

BRIDGING WORLD HISTORY

EPISODE: #4

Agricultural and Urban Revolutions

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AUDIO	TIME CODE
ANNENBERG/CPB LOGO	01:00:00:00
OPB LOGO	01:00:15:00
WEB TAG	01:00:23:00
<p>HOST: 10,000 YEARS AGO NESTLED BETWEEN MT. NEBO TO THE EAST, THE CENTRAL MOUNTAINS TO THE WEST AND THE DEAD SEA TO THE SOUTH, LAY THE EARLY NEOLITHIC VILLAGE OF JERICHO. PRIMARILY A CENTER FOR TRADE, ITS POPULATION OF ABOUT 2000 SOUGHT SECURITY FROM THE SETTLEMENT'S IMPRESSIVE WALLS AND STONE TOWER. BUT AROUND 7000 BCE THE WALLED CITY WAS ABANDONED—THE REASON STILL A MYSTERY TO SCHOLARS—TO EVENTUALLY BE REPLACED BY A FARMING COMMUNITY. THE REASON, STILL A MYSTERY TO SCHOLARS.</p>	01:00:00:28
<p>CANDICE GOUCHER: Really that same rise and decline of societies was a pattern that historians can look at and see all around the world. Between about 2000 and 10000 years ago, this was happening everywhere.</p>	01:00:59:00
THEME MUSIC	01:01:14:15
<p>HOST: FOR TENS OF THOUSANDS OF YEARS HUMANS GOT ALONG REMARKABLY WELL WITHOUT PLANTING OUR OWN CROPS OR RAISING LIVESTOCK. THROUGH THE FORAGING OF NATIVE PLANTS AND THE HERDING AND HUNTING OF ABUNDANT WILD GAME, THE NOMADIC HUMAN POPULATION THRIVED. HISTORIANS ESTIMATE THAT BY 10,000 YEARS AGO THE WORLDWIDE POPULATION HAD REACHED ABOUT 6 TO 8 MILLION. AND IT WAS IN THIS ERA THAT ROVING HUMANS BEGAN TO SETTLE DOWN. BUT</p>	01:01:40:19

<p>THIS MOVEMENT TOWARD SETTLED LIFE DIDN'T FOLLOW A SINGLE PATTERN.</p> <p>RATHER, THE PURPOSEFUL RAISING OF FOOD, AND LIVING IN INCREASINGLY COMPLEX SETTLEMENTS ARE TWO DIFFERENT PROCESSES THAT DEVELOPED IN VARIED WAYS AROUND THE WORLD.</p>	
<p>HOST: SOME EVIDENCE SUGGESTS THAT THE ORIGINS OF AGRICULTURE MAY STRETCH BACK AS FAR AS 20,000 YEARS. AND THOSE ORIGINS TOOK MANY FORMS. SOMETIMES THE DOMESTICATION OF PLANTS INVOLVED PEOPLE SETTLING DOWN. BUT NOT ALWAYS. SOMETIMES IT MEANT INTENSIVE MANAGEMENT OF WILD PLANTS THROUGH IRRIGATION AND TRANSPLANTING. OCCASIONALLY, UNINTENDED GENETIC MANIPULATION LED TO THE DOMESTICATION OF PLANTS.</p>	01:02:29:12
<p>HOST: BUT HOWEVER EARLY PEOPLES BEGAN TO MANIPULATE PLANTS AND ANIMALS FOR THEIR USE, BY 13,000 BCE, PERMANENT LIVING SITES WERE BEGINNING TO APPEAR IN MANY DIFFERENT ENVIRONMENTS AROUND THE GLOBE.</p>	01:02:59:15
<p>HOST: TODAY, HISTORIANS GENERALLY AGREE THAT MANY WIDELY SEPARATED REGIONS WITH LARGE POPULATIONS INDEPENDENTLY DEVELOPED AGRICULTURE AND PASTORALISM.</p> <p>FROM YAMS AND TEFF IN AFRICA, TO SUNFLOWERS IN NORTH AMERICA, BEANS AND POTATOES IN SOUTH AMERICA, AND RICE IN SOUTHEAST ASIA, THE PRACTICE OF AGRICULTURE HAD 'ROOTS' IN MANY AREAS OF THE WORLD.</p> <p>AMONG THESE VARIOUS SOCIETIES WERE THE PEOPLE OF MEHRGARH, CULTIVATING GRAINS IN THE INDUS VALLEY OF WHAT IS NOW PAKISTAN, AND THE EARLY INHABITANTS OF MESOAMERICA DOMESTICATING MAIZE.</p> <p>IN THESE AND OTHER SITES, ETHNOBOTANISTS HAVE BEEN CRITICAL TO THE DEVELOPMENT OF A BETTER UNDERSTANDING OF THE PROCESS OF PLANT DOMESTICATION.</p>	01:03:14:10
<p>STEVE WEBER: People, for hundreds of thousands of years, have been heating—or cooking—the foods that they eat. In so doing, they often accidently and obviously unintentionally burn some of those seed grains that they were using. Archaeologists like myself collect soil from those hearths. We can slowly extract material; we can find in this material seeds that people were eating. We compare those seeds to seeds from modern examples, and from that we know what the species are, and we're able to understand what people ate.</p>	01:03:59:21
<p>HOST: OVER THOUSANDS OF YEARS, IN A STUNNING VARIETY OF WAYS, A SIGNIFICANT TRANSFORMATION WAS TAKING PLACE, SOMETIMES</p>	01:04:35:00

<p>REFERRED TO AS THE AGRICULTURAL REVOLUTION. EVOLVING INDEPENDENTLY IN MANY REGIONS, THE PROCESSES USED TO RAISE FOOD WERE HEAVILY INFLUENCED BY THEIR REGIONAL TERRAIN AND ENVIRONMENT.</p>	
<p>HOST: WAS THE AGRICULTURAL REVOLUTION A STRATEGY THAT ALLOWED THE DEVELOPMENT OF LARGER COMMUNITIES, OR DID THE DEVELOPMENT OF LARGER COMMUNITIES DEMAND THE SECURITY OF A MORE PREDICTABLE FOOD SOURCE?</p> <p>WHAT WERE THE CONSEQUENCES OF THIS 'SETTLING DOWN', BOTH TO THE PEOPLE THEMSELVES AND TO THEIR ENVIRONMENT? AND WHAT ROLE DID POTTERY, IRRIGATION, METALLURGY AND OTHER EMERGING TECHNOLOGIES PLAY IN MAKING THESE CHANGES POSSIBLE?</p>	01:04:55:00
<p>HOST: THE FIRST COMMUNITIES THAT OUR ANCESTORS ESTABLISHED WERE SMALL SETTLEMENTS TO SAY THE LEAST. BUT THEY WERE THE FIRST STEPS TOWARD THE SEDENTARY LIFESTYLE THAT FREQUENTLY SUPPORTED AGRICULTURE AND PASTORALISM. OVER THE NEXT FEW MILLENNIA AS THE FOOD SUPPLY AND POPULATION EXPERIENCED EXPLOSIVE GROWTH, THE BEGINNING OF WHAT ARCHAEOLOGISTS WOULD DEFINE AS URBAN LIFE BEGAN TO APPEAR.</p>	01:05:24:00
<p>HOST: AMONG THESE EARLY SETTLEMENTS WERE ANYANG, IN CHINA, CHAVÍN DE HUÁNTAR IN THE ANDEAN HIGHLANDS AND THE ENIGMATIC SITE OF ÇATALHÖYÜK IN PRESENT DAY TURKEY.</p>	01:05:47:20
<p>HOST: OF COURSE EACH SETTLEMENT FOLLOWED ITS OWN REVOLUTIONARY PATH TOWARD BECOMING AN URBAN CENTER. BUT THEY ALL SHARED THIS CHARACTERISTIC: THEIR EXISTENCE RELIED ON THE INTENSIVE MANIPULATION OF THE ENVIRONMENT, AND RESULTED IN GREATER COMPLEXITY. AS COMMUNITIES GREW LARGER, THEY NEEDED ACCESS TO MORE DISTANT RESOURCES; WHICH UNITED CITY DWELLERS WITH THOSE WHO LIVED OUTSIDE OF THE CITY WALLS.</p>	01:06:04:15
<p>CANDICE GOUCHER: Settling down didn't always make life better for people. Sometimes overcrowded cities, overpopulation, shortage of food, negative consequences of the environment, these were all by-products of living in large communities over a long period of time. And these are problems that we still are trying to solve today for large societies.</p>	01:06:30:16
<p>MUSICAL TRANSITION</p>	01:06:56:11
<p>STEVE WEBER: Hunting and gathering societies have actively and continuously experimented with the manipulation of plant communities to reduce risk in their own lives. Over time, this interaction can lead to domestication of plants and animals. Now, domestication</p>	01:07:01:15

<p>implies breeding under human control, often to the extent that these species can no longer survive without human intervention.</p> <p>Corn is a wonderful example of this. Corn is one of the most successful plants in human history. It's found growing all over the globe. But let's take corn's originator, the wild progenitor of corn, teosinte. Humans have been harvesting and collecting teosinte for generations. They slowly selected grains or kernels that would stay on the husks. Over time—let's pour off some modern-day corn--corn lost its ability to separate from the husk. It's reached the point of domestication where it has become completely dependent on humans for its survival.</p>	
<p>HOST: ONE THING IS CERTAIN: HUMANS DIDN'T TURN TO AGRICULTURE AND PASTORALISM BECAUSE THEY WERE EASIER THAN FORAGING AND HUNTING. IN FACT, QUITE THE OPPOSITE IS TRUE.</p>	01:08:05:00
<p>HOST: OUR EARLY ANCESTORS ONLY HAD TO SPEND A FEW HOURS A DAY GATHERING THEIR FOOD. WHAT'S MORE, THEY ENJOYED A FAR MORE VARIED DIET THAN THE MEN AND WOMEN WHO WERE THE EARLY FARMERS, WHO HAD TO RELY ON A MUCH NARROWER MENU FOR THEIR NOURISHMENT. THE SAME HOLDS TRUE IN THE DOMESTICATION OF ANIMALS. HUNTING OR HERDING WILD ANIMALS IS MUCH LESS LABOR-INTENSIVE THAN PENNING, WATERING AND SAFEGUARDING A TAME HERD.</p>	01:08:16:00
<p>HOST: SO, WHAT SPURRED THIS CHANGE? THE GREAT ADVANTAGE OF AGRICULTURE AND PASTORALISM WAS THAT THESE PRACTICES MADE IT POSSIBLE TO PRODUCE A GREATER QUANTITY OF FOOD IN A SMALLER AREA. AND AS THESE FOOD RESOURCES WERE MANIPULATED TO BECOME MORE PRODUCTIVE, THEY WERE CAPABLE OF SUPPORTING AN INCREASING POPULATION. THIS PROCESS WAS MORE THAN LIKELY UNINTENTIONAL, BUT THE OVERALL RESULT WAS AN INCREASED ABILITY OF SOCIETIES TO THRIVE AND EXPAND.</p>	01:08:43:24
<p>HOST: STUDYING CULTURES FROM THOUSANDS OF YEARS AGO CAN PROVE TO BE A DAUNTING TASK. AND PRE-EXISTING ASSUMPTIONS ARE OFTEN CHALLENGED AS ARCHAEOLOGICAL SITES REVEAL EXCITING NEW DISCOVERIES. THE PRE-HISTORY OF ONE OF SOUTH ASIA'S MOST ANCIENT FARMING SETTLEMENTS IS ONE SUCH CASE IN POINT. MEHRGARH LIES IN THE KACHI PLAIN OF THE INDUS RIVER IN PAKISTAN.</p>	01:09:15:12

<p>HOST: UNTIL THE 1960S, HISTORIANS AND ARCHAEOLOGISTS BELIEVED THROUGH A PROCESS CALLED DIFFUSION, MIGRANTS FROM THE WEST HAD BROUGHT THE COMPLEXITIES ASSOCIATED WITH SETTLED COMMUNITIES TO MEHRGARH: METALS, POTTERY AND AGRICULTURE DATING BACK TO ABOUT 6000 BCE.</p> <p>BUT EXTENSIVE AND CAREFUL RESEARCH DURING RECENT DECADES HAS PAINTED A MUCH MORE COMPLEX PICTURE OF HOW FOOD PRODUCTION AND ITS ASSOCIATED TECHNOLOGY DEVELOPED AT MEHRGARH.</p>	01:09:54:03
<p>HOST: ALTHOUGH BARLEY WAS DOMESTICATED IN OTHER AREAS OF WESTERN ASIA, PERHAPS TWO THOUSAND YEARS EARLIER, THE EVIDENCE DOES NOT SHOW A CLEAR CASE FOR DIFFUSION OF THIS PROCESS TO MEHGARH.</p> <p>THE MOST RECENT INFORMATION TELLS US THAT, IN FACT, PEOPLE IN THIS AREA HAD ACCESS TO PRIMITIVE LOCAL BARLEYS, PROBABLY BEFORE DIFFUSION WAS LIKELY TO HAVE PLAYED A ROLE. OTHER GRAINS AND POSSIBLY DOMESTICATED BARLEY COULD'VE BEEN INTRODUCED TO MEHRGARH LATER THROUGH TRADE.</p>	01:10:25:28
<p>CANDICE GOUCHER: Mehgarh really becomes an example of how the historians' picture of the past is constantly changing and shifting according to the evidence that's available.</p>	01:10:58:26
<p>HOST: AND ALTHOUGH THE EARLIEST EVIDENCE SHOWS THEY HAD BEEN USING FIRE TO MANIPULATE CLAY INTO SCULPTURES, THEY HADN'T YET MADE POTTERY. IT WAS NOT UNTIL AROUND 6000 BCE, ABOUT A THOUSAND YEARS AFTER THE FIRST PROOF OF THEIR SETTLEMENT THAT THE PEOPLE OF MEHRGARH MADE THEIR FIRST CERAMICS, FROM SMALL DRINKING CUPS TO VESSELS LARGE ENOUGH FOR THEM TO PROCESS FOOD OR STORE GRAIN. THIS SIMPLE DEVELOPMENT MARKS AN IMPORTANT MILESTONE.</p>	01:11:10:13
<p>CANDICE GOUCHER: Well, there isn't really one single list of requirements for moving from agricultural life to a settled existence. But pottery is common on many of those sites, and it's largely because pottery is very easily identifiable....it survives in the archaeological record. Archaeologists find that pottery becomes useful for dating connections between people and for tracing those connections over distances and across time.</p>	01:11:41:25

<p>HOST: OVER THE NEXT 2000 YEARS MEHRGARH BECAME A PERMANENT, WELL-ORGANIZED SETTLEMENT, WITH COMPARTMENTALIZED MUD-BRICK STRUCTURES. EXCAVATIONS INDICATE THAT FROM THE VERY EARLIEST TIME THERE EXISTED A DIFFERENTIATED AND RATHER SOCIALLY COMPLEX SOCIETY. THERE ARE SIGNS OF DISTINCT AREAS DESIGNATED FOR SPECIALIZED FUNCTIONS, SUCH AS COMMUNAL FOOD PROCESSING AND COOKING, CERAMIC AND BEAD-MAKING AND THE CRAFTING OF DECORATED FIGURINES. BY 4000 BCE MEHRGARH HAD GRADUALLY EMERGED AS A HIGHLY SPECIALIZED AND PROMINENT CRAFT AND TRADE CENTER.</p>	01:12:17:20
<p>HOST: HISTORIANS ARE STILL DEBATING THE SPECIFICS OF WHICH ELEMENTS AT MEHRGARH HAD INDIGENOUS ORIGINS AND WHICH WERE THE RESULT OF DIFFUSION. SCHOLARS NOW REALIZE THAT ATTRIBUTES OF COMMUNITIES DIDN'T SPRING UP IN JUST ONE AREA, SPREADING OUTWARD. AGRICULTURE, PASTORALISM, AND TECHNOLOGIES SOMETIMES DEVELOPED INDEPENDENTLY, AND AT OTHER TIMES, THIS KNOWLEDGE WAS TRANSMITTED THROUGH TRADE AND MIGRATIONS.</p>	01:12:57:26
<p>HOST: SETTLING DOWN INTO SYSTEMATIZED COMMUNITIES WASN'T A PREREQUISITE TO PARTICIPATING IN EARLY AGRICULTURE PROCESSES. MANY OF THE REGIONS OF THE WORLD SAW PRIMARILY NOMADIC PEOPLES ENGAGE IN BASIC PLANTING AND HERDING.</p> <p>IN THE WESTERN HEMISPHERE, EARLY DOMESTICATED PLANTS INCLUDED TUBERS, SUNFLOWERS AND MAIZE. BECAUSE OF THE READY ADAPTABILITY OF MAIZE TO ENVIRONMENTAL FLUCTUATIONS, IT WOULD EVENTUALLY EMERGE AS THE PREDOMINANT NEW WORLD FOOD STAPLE.</p>	01:13:26:26
<p>HOST: AS MAIZE JOINED THE OTHER DOMESTICATED PLANTS OF NORTH AMERICA, ITS SIGNIFICANCE GREW, NOT ONLY AS A FOOD STAPLE, BUT CULTURALLY AND SPIRITUALLY AS WELL. TWO DIFFERENT SITES IN MEXICO HAVE REVEALED MUCH ABOUT THE COMPLEX STORY OF THE DOMESTICATION OF MAIZE AND THE SOCIETIES THAT CAME TO REGARD IT WITH SUCH IMPORTANCE.</p>	01:14:04:13
<p>HOST: IN THE 1960S, ARCHAEOLOGIST RICHARD MACNEISH ZEROED-IN ON THE TEHUACÁN VALLEY IN THE REGION OF PUEBLA, MEXICO AS A LIKELY SITE TO LOOK FOR THE ORIGINS OF DOMESTICATED MAIZE. IN THE COURSE OF HIS CAREFULLY CONTROLLED EXCAVATIONS, MACNEISH WAS ABLE TO RECONSTRUCT A 12,000-YEAR SEQUENCE OF OCCUPATION OF THE TEHUACÁN VALLEY. WITH THE EVIDENCE UNEARTHED, THE PICTURE OF AN EARLY, WANDERING, PRE-CERAMIC SOCIETY IN MESOAMERICA BEGAN TO EMERGE.</p>	01:14:25:17

<p>HOST: ADDITIONAL DIGS AT THE OAXACAN CAVE SITE OF GUILA NAQUITZ DATED THESE EARLY INHABITANTS TO BETWEEN THE NINTH AND SEVENTH CENTURIES BCE. NOT A SETTLED PEOPLE, THEY TRAVELED IN SMALL MOBILE BANDS, MAYBE EVEN IN NUCLEAR FAMILIES.</p>	01:14:59:03
<p>HOST: THEIR MOVEMENTS FROM THE RIVERBANKS TO THE FOOTHILLS TO THE MOUNTAINS WERE PROMPTED BY A NUMBER OF ENVIRONMENTAL FACTORS. CHANGING SEASONS, UNPREDICTABLE CLIMATIC CHANGES AND THE AVAILABILITY OF LOCAL PLANT AND ANIMAL SPECIES ALL DICTATED THEIR TRAVEL PATTERNS AND ENCOURAGED EXPERIMENTATION WITH NEW STRATEGIES OF FOOD PRODUCTION. AND THE FORAGING THEY ENGAGED IN HAD AN IMPACT ON THE ENVIRONMENT.</p>	01:15:15:10
<p>HOST: BY THE ACT OF ROUTINELY HARVESTING THESE PLANTS, THESE NOMADIC FARMERS WERE INFLUENCING THE GENETIC DEVELOPMENT THAT WOULD LEAD TO MAIZE. DELIBERATELY OR NOT, THEY WERE PARTICIPATING IN AGRICULTURE.</p> <p>OVER THE MILLENNIA, ENVIRONMENTAL CHANGES INCLUDING EXTENDED DROUGHT, PROBABLY DROVE THESE FORAGING PEOPLE TO THE FIRST PURPOSEFUL CULTIVATION OF MAIZE.</p>	01:15:41:22
<p>PETER WINN: This Neolithic revolution was actually a slow process. Maize didn't have a great impact when it was first domesticated. Over the centuries that followed, maize spread throughout the Americas, more productive varieties were developed. Populations grew, and the world's most nutritious grain assumed its central role in Mesoamerican societies.</p>	01:16:07:15
<p>HOST: SCHOLARS CONTINUE TO DEBATE THE VARIOUS WAYS IN WHICH PEOPLE FIRST TURNED TO AGRICULTURE AROUND THE WORLD. BUT THEY DO AGREE THAT AS PEOPLE EVERYWHERE BEGAN TO SETTLE INTO PERMANENT COMMUNITIES AND GAIN CONTROL OVER THEIR SOURCES OF FOOD, THEIR SOCIETIES BECAME MORE COMPLEX.</p>	01:16:28:12
<p>MUSICAL TRANSITION</p>	01:16:46:22
<p>HOST: COMPLEX SOCIETIES EVOLVED AT DIFFERENT TIMES IN WIDELY SEPARATED AREAS LIKE AFRICA, THE AMERICAS AND EURASIA. WHILE URBAN GROWTH OCCURRED INDEPENDENTLY IN EACH REGION, ALL OF THESE AREAS SHARED SOME SIMILAR PATTERNS. DISTINCTIONS IN WEALTH, STATUS AND GENDER BECAME MORE PRONOUNCED. A NEW KIND OF CULTURE, WITH NEW FORMS OF EXPRESSION, WAS EVOLVING IN THESE SETTLED COMMUNITIES. THEY WERE ON THEIR WAY TO BECOMING THE FIRST CITIES.</p>	01:16:52:00

<p>HOST: IN EAST ASIA, THE FIRST LARGE-SCALE PERMANENT FARMING CULTURES WERE DATED EARLIER THAN 3000 BCE. THESE SETTLEMENTS WERE FOLLOWED BY THE CITY CAPITALS OF THE FIRST TRUE DYNASTIES IN THE SHANG PERIOD, BEGINNING AROUND 1750 BCE. AND IT APPEARS AT LEAST ONE SHANG SETTLEMENT'S IMPETUS FOR GROWTH WAS AS A CENTER OF POLITICAL POWER.</p>	01:17:24:13
<p>HOST: EXCAVATIONS IN THE NORTH CHINA PLAIN HAVE UNCOVERED THE EARLY CITY OF ANYANG. DATED TO ABOUT 1400 BCE, THE SITE HAS REVEALED A CITY, COMPLETE WITH ROYAL TOMBS AND RITUAL ARTIFACTS. THIS INDEED WAS AN IMPORTANT CEREMONIAL AND ADMINISTRATIVE CENTER. IT BECAME HOME TO A ROYAL FAMILY AND OTHER ARISTOCRATS, RELIGIOUS SPECIALISTS AND HEREDITARY ARTISANS WHO CRAFTED ORNATE BRONZE RITUAL VESSELS.</p> <p>ANYANG, AS A HUB OF ACTIVITY, ATTRACTED DWELLERS PARTLY BECAUSE IT WAS THE CENTER OF POLITICAL POWER. AND SINCE A KING'S POLITICAL AUTHORITY WAS ROOTED IN RELIGION, IT FOLLOWED THAT RELIGIOUS CEREMONY WAS ALSO CONCENTRATED HERE.</p> <p>BUT OF COURSE A ROYAL CAPITAL WILL ALSO GIVE RISE TO A DISTINCT SOCIAL PYRAMID.</p>	01:17:49:19
<p>LINDA WALTON: The kinds of evidence that archaeologists have found at Anyang and other sites in the royal tombs, particularly at Anyang, include ritual bronze vessels, jades, cowrie shells that were used as money, and these were buried to accompany the wealthy and powerful in their afterlife. So were human victims also executed to serve as their slaves ah, servants in the afterlife. So that kind of evidence shows us a lot about the way that Shang society was sharply stratified.</p>	01:18:44:00
<p>HOST: ANOTHER COMMON TRANSITION FROM AGRICULTURAL TO URBAN SETTINGS AROSE OUT OF RITUAL SITES, WHERE PEOPLE GATHERED FOR PILGRIMAGE AND CEREMONY. ONE OF THE MOST NOTABLE EXAMPLES TOOK PLACE IN THE ANDEAN HIGHLANDS OF PERU, WITH THE GRADUAL EMERGENCE OF CHAVÍN DE HUÁNTAR AROUND 1000 BCE.</p>	01:19:19:00
<p>HOST: THE PEOPLE OF THIS SOCIETY BUILT MONUMENTAL STONE EDIFICES ON TEMPLE PLATFORMS AT THE CITY CENTER. THESE STRUCTURES SERVED CULTURALLY SIGNIFICANT CEREMONIAL AND RELIGIOUS PURPOSES, SINCE THOSE ACTIVITIES WERE CRITICAL TO THIS CULTURE. IN FACT, THIS IS WHAT ATTRACTED PEOPLE TO THIS EMERGING URBAN CENTER; CHAVÍN DE HUÁNTAR WAS A HUB OF CEREMONIAL AND CIVIC LIFE. AND OF COURSE AS PEOPLE CONGREGATED AT THIS SITE, IT ATTRACTED YET MORE PEOPLE, CREATING A PERMANENT POPULATION.</p>	01:19:51:22
<p>PETER WINN: Chavín's rise is associated with the first pan-Andean horizon, the expansion of long distance trade, the integration of llama herding and agriculture, and the spread of the religious cult of the anthropomorphic feline deity that we call the "were-jaguar."</p>	01:20:26:22
<p>HOST: AND OVER THE NEXT 500 YEARS, THE 'CHAVÍN CULTURE' LINKED ISOLATED REGIONS WITH ITS DISTINCT RELIGION, TECHNOLOGY, ART AND ARCHITECTURE.</p>	01:20:45:15

<p>HOST: NOW CLEARLY, THE MOST IMPORTANT FACTOR IN SHAPING THE MANY DIFFERENT WAYS PEOPLE MADE THE TRANSITION TO AGRICULTURE WAS THE ENVIRONMENT; THAT IS, THE GEOGRAPHY, CLIMATE AND TYPES OF FOOD AVAILABLE IN EACH SPECIFIC AREA. AND THE INCREASING MATERIAL COMPLEXITY OF THESE SOCIETIES DISTINGUISHED THEM FROM THE HUNTING AND FORAGING PEOPLES THEY SOMETIMES REPLACED.</p> <p>HOST: BUT TECHNOLOGY WAS, BY FAR, THE MOST DECISIVE FACTOR IN SHAPING OTHER ASPECTS OF THE INDIVIDUAL CULTURES. HISTORIANS DEFINE TECHNOLOGY AS ANY OF THE METHODS HUMANS USE TO ADAPT TO THEIR ENVIRONMENT AND ENSURE THEIR SURVIVAL.</p>	01:20:56:15
<p>HOST: ONE TECHNOLOGY, FIRE, WAS PERHAPS THE MOST IMPORTANT TOOL EVER USED. AS SOCIETIES BECAME MORE COMPLEX, IT WAS PYROTECHNOLOGY—THE MANIPULATION OF FIRE—THAT LED TO BETTER, MORE EFFICIENT TOOLS. PYROTECHNOLOGIES LIKE POTTERY-MAKING AND METALLURGY USE HIGH TEMPERATURES TO ALTER MATERIALS. AND BECAUSE BETTER TOOLS MEAN INCREASED PRODUCTIVITY, METALLURGY IS THE TECHNOLOGY THAT DEFINES A SUCCESSFUL AGRICULTURAL SOCIETY.</p>	01:21:36:13
<p>HOST: AS THE MANUFACTURE AND USE OF METALS EVOLVED AROUND THE WORLD, IN AREAS AS DIVERSE AS WEST ASIA, AFRICA AND CHINA, THE WAYS IN WHICH THESE NEW TECHNOLOGIES WERE PUT TO USE VARIED WIDELY</p>	01:22:07:29
<p>CANDICE GOUCHER: In Shang china, for example, around 1300 BCE, copper and bronze were used for ceremonial purposes. And, in many ways, those technologies, as complex as they were, served a really small segment of society. In other parts of the world, metallurgy came to have greater meaning for greater numbers of people. For example, iron working affected almost everyone in African societies...in west Africa, for example, by about a thousand bce, iron was used for agricultural tools, for weapons, and was very widespread.</p>	01:22:22:10
<p>HOST: WHILE OF COURSE THESE NEW METAL TOOLS IN AFRICA AND EURASIA PROBABLY INCREASED AGRICULTURAL PRODUCTIVITY, THEY ALSO CAUSED CONSIDERABLE DAMAGE TO THE ENVIRONMENTS WHERE ORES WERE MINED AND THE METALS FORGED. SCARRED LANDSCAPES, DEFORESTED TERRAIN AND HEAPS OF SLAG WERE THE BYPRODUCTS OF THIS EARLY INDUSTRY AROUND THE WORLD.</p>	01:23:05:25
<p>HOST: MANY OF THE MOST COMPLEX AND EARLIEST SITES CONTINUE TO CONFOUND RESEARCHERS AND CHALLENGE PRECONCEPTIONS. AN EXAMPLE OF SUCH A SITE IS ÇATALHÖYÜK, IN MODERN DAY TURKEY.</p> <p>THE QUESTIONS ARISING ABOUT ÇATALHÖYÜK, AND THE INTERPRETATIONS OF THE EMERGING EVIDENCE ARE CHANGING THE WAY HISTORIANS THINK ABOUT CITIES AND THEIR ORIGINS.</p>	01:23:27:05
<p>HOST: THE FOCUS OF RESEARCH SINCE THE 1960'S, WAS A POPULOUS SETTLEMENT OF 10,000 PEOPLE, AS EARLY AS 7000 BCE. YET,</p>	01:23:52:22

<p>ÇATALHÖYÜK'S EVIDENT LACK OF SOCIAL STRATIFICATION OR CENTRAL AUTHORITY CONFOUNDS HISTORIANS' ASSUMPTIONS ABOUT URBAN ORIGINS.</p> <p>WAS THE BASIC UNIT OF ORGANIZATION FOR THIS SETTLEMENT THE EXTENDED FAMILY? WHY AND HOW DID ÇATALHÖYÜK BECOME A POPULATION CENTER WITH ONLY A RUDIMENTARY INVOLVEMENT IN AGRICULTURE AND PASTORALISM. WHAT FACTORS BROUGHT ÇATALHÖYÜK INTO BEING?</p>	
<p>STEVE WEBER: Our knowledge of world prehistory is increasing constantly. New discoveries and a better understanding of our past are made possible by new techniques in the practice of archaeology. Archaeological fieldwork today is so refined that what WE tossed away in the past is now valuable information. In the past, archaeologists did not collect pollen, seeds or animal bones; nobody knew that these could be used to reconstruct the environment or diet. Today, we use of satellite imagery, ground penetrating radar or even the analysis of ancient DNA are common practice in archaeology. In the 1960s, archaeologists at Çatalhöyük uncovered over 200 rooms in less than 4 years, current excavations at this site expose only 1 to 2 houses per year. We now realize that there is so much more information to obtain from each room. Still, we will never learn all there is to know about the past. Archaeological techniques will continually improve. For this reason, we must preserve part of the past for future archaeologists, equipped with those improved techniques, to uncover.</p>	01:24:29:21
<p>HOST: AS TECHNOLOGY AND OUR APPROACHES TO ARCHAEOLOGY ADVANCE, ENTIRE WORLDS PREVIOUSLY LOST TO US TAKE SHAPE IN GRAPHIC DETAIL.</p>	01:25:37:28
<p>HOST: HISTORIANS ARE CONSTANTLY LEARNING MORE ABOUT THE TRANSITIONS FROM HUNTING AND GATHERING TO FARMING AND HERDING. WHILE MUCH IS STILL UNKNOWN, IT IS CERTAIN THAT THE TRANSITIONS SPANNED MORE THAN 6 THOUSAND YEARS, AND PLAYED OUT IN DIFFERENT WAYS IN DIFFERENT REGIONS. AN ATTEMPT TO SHAPE AN 'ALL-INCLUSIVE' MODEL FOR THESE REVOLUTIONARY SHIFTS IN BEHAVIOR WOULD BE A FRUITLESS PURSUIT.</p>	01:25:47:11
<p>HOST: BUT WE CAN SAY THAT AS A BROAD PATTERN, THE CHARACTER OF EARLY HUMAN SOCIETIES WAS INVARIABLY SHAPED BY THE SPECIFIC ENVIRONMENT, AND THE TRANSITION TO AGRICULTURE NEARLY ALWAYS LED TO GREATER SOCIAL COMPLEXITY.</p>	01:26:11:23
<p>HOST: LIKEWISE THE GROWTH OF CITIES HAD AN AMBIGUOUS RANGE OF EFFECTS. THEY RANGED FROM THE ENCOURAGEMENT OF TRADE AND THE FLOWERING OF LAVISH SPIRITUAL LIFE, TO THE RISE OF HIERARCHICAL SOCIETIES IN WHICH POWER AND PRIVILEGE WERE DEFINED BY CLASS, STATUS AND GENDER. AS HISTORIANS AND ARCHAEOLOGISTS PIECE TOGETHER THE COMPLEX PICTURE OF THE PAST, THEIR STUDIES CONTINUE TO REVEAL THE COMMONALITIES—AND STAGGERING DIVERSITY—IN THE COURSE OF HUMAN HISTORY.</p>	01:26:25:27

WEB TAG	01:26:57
PROGRAM CREDITS	01:26:58
SPECIAL THANKS	01:27:33
OPB LOGO	01:27:48
A/CPB LOGO	01:27:55
1-800 ORDER TAG	01:28:10
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