developments, sometimes called the Neolithic package, provided the basis for centralized administrations and political structures, hierarchical ideologies, depersonalized systems of knowledge (e.g. writing), densely populated settlements, specialization and division of labour, more trade, the development of non-portable art and architecture, and greater property ownership. pp. 313–342. 1. They acquired further cultivated food plants like bananas and pepper from them, and in turn introduced Austronesian technologies like wetland cultivation and outrigger canoes.[61][68][69][70] During the 1st millennium CE, they also colonized Madagascar and the Comoros, bringing Southeast Asian food plants, including rice, to East Africa.[71][72] In Africa Play media Nile River Valley, Egypt On the African continent, three areas have been identified as independently developing agriculture: the Ethiopian highlands, the Sahel and West Africa.[73] By contrast, Agriculture in the Nile River Valley is thought to have developed from the original Neolithic Revolution in the Fertile Crescent.[...] Once irrigation appeared, the steppe greatly increased its carrying capacity and became, in fact, the dominant growth centre of the Zagros region between 5500 and 4000 B.C. ^ Lawton, H. Other developments that are found very widely during this era are the domestication of animals, pottery, polished stone tools, ^ Compiled largely with reference to: Weiss, E., Mordechai, E., Simchoni, O., Nadel, D., & Tschauner, H. ^ Diamond, Jared (May 1987). Ecological Systems. pp. doi:10.1135/asi.2003.0022. Rice, M.; Rubinstein, S.; Reynolds, A.; Huang, P.; Jackson, S.; Schaal, B. Inadequate sanitary practices and the domestication of animals may explain the rise in deaths and sickness following the Neolithic Revolution, as diseases jumped from the animal to the human population. Domestication of animals Further information: Domestication of animals When hunter-gathering began to be replaced by sedentary food production it became more efficient to keep animals close at hand. ^ Sauer, Carl O. ISBN 978-0-520-05629-9. ^ Wright, Ronal. (2004). G.; Fungar, B.; Field, J.; Thorin, M.; Porch, N.; Winsborough, B (2003). p. 46. ^ Coningham, Robin; Young, Ruth (2015). Wells and Jay T. London: Wadsworth & company. Subbaraman, S. doi:10.1007/978-92-801-2120-2. Neolithic populations were inferior to that of hunter-gatherers. The history of gardens. doi:10.1159/000079404. 5 (2): 176–190. Hormones (Athens). Bibliography Bailey, Douglass. (1971). All Neolithic sites in Europe contain ceramics, and contain the plants and animals domesticated in Southwest Asia: einkorn, emmer, barley, lentils, pigs, goats, sheep, and cattle. International Commision on Stratigraphy. PMID 16778044. (2011). Quaternary International. Scott,Against the Grain: a Deep History of the Earliest States. NY: Yale UP. (2017). "The world's population in 10 000 BC, according to a careful estimate was roughly 4 million. ^ Graeme Barker (2009). G. doi:10.1038/nature.2012.12020. ISBN 978-0-415-10054-0.

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