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| The Origins Of Civilizations  The Agrarian Revolution And The Birth Of Civilization  Various Authors  Edited By: R. A. Guisepi      *Agriculture And The Origins Of Civilization: The Neolithic Revolution*  There was nothing natural or inevitable about the development of  agriculture. Because cultivation of plants requires more labor than hunting  and gathering, we can assume that Stone Age humans gave up their former ways  of life reluctantly and slowly. In fact, peoples such as the Bushmen of  Southwest Africa still follow them today. But between about 8000 and 3500  B.C., increasing numbers of humans shifted to dependence on cultivated crops  and domesticated animals for their subsistence. By about 7000 B.C., their  tools and skills had advanced sufficiently for cultivating peoples to support  towns with over one thousand people, such as Jericho in the valley of the  Jordan River and Catal Huyuk in present-day Turkey. By 3500 B.C., agricultural  peoples in the Middle East could support sufficient numbers of noncultivating  specialists to give rise to the first civilizations. As this pattern spread to  or developed independently in other centers across the globe, the character of  most human lives and the history of the species as a whole were fundamentally  transformed.    Causes Of The Agrarian Transformation         Because there are no written records of the transition period between  8000 and 5000 B.C. when many animals were first domesticated and plants were  cultivated on a regular basis, we cannot be certain why and how some peoples  adopted these new ways of producing food and other necessities of life.  Climatic changes associated with the retreat of the glaciers at the end of the  last Ice Age (about 12,000 B.C.), may have played an important role. These  climatic shifts prompted the migration of many big game animals to new  pasturelands in northern areas. They also left a dwindling supply of game for  human hunters in areas such as the Middle East, where agriculture first arose  and many animals were first domesticated. Climatic shifts also led to changes  in the distribution and growing patterns of wild grains and other crops on  which hunters and gatherers depended. In addition, it is likely that the shift  to sedentary farming was prompted in part by an increase in human populations  in certain areas. It is possible that the population growth was caused by  changes in the climate and plant and animal life, forcing hunting bands to  move into the territories where these shifts had been minimal. It is also  possible that population growth occurred within these unaffected regions,  because the hunting-and-gathering pattern reached higher levels of  productivity. Peoples like the Natufians found their human communities could  grow significantly by intensively harvesting grains that grew in the wild. As  the population grew, more and more attention was given to the grain harvest,  which eventually led to the conscious and systematic cultivation of plants and  thus the agrarian revolution.    The Domestication Of Plants And Animals         The peoples who first cultivated cereal grains had long observed them  growing in the wild and gleaned their seeds as they gathered other plants for  their leaves and roots. In Late Paleolithic times both wild barley and wheat  grew over large areas in present-day Turkey, Iraq, Syria, Jordan, Lebanon, and  Israel. Hunting-and-gathering bands in these areas may have consciously  experimented with planting and nurturing seeds taken from the wilds or they  may have accidentally discovered the principles of domestication by observing  the growth of seeds dropped near their campsites. However it began, the  practice of agriculture caught on only gradually. Archeological evidence  suggests that the first agriculturists retained their hunting-and-gathering  activities as a hedge against the ever-present threat of starvation. But as  Stone Age peoples became more adept at cultivating a growing range of crops,  including protein-rich legumes such as peas and beans, various fruits, and  olives, the effort they expended on activities outside agriculture diminished.         It is probable that the earliest farmers broadcast wild seeds, a practice  that cut down on labor but sharply reduced the potential yield. Over the  centuries, more and more care was taken to select the best grain for seed and  to mix different strains in ways that improved both crop yields and resistance  to plant diseases. As the time required to tend growing plants and the  dependence on agricultural production for subsistence increased, some roving  bands chose to settle down while others practiced a mix of hunting and  shifting cultivation that allowed them to continue to move about.         Though several animals may have been domesticated before the discovery of  agriculture, the two processes combined to make up the critical transformation  in human culture called the Neolithic (New Stone Age) revolution. Different  animal species were tamed in different ways that reflected both their own  natures and the ways in which they interacted with humans. Dogs, for example,  were originally wolves that hunted humans or scavenged at their campsites. As  early as 12,000 B.C., Stone Age peoples found that wolf pups could be tamed  and trained to track and corner game. The strains of dogs that gradually  developed proved adept at controlling herd animals like sheep. Relatively  docile and defenseless herds of sheep could be controlled once their leaders  had been captured and tamed. Sheep, goats, and pigs (which also were  scavengers at human campsites) were first domesticated in the Middle East  between 8500 and 7000 B.C. Horned cattle, which were faster and better able to  defend themselves than wild sheep, were not tamed until about 6500 B.C. The  central place of bull and cattle symbolism in the sacrificial and fertility  cults of many early peoples has led some archeologists to argue that their  domestication was originally motivated by religious sentiments rather than a  desire for new sources of food and clothing.         Domesticated animals such as cattle and sheep provided New Stone Age  humans 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 bones  could be carved or used for needles and other utensils. Because plows and  wheels did not come into use until the Bronze Age (c. 4000-3500 B.C.), most  Neolithic peoples made little use of animal power for farming, transportation,  or travel. There is evidence, however, that peoples in northern areas used  tamed reindeer to pull sledges, and those farther South used camels for  transporting goods. More importantly, the Neolithic peoples used domesticated  herd animals as a steady source of manure to enrich the soil and thus improve  the yield of the crops that were gradually becoming the basis of their  livelihood.    The Spread Of The Neolithic Revolution         The greater labor involved in cultivation and the fact that it did not at  first greatly enhance the peoples' security or living standards caused many  bands to stay with long-tested subsistence strategies. Through most of the  Neolithic period, sedentary agricultural communities coexisted with more  numerous bands of hunters and gatherers, migratory cultivators, and hunters  and fishers. Even after sedentary agriculture became the basis for the  livelihood of the majority of humans, hunters and gatherers and shifting  cultivators held out in many areas of the globe. For example, due to the  absence of the horse and most herd animals in the Americas, nomadic hunting  cultures became the main alternatives there.         The domestication of animals gave rise to pastoralism which has proven  the strongest competitor to sedentary agriculture throughout most of the  world. Pastoralism has thrived in semiarid areas such as central Asia, the  Sudanic belt south of the Sahara desert in Africa, and the savanna zone of  East and South Africa. These areas were incapable of supporting dense or large  populations. The nomadic, herding way of life has tended to produce  independent and hardy peoples, well-versed in the military skills needed not  only for their survival but also to challenge more heavily populated agrarian  societies. Horse-riding nomads who herd sheep or cattle have destroyed  powerful kingdoms and laid the foundations for vast empires. The camel nomads  of Arabia played critical roles in the rise of Islamic civilization. The  cattle-herding peoples of central, East, and South Africa produced some of the  most formidable preindustrial military organizations. Only with the rather  recent period of the Industrial Revolution has the power of nomadic peoples  been irreparably broken and the continuation of their cultures threatened by  the 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. But  those who adopted it survived and increased, and passed their techniques of  production to other peoples. The cultivation of wheat and barley spread  throughout the Middle East and eastward to India. These crops also spread  northward to Europe, where oats and rye were added later. From Egypt, the  cultivation of grain crops and fibers, such as flax and cotton that were used  for 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 the  Sahara desert.         Agriculture in the African rain forest zone farther south evolved  independently in the 2d millennium B.C., and was based on root crops such as  cassava and tree crops such as bananas and palm nuts. In northern China during  the Neolithic period, a millet-based agricultural system developed along the  Huanghe or Yellow River basin. From this core region, it spread in the last  millennia B.C. east toward the North China Sea and southward toward the  Yangtze basin. A later, but independent, agricultural revolution based on rice  began in mainland Southeast Asia sometime before 5000 B.C. and slowly spread  into South China and India and to the islands of Southeast Asia. In the  Americas maize- (or corn), manioc-, and sweet potato-based agrarian systems  arose 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 and  other crops had spread through large portions of the continents of the Western  Hemisphere, from the temperate woodlands of the North Atlantic coast to the  rain forests of the Amazon region. Thus, varying patterns of agricultural  production were disseminated on all the inhabited continents except Australia,  to virtually all the regions of the globe where there were sufficient rainfall  and suitable temperatures. |