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| The Origins Of CivilizationsThe Agrarian Revolution And The Birth Of CivilizationVarious AuthorsEdited By: R. A. Guisepi  *Agriculture And The Origins Of Civilization: The Neolithic Revolution*There was nothing natural or inevitable about the development ofagriculture. Because cultivation of plants requires more labor than huntingand gathering, we can assume that Stone Age humans gave up their former waysof life reluctantly and slowly. In fact, peoples such as the Bushmen ofSouthwest Africa still follow them today. But between about 8000 and 3500B.C., increasing numbers of humans shifted to dependence on cultivated cropsand domesticated animals for their subsistence. By about 7000 B.C., theirtools and skills had advanced sufficiently for cultivating peoples to supporttowns with over one thousand people, such as Jericho in the valley of theJordan River and Catal Huyuk in present-day Turkey. By 3500 B.C., agriculturalpeoples in the Middle East could support sufficient numbers of noncultivatingspecialists to give rise to the first civilizations. As this pattern spread toor developed independently in other centers across the globe, the character ofmost human lives and the history of the species as a whole were fundamentallytransformed. Causes Of The Agrarian Transformation      Because there are no written records of the transition period between8000 and 5000 B.C. when many animals were first domesticated and plants werecultivated on a regular basis, we cannot be certain why and how some peoplesadopted these new ways of producing food and other necessities of life.Climatic changes associated with the retreat of the glaciers at the end of thelast Ice Age (about 12,000 B.C.), may have played an important role. Theseclimatic shifts prompted the migration of many big game animals to newpasturelands in northern areas. They also left a dwindling supply of game forhuman hunters in areas such as the Middle East, where agriculture first aroseand many animals were first domesticated. Climatic shifts also led to changesin the distribution and growing patterns of wild grains and other crops onwhich hunters and gatherers depended. In addition, it is likely that the shiftto sedentary farming was prompted in part by an increase in human populationsin certain areas. It is possible that the population growth was caused bychanges in the climate and plant and animal life, forcing hunting bands tomove into the territories where these shifts had been minimal. It is alsopossible that population growth occurred within these unaffected regions,because the hunting-and-gathering pattern reached higher levels ofproductivity. Peoples like the Natufians found their human communities couldgrow significantly by intensively harvesting grains that grew in the wild. Asthe population grew, more and more attention was given to the grain harvest,which eventually led to the conscious and systematic cultivation of plants andthus the agrarian revolution. The Domestication Of Plants And Animals      The peoples who first cultivated cereal grains had long observed themgrowing in the wild and gleaned their seeds as they gathered other plants fortheir leaves and roots. In Late Paleolithic times both wild barley and wheatgrew over large areas in present-day Turkey, Iraq, Syria, Jordan, Lebanon, andIsrael. Hunting-and-gathering bands in these areas may have consciouslyexperimented with planting and nurturing seeds taken from the wilds or theymay have accidentally discovered the principles of domestication by observingthe growth of seeds dropped near their campsites. However it began, thepractice of agriculture caught on only gradually. Archeological evidencesuggests that the first agriculturists retained their hunting-and-gatheringactivities as a hedge against the ever-present threat of starvation. But asStone Age peoples became more adept at cultivating a growing range of crops,including protein-rich legumes such as peas and beans, various fruits, andolives, the effort they expended on activities outside agriculture diminished.      It is probable that the earliest farmers broadcast wild seeds, a practicethat cut down on labor but sharply reduced the potential yield. Over thecenturies, more and more care was taken to select the best grain for seed andto mix different strains in ways that improved both crop yields and resistanceto plant diseases. As the time required to tend growing plants and thedependence on agricultural production for subsistence increased, some rovingbands chose to settle down while others practiced a mix of hunting andshifting cultivation that allowed them to continue to move about.      Though several animals may have been domesticated before the discovery ofagriculture, the two processes combined to make up the critical transformationin human culture called the Neolithic (New Stone Age) revolution. Differentanimal species were tamed in different ways that reflected both their ownnatures and the ways in which they interacted with humans. Dogs, for example,were originally wolves that hunted humans or scavenged at their campsites. Asearly as 12,000 B.C., Stone Age peoples found that wolf pups could be tamedand trained to track and corner game. The strains of dogs that graduallydeveloped proved adept at controlling herd animals like sheep. Relativelydocile and defenseless herds of sheep could be controlled once their leadershad been captured and tamed. Sheep, goats, and pigs (which also werescavengers at human campsites) were first domesticated in the Middle Eastbetween 8500 and 7000 B.C. Horned cattle, which were faster and better able todefend themselves than wild sheep, were not tamed until about 6500 B.C. Thecentral place of bull and cattle symbolism in the sacrificial and fertilitycults of many early peoples has led some archeologists to argue that theirdomestication was originally motivated by religious sentiments rather than adesire for new sources of food and clothing.      Domesticated animals such as cattle and sheep provided New Stone Agehumans with additional sources of protein-rich meat and in some cases milk.Animal hides and wool greatly expanded the materials from which clothes,containers, shelters, and crude boats could be crafted. Animal horns and bonescould be carved or used for needles and other utensils. Because plows andwheels did not come into use until the Bronze Age (c. 4000-3500 B.C.), mostNeolithic peoples made little use of animal power for farming, transportation,or travel. There is evidence, however, that peoples in northern areas usedtamed reindeer to pull sledges, and those farther South used camels fortransporting goods. More importantly, the Neolithic peoples used domesticatedherd animals as a steady source of manure to enrich the soil and thus improvethe yield of the crops that were gradually becoming the basis of theirlivelihood. The Spread Of The Neolithic Revolution      The greater labor involved in cultivation and the fact that it did not atfirst greatly enhance the peoples' security or living standards caused manybands to stay with long-tested subsistence strategies. Through most of theNeolithic period, sedentary agricultural communities coexisted with morenumerous bands of hunters and gatherers, migratory cultivators, and huntersand fishers. Even after sedentary agriculture became the basis for thelivelihood of the majority of humans, hunters and gatherers and shiftingcultivators held out in many areas of the globe. For example, due to theabsence of the horse and most herd animals in the Americas, nomadic huntingcultures became the main alternatives there.      The domestication of animals gave rise to pastoralism which has proventhe strongest competitor to sedentary agriculture throughout most of theworld. Pastoralism has thrived in semiarid areas such as central Asia, theSudanic belt south of the Sahara desert in Africa, and the savanna zone ofEast and South Africa. These areas were incapable of supporting dense or largepopulations. The nomadic, herding way of life has tended to produceindependent and hardy peoples, well-versed in the military skills needed notonly for their survival but also to challenge more heavily populated agrariansocieties. Horse-riding nomads who herd sheep or cattle have destroyedpowerful kingdoms and laid the foundations for vast empires. The camel nomadsof Arabia played critical roles in the rise of Islamic civilization. Thecattle-herding peoples of central, East, and South Africa produced some of themost formidable preindustrial military organizations. Only with the ratherrecent period of the Industrial Revolution has the power of nomadic peoplesbeen irreparably broken and the continuation of their cultures threatened bythe steady encroachment of sedentary peoples.      In the era of the Neolithic revolution (roughly 8000-5000 B.C.),agriculture was far from the dominant mode of support for human societies. Butthose who adopted it survived and increased, and passed their techniques ofproduction to other peoples. The cultivation of wheat and barley spreadthroughout the Middle East and eastward to India. These crops also spreadnorthward to Europe, where oats and rye were added later. From Egypt, thecultivation of grain crops and fibers, such as flax and cotton that were usedfor clothing, spread to peoples along the Nile in the interior of Africa,along the North African coast, and across the vast savanna zone south of theSahara desert.      Agriculture in the African rain forest zone farther south evolvedindependently in the 2d millennium B.C., and was based on root crops such ascassava and tree crops such as bananas and palm nuts. In northern China duringthe Neolithic period, a millet-based agricultural system developed along theHuanghe or Yellow River basin. From this core region, it spread in the lastmillennia B.C. east toward the North China Sea and southward toward theYangtze basin. A later, but independent, agricultural revolution based on ricebegan in mainland Southeast Asia sometime before 5000 B.C. and slowly spreadinto South China and India and to the islands of Southeast Asia. In theAmericas maize- (or corn), manioc-, and sweet potato-based agrarian systemsarose in Mesoamerica (Mexico and Central America today) and present-day Peru.Long before the arrival of Columbus in the Americas in A.D. 1492, these andother crops had spread through large portions of the continents of the WesternHemisphere, from the temperate woodlands of the North Atlantic coast to therain forests of the Amazon region. Thus, varying patterns of agriculturalproduction were disseminated on all the inhabited continents except Australia,to virtually all the regions of the globe where there were sufficient rainfalland suitable temperatures. |