

# BRIDGING WORLD HISTORY

EPISODE #3

## Human Migrations

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<b>TIME CODE</b>	<b>AUDIO</b>
1:00:00	<b>ANNENBERG/CPB LOGO</b>
1:00:15	<b>OPB LOGO</b>
1:00:23	<b>WEB TAG</b>
01:00:30	<b>HOST VO: FOLLOWING THE STARS, POLYNESIAN WAYFINDERS EXPLORED AND SETTLED THE ISLANDS OF THE SOUTH PACIFIC.</b>
01:00:36	<b>HOST VO: PACIFIC ISLANDERS CONSTRUCTED WAY-FINDING DEVICES – MAPS MADE OUT OF STICKS TO DETAIL THEIR POSITIONAL DIRECTION – KNOWLEDGE GAINED FROM OBSERVING THE PATTERNS OF OCEAN SWELLS CAUSED BY WINDS AND NEARBY LAND, THE KNOWN ISLANDS.</b>
01:00:52	JERRY BENTLEY: Austronesian mariners sailed double hulled canoes or outrigger canoes to the Philippines, and the islands of Indonesia, and to the islands in the Central and Western Pacific, and even to the island of Madagascar off the east coast of Africa..
01:01:08	<b>HOST: FROM THE BEGINNING OF THE HUMAN STORY, PEOPLE MIGRATED VAST DISTANCES, CROSSING OCEANS AND INHABITING EVERY CONTINENT, SPREADING OUTWARDS FROM THE ORIGINAL AFRICAN HOMELAND. THE HUMAN STORY HAS BEEN THE STORY OF WORLD HISTORY IN MOTION..</b>
01:01:53	<b>HOST: MUCH OF THE HUMAN STORY CENTERS AROUND CHANGE AND MIGRATION. OVER THE AGES, ENVIRONMENTAL CHANGES AND POPULATION PRESSURES HAVE MOTIVATED THE MOVEMENT OF PEOPLE AROUND THE WORLD. TODAY, PEOPLE</b>

	<p><b>LIVE IN EVERY HABITABLE PLACE ON EARTH.</b></p> <p><b>HOW AND WHY EARLY HUMAN BEINGS MIGRATED TO EVERY CORNER OF THE PLANET IS STILL BEING STUDIED. AND THE STORY EMERGING FROM THIS ONGOING RESEARCH IS ONE THAT ALL HUMANITY SHARES ...</b></p> <p><b>BECAUSE EVERY PERSON ON THE PLANET TODAY CAN TRACE HIS OR HER DEEPEST ROOTS TO AFRICA.</b></p>
01:02:27	<p><b>HOST:</b>  <b>A GREAT DEAL IS STILL UNKNOWN ABOUT THE MIGRATIONS PEOPLE MADE AS THEY SPREAD THROUGHOUT THE WORLD. WHAT IS ASTONISHING IS HOW MUCH HAS BEEN DISCOVERED ABOUT THE MOVEMENT OF PEOPLES WHO LIVED MANY THOUSANDS OF YEARS AGO.</b></p>
01:02:45	<p><b>HOST:</b>  <b>HISTORIANS USE VARIOUS KINDS OF SCIENTIFIC EVIDENCE TO TRACE THE MOVEMENTS OF THESE EARLY MIGRATIONS. THEY INCLUDE FOSSIL REMAINS AND TOOLS FOUND AT ARCHAEOLOGICAL SITES, STUDY OF ENVIRONMENTAL CHANGES THAT MIGHT HAVE AIDED OR IMPEDED MIGRATION, ANALYSIS OF LANGUAGES, AND THE TRACING OF GENETIC LINEAGES ALL THE WAY BACK TO THE ORIGINAL HUMAN POPULATION.</b></p>
01:03:25	<p>E. KOFI AGORSAH:  Archeology is one of the most important sources of reconstructing these earliest societies. Unfortunately there is a problem of all the material remaining intact for the archeologists.</p>
01:03:38	<p><b>HOST:</b>  <b>BEGINNING IN AFRICA, THESE GREAT MIGRATIONS SHAPED THE WAY IN WHICH THE WORLD IS POPULATED TODAY: IN AN EXODUS BELIEVED TO HAVE BEEN UNDER WAY 100,000 YEARS AGO, PEOPLE MOVED FROM AFRICA TO THE EURASIAN CONTINENT.</b></p>
01:03:46	<p><b>HOST:</b>  <b>THEN THE PEOPLING OF AUSTRALIA, THE PACIFIC ISLANDS, AND THE AMERICAS BEGAN AS EARLY AS 60,000 YEARS AGO.</b></p>
	<p><b>HOST:</b>  <b>THERE WERE MORE <i>RECENT</i> MIGRATIONS, INCLUDING THE BANTU-SPEAKERS WHO SPREAD THROUGHOUT AFRICA WITHIN THE LAST 5,000 YEARS...</b></p>
01:03:53	<p><b>HOST:</b>  <b>BUT WHERE AND HOW DID HUMAN MIGRATION AROUND THE GLOBE—AN EPIC JOURNEY THAT TOOK TENS OF THOUSANDS OF YEARS—ACTUALLY BEGIN?</b></p> <p><b>TO UNDERSTAND THIS, HISTORIANS HAVE FOUND IT NECESSARY TO STUDY HOW AND WHERE HUMANS EVOLVED.</b></p> <p><b>AND ABUNDANT SCIENTIFIC EVIDENCE POINTS TO THE HUMAN SPECIES HAVING ORIGINATED IN AFRICA SOME 200,000 YEARS AGO.</b></p> <p><b>AND ALL OF THE KNOWN FOSSILS OF EARLY HOMINIDS—THAT IS, THE <i>PRECURSORS</i> TO HUMAN BEINGS—THAT ARE MORE THAN TWO MILLION YEARS OLD HAVE BEEN FOUND IN AFRICA.</b></p>

01:04:33	<p><b>HOST:</b>  <b>IN 1978, THE ARCHEOLOGIST/ ANTHROPOLOGIST MARY LEAKEY AND HER TEAM FOUND THESE FOSSILIZED FOOTPRINTS IN TANZANIA, BUT THE HOMINIDS WHO MADE THEM MAY NOT HAVE WALKED VERY FAR.</b></p>
01:04:54	<p>MARY LEAKEY (actor's VO):  <i>"We are having a wildly exciting time here, with footprints that might have been made today."</i></p> <p><i>"It is plausible to interpret the tracks as being made by a male whose foot had broad, splayed toes, closely followed by a female, with one or the other leading a juvenile." "It is a most important find and demonstrates that 3 1/2 million years ago the fully bipedal, striding gait had been completely developed."</i></p>
01:05:20	<p>E. KOFI AGORSAH:  Standing upright enabled early humans to develop stereoscopic vision and the ability to move faster and also to carry their food and babies to new locations. Standing upright also freed their hands and so they were able to make tools. The making of tools marked the beginning of culture.</p>
01:05:47	<p><b>HOST:</b>  <b>ONE COULD SAY THAT HOMINIDS WERE <i>BORN</i> TO TRAVEL. BUT IT TOOK MORE THAN A TWO-LEGGED BODY TO COLONIZE THE ENTIRE PLANET.</b></p>
01:05:55	<p><b>HOST:</b>  <b>SCIENTISTS AGREE THAT TWO-LEGGED HOMINIDS EVOLVED FROM THE GREAT APES OVER A SPAN OF FIVE MILLION YEARS. WITHIN THE LAST <i>ONE</i> MILLION YEARS SOME OF THESE EARLY HOMINIDS —KNOWN AS HOMO ERECTUS --MADE THEIR WAY OUT OF AFRICA AND ACROSS EURASIA.</b></p> <p><b>THE RICHEST SOURCE OF FOSSIL EVIDENCE FOR HOMO ERECTUS IS IN KENYA, BUT THE BONES OF THESE EARLY HOMINIDS ARE FOUND FAR APART IN EUROPE AND ASIA: NEAR HEIDELBERG, GERMANY, IN JAVA, INDONESIA, NEAR BEIJING, CHINA AND OTHER PLACES.</b></p>
01:06:25	<p><b>HOST:</b>  <b>SCIENTISTS BELIEVE THAT THE BANDS OF HOMO ERECTUS THAT <i>LEFT</i> AFRICA WERE AN EVOLUTIONARY DEAD END.</b></p> <p><b>IT WAS A HOMO ERECTUS POPULATION THAT <i>REMAINED</i> IN AFRICA WHICH EVENTUALLY EVOLVED INTO HOMO SAPIENS.</b></p> <p><b>THERE'S ABUNDANT PHYSICAL EVIDENCE OF THESE EARLY HOMO SAPIENS IN SUB-SAHARAN AFRICA FROM 150,000 YEARS AGO. THIS INCLUDES BONES, <i>MILLIONS</i> OF TOOLS, AND HUGE DEPOSITS OF SHELLS, APPARENTLY DISCARDED AFTER MEALS.</b></p>
01:06:59	<p><b>HOST:</b>  <b>THEY COULD CONTROL FIRE AND USE RUDIMENTARY TOOLS, AS HOMO ERECTUS HAD FOR PERHAPS HALF A MILLION YEARS.</b></p> <p><b>UNLIKE HOMO ERECTUS, HOMO SAPIENS EVENTUALLY ACQUIRED LANGUAGE.</b></p>
01:07:10	<p><b>HOST:</b>  <b>WHY AND WHEN DID GROUPS OF HOMO SAPIENS LEAVE NORTHEASTERN AFRICA?</b></p>

	<p><b>THE FIRST MIGRATIONS OF HOMO SAPIENS BEGAN 70,000 TO 140,000 YEARS AGO DURING AN ICE AGE IN THE PLEISTOCENE. AT THIS TIME, MUCH OF THE EARTH'S MOISTURE WAS FROZEN IN GIANT GLACIERS, CAUSING SEAS TO RECEDE AND DESERTS TO SPREAD. THESE ENVIRONMENTAL CHANGES MAY HAVE FORCED BANDS OF HOMO SAPIENS TO MIGRATE BOTH WITHIN AFRICA AND OUT OF AFRICA.</b></p>
01:07:40	<p><b>HOST:</b>  <b>THE BEGINNINGS OF <i>CULTURE</i> MAY HAVE EMERGED DURING THE EARLY HUMANS' MIGRATIONS BOTH WITHIN AFRICA AND OUT OF AFRICA. THE ABILITY OF HUMAN GROUPS TO INVENT TOOLS AND SONGS, AND TO PASS THESE ALONG COULD WELL HAVE OCCURRED AS THEY ENCOUNTERED NEW ENVIRONMENTS WHILE ON THE MOVE.</b></p>
01:07:54	<p><b>HOST:</b>  <b>WAS IT THE INVENTION OF LANGUAGE THAT MADE THE GREAT MIGRATIONS POSSIBLE, OR WAS IT THE HOMO SAPIENS' MIGRATIONS THAT MADE LANGUAGE NECESSARY FOR SURVIVAL?</b></p> <p><b>AS EARLY HUMANS TRAVELED WITHIN AFRICA AND THEN AROUND THE WORLD, THEY HAD TO ADAPT TO NEW ENVIRONMENTS. IT SEEMS LIKELY THAT THESE GROUPS WOULD HAVE NEEDED LANGUAGE TO COMMUNICATE ABOUT ADAPTATIONS TO NEW LATITUDES, INCLUDING HOW TO SURVIVE IN HARSH CLIMATES AND FIND UNFAMILIAR SOURCES OF FOOD.</b></p>
01:08:21	<p>PAT MANNING:  ...The origins of language are...important for themselves but they leave really important historical traces because the language groups are passed on with relatively slow change over a long time.</p>
01:08:34	<p><b>HOST VO:</b>  <b>WHILE IT'S DIFFICULT TO PINPOINT THE EXACT ERA WHEN HUMANS LEARNED TO SPEAK, IT IS CLEAR THAT THE EARLY MIGRATIONS COINCIDED WITH UNPRECEDENTED INNOVATION. NEW AND SOPHISTICATED TOOLS BEGAN TO APPEAR AFTER ABOUT 100,000 YEARS AGO. THERE ARE BLADE TOOLS, HAFTED PROJECTILE POINTS, FISH HOOKS—A GREAT VARIETY OF IMPLEMENTS THAT HAD NEVER BEEN MADE BEFORE.</b></p>
01:08:58	<p><b>HOST:</b>  <b>IT'S PROBABLE THAT INCREASING SOCIAL ORGANIZATION HELPED PEOPLE ADAPT SUCCESSFULLY TO DIVERSE ENVIRONMENTS. TASKS SUCH AS FINDING FOOD AND TOOL MAKING MAY HAVE BEEN TAKEN UP BY SPECIALISTS AND SUCH SPECIALIZATION MAY HAVE ACCELERATED INNOVATIONS IN THOSE AREAS.</b></p>
01:09:14	<p><b>HOST:</b>  <b>ONE PARTICULAR GLOBAL EVENT EARLY IN THE COURSE OF THE GREAT MIGRATION MUST HAVE SEVERELY CHALLENGED THE HUMAN GROUPS' RESOURCEFULNESS.</b></p>
01:09:22	<p><b>HOST:</b>  <b>APPROXIMATELY 75,000 YEARS AGO, A VOLCANIC ERUPTION ON THE ISLAND OF SUMATRA, SENT SO MUCH DUST AND ASH INTO THE ATMOSPHERE THAT THE SKY DARKENED FOR YEARS. THE EARTH WAS PLUNGED INTO A COLD SPELL, DRASTICALLY REDUCING PLANT LIFE AND OTHER SOURCES OF FOOD.</b></p>

01:09:40	<p><b>HOST:</b>  <b>HOW DID HUMANS ADAPT TO DRASTICALLY CHANGED ENVIRONMENTAL CONDITIONS AFTER MT. TOBA'S ERUPTION? FURTHER RESEARCH ON HUMAN HABITATION LINKED TO VOLCANIC DEPOSITS FROM MOUNT TOBA MAY PROVIDE ANSWERS TO THESE QUESTIONS.</b></p>
01:10:04	<p><b>HOST:</b>  <b>ONCE EARLY HUMANS LEFT AFRICA, THEY SPREAD ACROSS THE GLOBE, CROSSING LAND AND WATER, IN ALL DIRECTIONS. THESE WERE DIVERSE MIGRATIONS, WITH PEOPLE ARRIVING AT MANY LOCATIONS OVER A WIDE SPAN OF TIME. THE EVIDENCE OF THESE MIGRATIONS CONTAINS CULTURAL CLUES TO THIS DISTANT PAST.</b></p>
01:11:12	<p>VOICE OF BRUCE CHATWIN:  <i>"The Ancients sang their way all over the world. They sang the rivers and ranges, salt-pans and sand dunes.</i></p> <p><i>They hunted, ate, made love, danced, killed: wherever their tracks led they left a trail of music."</i></p>
01:11:35	<p><b>HOST:</b>  <b>THESE ARE THE WORDS OF A MODERN-DAY TRAVELER, BRUCE CHATWIN. THROUGH THE HELP OF ABORIGINAL PEOPLE, HE RETRACED SOME OF THE MIGRATIONS OF EARLY HUMANS THROUGH AUSTRALIA, AND THEN IMAGINED THEIR EXPERIENCE IN HIS WRITINGS.</b></p> <p><b>FOR ABORIGINAL AUSTRALIANS, SONGS WERE AND ARE A WAY TO KEEP IN MIND THE LITERAL AND CULTURAL PATHS OF THEIR ANCESTORS.</b></p>
01:12:02	<p><b>HOST:</b>  <b>HUMAN BEINGS FIRST TRAVELED TO AUSTRALIA DURING THE ICE AGES. THE FIRST INDISPUTABLE EVIDENCE OF THEIR PRESENCE THERE DATES BACK 35,000 YEARS, A TIME WHEN MUCH OF THE EARTH'S WATER WAS FROZEN INTO GLACIERS.</b>  <b>ALTHOUGH SEA LEVELS THEN WERE CONSIDERABLY LOWER THAN THEY ARE NOW, THE PASSAGE FROM SOUTHEAST ASIA TO AUSTRALIA STILL REQUIRED A DAUNTING OCEAN CROSSING.</b></p>
01:12:16	<p><b>HOST:</b>  <b>LEGENDS OF THE ABORIGINAL KAKADU PEOPLE TELL OF THE "DREAMTIME," THE ERA WHEN THEIR WORLD WAS CREATED. THE GREAT EARTH MOTHER IMBEROMBERA ARRIVED IN AUSTRALIA BY CANOE, HER WOMB SWELLING WITH HUMAN CHILDREN. COMING ASHORE, SHE CREATED A WORLD OF HILLS AND CREEKS, PLANTS AND ANIMALS FOR HER CHILDREN TO INHABIT.</b></p>
01:12:34	<p>JERRY BENTLEY:  Oral traditions are not the only indication of human migration and human habitation in Australia, there are no written sources from very early times but there is archeological evidence.</p>
01:12:57	<p><b>HOST:</b>  <b>SCIENTIFIC DATING OF FOSSILS AND OF ANCIENT VARNISH USED ON ROCK ART, SHOWS THAT BY 30,000 YEARS AGO HUMAN BEINGS HAD SPREAD <i>THROUGHOUT</i> AUSTRALIA. FIVE MILLENNIA LATER, THEY WERE LIVING IN TASMANIA. AND WITHIN <i>ANOTHER</i> FIVE THOUSAND YEARS THEY HAD MADE THEIR WAY TO NEW GUINEA, WHICH REQUIRED FURTHER OCEAN TRAVEL.</b></p>

01:13:32	<p><b>HOST:</b>  <b>FOR TENS OF THOUSANDS OF YEARS, WHILE OTHER LANGUAGES AROUND THE WORLD EMERGED, EVOLVED AND DISAPPEARED, ABORIGINAL LANGUAGES DEVELOPED IN RELATIVE ISOLATION FROM THE REST OF HUMANITY. THESE LANGUAGES NO LONGER HAVE NO ANY CLEAR RELATIONSHIP TO MODERN LANGUAGES IN AFRICA OR ASIA – SUGGESTING THEIR ANTIQUITY IN THE GLOBAL STORY OF HUMAN LANGUAGES.</b></p>
01:13:53	<p><b>HOST:</b>  <b>LANGUAGE AND STORYTELLING ARE NOT THE ONLY FORMS OF EARLY CULTURAL EXPRESSION. HUMAN POPULATIONS SETTLING IN AUSTRALIA CREATED WORKS OF ART, CAPTURED IN CARVINGS AND PAINTINGS ACROSS THE CONTINENT.</b></p> <p><b>THESE EARLY SYMBOLIC EXPRESSIONS WERE NOT LIMITED TO AUSTRALIA HOWEVER, BUT APPEAR FROM SOUTHERN AFRICA TO EURASIA.</b></p> <p><b>THE ROCK ART CREATED AROUND THE WORLD TENS OF THOUSANDS OF YEARS AGO BEARS WITNESS TO THE CREATIVE SPIRIT ACTIVE AT THE DAWN OF HUMANITY’S CULTURAL EVOLUTION.</b></p>
01:14:19	<p><b>HOST:</b>  <b>IN CREATING ART, INDIVIDUALS AND GROUPS PASSED ON THEIR EXPERIENCES TO OTHERS, AND IN TURN, LEARNED FROM OTHERS AS WELL.</b></p> <p><b>NOW PEOPLE COULD CREATE THEIR OWN ENVIRONMENTS, AS THESE PAINTED CAVES DISCOVERED IN SOUTHERN EUROPE DEMONSTRATE. REACHING NEW HEIGHTS OF SYMBOLIC EXPRESSION, SOME OF THIS ART HAS BEEN DATED BACK AT LEAST THIRTY THOUSAND YEARS.</b></p>
01:14:26	<p>E. KOFI AGORSAH:          Archeologists have various ways of determine the age of material of these various earliest societies. One of them is radio carbon dating which examines the carbon isotope in any objects that has been found at the site. This method is known as half life.</p>
01:14:40	<p><b>HOST:</b>  <b>THESE PAINTINGS COULD HAVE PLAYED A PART IN RITUALS, WHERE MUSIC AND DANCE MAY HAVE COMBINED WITH VISUAL ART TO ENHANCE THE EXPERIENCE.</b></p>
01:14:51	<p><b>HOST:</b>  <b>THE OVERWHELMING IMPRESSION THESE PAINTINGS CONVEY IS A SENSE OF MOVEMENT. THE ANIMALS PORTRAYED APPEAR SWIFT AND STRONG.</b></p> <p><b>THE DEPICTION OF SUCH ANIMALS WAS IMPORTANT TO EARLY HUMANS, WHO DEPENDED ON THEM AS A SOURCE OF FOOD AND OTHER MATERIALS.</b></p>
01:15:12	<p><b>HOST:</b>  <b>FOLLOWING SUCH ANIMALS ON THEIR MIGRATIONS, MAY HAVE BEEN THE WAY THAT HUMAN BEINGS FIRST CAME TO THE AMERICAS—CROSSING THE BERING STRAIT IN THE TRACKS OF THE WOOLLY MAMMOTH AND OTHER BIG GAME.</b></p>
01:16:47	<p><b>HOST:</b>  <b>FOR MOST OF THE PERIOD BETWEEN 75,000 TO 12,000 YEARS AGO A LAND BRIDGE CONNECTED THE EURASIAN LANDMASS WITH THE AMERICAS. SOME TIME DURING THAT PERIOD—THOUGH THE DATES OF THE MIGRATION ARE STILL BEING DEBATED—PEOPLE CROSSED WHAT IS TODAY THE BERING STRAIT. THE TRAVELERS MAY NOT HAVE EVEN KNOWN THEY HAD REACHED A NEW CONTINENT.</b></p>

01:16:24	<p><b>HOST:</b>  <b>PERIODICALLY, AN ICE-FREE CORRIDOR WOULD EXTEND FROM THE YUKON DOWN THROUGH MONTANA. IT MUST HAVE BEEN A HUNTER'S PARADISE—A LAND OF WOOLLY MAMMOTHS, MASTODONS, SABER TOOTH TIGERS, AND OTHER LARGE MAMMALS.</b></p> <p><b>EVIDENCE SHOWS THAT EARLY HUMANS HUNTED THESE ANIMALS, BUT THIS BIG GAME WOULD BECOME EXTINCT IN THE AMERICAS SOME TIME BETWEEN 17,000 AND 12,000 YEARS AGO.</b></p>
01:16:31	<p><b>HOST:</b>  <b>ARCHEOLOGISTS HAVE FOUND BONES OF GIANT MAMMALS NEAR SPEAR POINTS LIKE THESE. CALLED CLOVIS POINTS, THEY WERE FIRST DISCOVERED NEAR CLOVIS, NEW MEXICO AT A SITE DATED AT MORE THAN 13,000 YEARS OLD. CLOVIS POINTS HAVE TURNED UP IN THE 48 CONTINENTAL STATES AND IN MEXICO AND PERHAPS AS FAR SOUTH AS PATAGONIA. THE PEOPLE WHO MADE AND USED THESE SPEAR POINTS SEEM TO HAVE BEEN THE FIRST HUNTERS IN THE WESTERN HEMISPHERE.</b></p> <p><b>THERE ARE NO UNDISPUTED ARTIFACTS OF PEOPLE WHO PRECEDED THEM IN THE AMERICAS, WHICH SUGGESTS THAT THE EARLY HUNTERS WERE ALSO THE FIRST HUMAN MIGRANTS TO PEOPLE THE FINAL PART OF THE GLOBE.</b></p>
01:16:57	<p><b>HOST:</b>  <b>ONE WAY TO INVESTIGATE THE MOVEMENT OF POPULATIONS AROUND THE WORLD IS BY FOLLOWING THE TRAIL LEFT BY LANGUAGE.</b></p>
01:17:24	<p><b>HOST:</b>  <b>AT THE END OF THE FIRST MILLENNIUM CE, THE AUSTRONESIAN LANGUAGE FAMILY, WHICH INCLUDES POLYNESIAN LANGUAGES, WAS THE MOST WIDESPREAD IN THE WORLD. DURING A SPAN OF AT LEAST THREE MILLENNIA, THESE LANGUAGES HAD BEEN SPREAD ACROSS A VAST GEOGRAPHIC AREA, FROM INDONESIA TO THE PHILIPPINES, FROM MADAGASCAR TO EASTER ISLAND. SPEAKERS OF THESE LANGUAGES COULD HAVE MIGRATED ACROSS THE PACIFIC IN ONLY ONE WAY: BY BOAT.</b></p>
01:17:32	<p><b>HOST:</b>  <b>THE ARCHAEOLOGICAL RECORD CONFIRMS THE LINGUISTIC EVIDENCE. APPROXIMATELY SIX THOUSAND YEARS AGO, POLISHED STONE TOOLS BEGAN TO APPEAR IN THE AREA OF MODERN DAY TAIWAN. THIS ADZE IS THE KIND OF TOOL THAT WOULD HAVE BEEN USED TO HOLLOW OUT WOODEN CANOES. APPARENTLY THESE CANOES WERE CENTRAL TO A FISHING CULTURE THAT WAS MUCH MORE WIDESPREAD—AND HAD THE ABILITY TO CROSS OCEANS.</b></p>
01:18:04	<p><b>HOST:</b>  <b>ANALYSIS OF DNA OF MODERN PEOPLES CONFIRMS THAT POLYNESIAN POPULATIONS ARE GENETICALLY RELATED TO SOUTHEAST ASIANS.</b></p>
01:18:24	<p><b>JERRY BENTLEY:</b>      For about a thousand years, from 1500 to 500 B.C.E. Austronesian peoples maintained an extensive network of trade, and communication and exchange spreading over thousands of miles of the Pacific Ocean. And the most distinctive item that they exchanged was a very distinctive form pottery known as lapita pottery, which enables archeologists to identify their sites even in the present day.</p>

01:19:30	<b>HOST:</b> <b>THE TRAIL OF LAPITA POTTERY, THE GENETIC EVIDENCE, AND ARCHEOLOGICAL FINDS, IN CONCERT WITH THE LINGUISTIC EVIDENCE, ARE USED BY SCIENTISTS AND HISTORIANS TO TRACK THE MIGRATION AND TRADE ROUTES OF ASIAN AND PACIFIC EXPLORERS.</b>
01:19:55	<b>HOST:</b> <b>LANGUAGES OFFER MANY CLUES IN STUDYING THE MIGRATION OF PEOPLES AROUND THE WORLD. IN SOME CASES LINGUISTIC FEATURES CAN REVEAL PATTERNS OF MOVEMENT. ONE EXAMPLE OF THIS IS THE PREVALENCE OF CLICK SOUNDS IN THE LANGUAGES OF SOME FAR SEPARATED PEOPLES.</b>
01:20:22	PAT MANNING: The Khoisan languages of southwestern Africa have very unusual click sounds in it that are unique to these groups and, ah, suggest that the...that they've been in place there for a long time. Each give information about the other that can be a...really considerable historical depth.
01:20:50	<b>HOST:</b> <b>IN SOME CASES, ARCHAIC WORDS SURVIVING IN A LANGUAGE MAY HELP HISTORIANS MAY TRACE A RELATIONSHIP BETWEEN PEOPLES IN THE DISTANT PAST – LONG AFTER THE SPEAKERS OF THOSE LANGUAGES MOVED.</b>  <b>BY STUDYING STILL-SURVIVING LANGUAGES, RESEARCHERS ARE ABLE TO LEARN MORE ABOUT WHERE AND HOW THEY ORIGINATED, AND HOW THEY EVOLVED OVER TIME.</b>
01:21:03	<b>HOST:</b> <b>FOR EXAMPLE, SANSKRIT HAS CHANGED DRAMATICALLY DURING THE 3,000 YEARS SINCE IT WAS FIRST WRITTEN, BUT WHAT HAS REMAINED THE SAME? WHAT DOES THAT REVEAL ABOUT THOSE WHO FIRST SPOKE THE LANGUAGE? AND WHAT CAN BE LEARNED ABOUT THE MIGRATIONS OF THOSE WHOSE TONGUES ARE RELATED TO SANSKRIT? NO ONE ASKED THESE TYPES OF QUESTIONS UNTIL A BRITISH JUDGE IN INDIA STUDIED SANSKRIT MORE THAN 200 YEARS AGO.</b>
01:21:12	VOICE OF SIR WILLIAM JONES: <i>"The Sanskrit language is more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either. So strong indeed, that no philologer could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists."</i>
01:21:28	<b>HOST:</b> THE <i>COMMONALITIES</i> THAT SIR JONES IDENTIFIED BETWEEN LATIN, GREEK AND SANSKRIT POINTED TO A COMMON SOURCE, <i>AND</i> TO THEIR RELATIONSHIP WITHIN A LANGUAGE FAMILY. THE <i>ROOT</i> OF PERSIAN, MODERN EUROPEAN LANGUAGES, AND OF LANGUAGES SPOKEN IN NORTHERN INDIA, IS TODAY CALLED THE INDO-EUROPEAN LANGUAGE FAMILY. INDO-EUROPEAN IS THE WORLD'S LARGEST LANGUAGE FAMILY. HALF OF THE WORLD'S POPULATION SPEAKS AT LEAST ONE INDO-EUROPEAN LANGUAGE.
01:21:49	PAT MANNING: Sir William Jones was a key founder of the study of historical linguistics and the one whose insights have enabled people to classify all the languages of the world according to these principles.
01:22:06	<b>HOST:</b> <b>THE COMPARATIVE STUDY OF LANGUAGES IS A VALUABLE TOOL IN TRACKING THE SPREAD OF RELATED PEOPLES ACROSS A CONTINENT, SUCH AS THE <i>BANTU EXPANSION</i> IN AFRICA.</b>



01:22:35	<p><b>HOST:</b>  <b>LIVING SOUTH OF THE WESTERN SAHARA SIX THOUSAND YEARS AGO WERE THE ANCESTORS OF THE BANTU-SPEAKING PEOPLES. THEIR GRADUAL EXPANSION FROM THEIR HOMETLAND NEAR LAKE CHAD ACROSS THE CONTINENT AND SOUTH FROM LAKE VICTORIA TOOK ABOUT FIVE THOUSAND YEARS.</b></p>
01:21:28	<p>PAT MANNING:  The Bantu Languages—there are some 300 of them—are a sub-subgroup of the Niger-Congo languages and most of the other languages that are in that larger Niger-Congo family are in West Africa. The Bantu languages extend from West Africa to southern and eastern Africa.</p>
01:21:49	<p><b>HOST:</b>  <b>WE ALSO KNOW FROM THE RECONSTRUCTION OF PROTO BANTU THAT THE ANCESTORS OF THE BANTU-SPEAKERS LIVED ALONG THE BANKS OF RIVERS AND IN OPEN AREAS WITHIN FORESTS. TRAVELING BY CANOE, THEY TRADED WITH THE FOREST PEOPLE, EXCHANGING POTTERY AND STONE TOOLS FOR MEAT AND HONEY.</b></p>
01:22:06	<p>PAT MANNING:  The Bantu languages have been studied with great...in great depth, um, and subdivided and argued over and one can learn from them about, ah, considerable details in the past of the migration, can learn about the society of the people who migrated, and can establish with pretty, ah, great certainty that it was in the area of 4 to 5,000 years ago that these movements from Southeast Nigeria began.</p>
01:22:35	<p><b>HOST:</b>  <b>PRESSURE FROM GROWING POPULATIONS LIKELY DROVE BANDS OF EARLY BANTU SPEAKERS TO SEEK OUT NEW PLACES TO LIVE. AS THEY EXPANDED SOUTHWARD INTO THE CONGO RIVER BASIN AND EASTWARD TOWARD THE GREAT LAKES OF EASTERN AFRICA, THEY CULTIVATED NEW CROPS.</b></p>
01:22:51	<p><b>HOST:</b>  <b>AS THEY MOVED INTO NEW REGIONS BANTU-SPEAKERS LEARNED IMPORTANT SKILLS AND NEW WORDS FROM THE PEOPLE THEY ENCOUNTERED.--THEY ADOPTED WORDS FROM NILOTIC AND CUSHITIC-SPEAKING PEOPLES, INCLUDING THOSE WORDS RELATED TO LIVESTOCK HERDING, IRRIGATION AND DRY GRAIN AGRICULTURE. THIS ADOPTION INDICATES THAT THE KNOWLEDGE OF THESE PROCESSES MAY HAVE COME FROM THOSE NON-BANTU SPEAKING PEOPLES.</b></p>
01:23:13	<p><b>HOST:</b>  <b>BY 1000 C.E. PEOPLE SPEAKING BANTU-RELATED TONGUES INHABITED MOST OF AFRICA BELOW THE EQUATOR.</b>  <b>BY THE TIME THE BANTU REACHED THE LIMITS OF THEIR EXPANSION, BOTH EASTERN AND WESTERN BRANCHES OF THE MIGRATION HAD DEVELOPED SOPHISTICATED POLITICAL UNITS, AND EXTENDED COMMERCIAL TIES WITH OTHER PEOPLES.</b></p>
01:23:35	<p><b>HOST:</b>  <b>TODAY NINETY MILLION PEOPLE SPEAK ONE OR MORE OF THE HUNDREDS OF DISTINCT BANTU LANGUAGES. IN TRACKING THE BANTU EXPANSION ACROSS AFRICA, SCHOLARS HAVE FOUND THAT GENETIC, LINGUISTIC AND ARCHAEOLOGICAL EVIDENCE, TOGETHER WITH KNOWLEDGE OF CROPS, POPULATION, AND CLIMATE PRODUCE A, MULTI-DIMENSIONAL BUT CONSISTENT PICTURE OF BANTU HISTORY.</b></p>

01:23:58	<p><b>HOST:</b>  <b>YET THOSE WHO STUDY HUMAN PRE-HISTORY DO NOT ALWAYS FIND WHAT THEY ARE LOOKING FOR. ARCHEOLOGIST AND ANTHROPOLOGIST MARY LEAKEY IS A VOICE OF EXPERIENCE ON THIS SCORE:</b></p>
01:24:09	<p>VOICE OF MARY LEAKEY:  <i>"You dig for one thing and you find something quite different. . . There are so many stories to be discovered and told here. And every one you find is different from the one you expected. It's always a surprise."</i></p>
01:24:26	<p><b>HOST:</b>  <b>THE SURPRISING NATURE OF ARCHEOLOGY IS EXEMPLIFIED BY THE ILLUMINATING DISCOVERIES SURROUNDING THE URUMCHI MUMMIES DISCOVERED IN THE TARIM BASIN OF CENTRAL ASIA IN 1987. WHAT REVELATIONS WERE SCIENTISTS ABLE TO MAKE ON THIS PROJECT BY REMAINING OPEN TO THEORIES OTHER THAN THEIR PRE-CONCEIVED ASSUMPTIONS?</b></p>
01:24:47	<p>JERRY BENTLEY:  Well, as Mary Leakey has just suggested, history and archeology are full of surprises. During the past couple of decades, historians, archeologists, and other scholars as well, have been able to shed some really remarkable light on one surprising case of human migration in particular. And that's the movement that took place perhaps as early as 4,000 years ago of people who probably spoke Indo-European languages from the region that we now call Europe to the Tarim Basin in Central Asia, which is now a part of Shingja Province in Western China. Members of this community buried their deceased individuals in soil that was extremely dry and also in some places rather salty. As a result, many of their bodies were very well preserved and in some cases you can still detect distinctive Caucasian features, including fair skin and light colored hair. And there were communities speaking Indo-European languages that survived in Central Asia until about a thousand years ago. Later on they probably became gradually absorbed into the communities of Turkish peoples who also migrated into the region. So, even though there is no present day remnant of the Caucasians who migrated to Central Asia, the mummified bodies from their community do survive and they provide clear evidence of what was probably the early stages of the Indo-European migrations.</p>
01:26:21	<p><b>HOST:</b>  <b>THE DIFFERENCES BETWEEN THE URUMCHI MUMMIES AND THE ASIANS OF TODAY COMMAND OUR ATTENTION. YET UNDERLYING THESE DIFFERENCES IS SOMETHING MORE REMARKABLE: THE GENETIC <i>SIMILARITY</i> BETWEEN ALL HUMAN BEINGS, NO MATTER WHERE THEY COME FROM.</b></p> <p><b>IF THE PEOPLE WHO EVENTUALLY BECAME THESE CAUCASIAN-LOOKING MUMMIES SPREAD THEIR GENES BEFORE THEY DIED, THEY TOO WERE AMONG THE ANCESTORS OF MODERN ASIANS.</b></p> <p><b>BUT THOSE WHO TRACE THEIR LINEAGE BACK FAR ENOUGH DISCOVER THAT THEY—LIKE ALL HUMANS ALIVE TODAY—ARE DESCENDANTS OF COMMON ANCESTORS: THE ORIGINAL MIGRANTS FROM AFRICA.</b></p>
1:26:57	<p><b>WEB TAG</b></p>
1:26:58	<p><b>PROGRAM CREDITS</b></p>

1:27:33	<b>SPECIAL THANKS</b>
1:27:48	<b>OPB LOGO</b>
1:27:55	<b>A/CPB LOGO</b>
1:28:10	<b>1-800 ORDER TAG</b>
1:28:25	<b>END</b>