

As told by Dr. Frank Elwell

SIMPLE HORTICULTURAL SOCIETIES

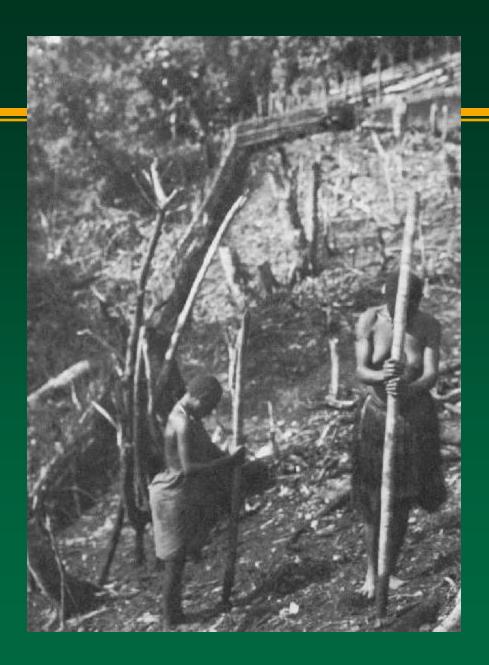
- Slow transition from hunting and gathering
- Differs greatly from agriculture
 - Digging stick Vs. plow
 - Gardens Vs. fields

Important to note that early horticulturists had a mixed economy supplemented by herding, hunting and gathering. Revolution was gradual, over generations. Middle east had used wild grains long before horticulture. Techniques of harvesting, storing, grinding, and cooking grains were well established.

IT WAS NOT UNTIL ABOUT 10,000
YEARS AGO THAT SOME HUNTERS
AND GATHERERS BEGAN TO LIVE IN
SETTLED VILLAGES DEVOTED TO
THE PRACTICE OF HORTICULTURE.

ALTHOUGH HUNTERS AND
GATHERERS HAVE PROBABLY
KNOWN FOR TENS OF THOUSANDS
OF YEARS HOW PLANTS AND
ANIMALS COULD BE
DOMESTICATED...

Women planting taro in a simple horticultural society in New Guinea. Note the tree stumps in the cultivated area: horticulturists do not need to clear the land as thoroughly as agriculturists, who use plows.



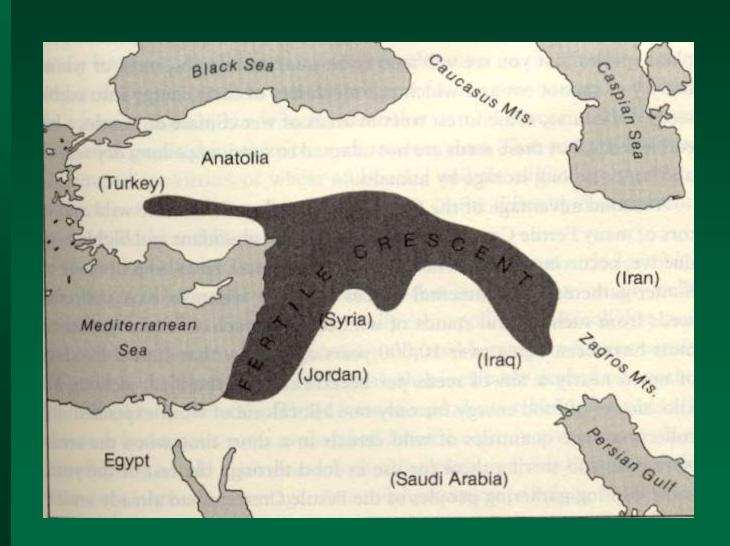
THE TRANSITION OF HUMANKIND TO A HORTICULTURAL MODE OF EXISTENCE IS KNOWN AS THE NEOLITHIC REVOLUTION (SOMETIMES CALLED THE AGRICULTURAL REVOLUTION AS WELL).

ACTUALLY THE TERM "REVOLUTION" IS MISLEADING, SINCE THERE WAS NOT SIMPLY A SINGLE REVOLUTIONARY TRANSITION, NOR WAS THE CHANGE ONE THAT OCCURRED OVERNIGHT.

THE TRANSITION TO AGRICULTURE OCCURRED ON AN INDEPENDENT BASIS IN SEVERAL DIFFERENT REGIONS OF THE WORLD AND AT SOMEWHAT DIFFERENT TIMES.

THE ADOPTION OF HORTICULTURE OCCURRED FIRST IN THE MIDDLE EAST. IT APPEARS TO HAVE FOLLOWED THE EMERGENCE OF SEDENTARY VILLAGES ORGANIZED AROUND THE HARVESTING OF WILD ANCESTORS OF WHEAT AND BARLEY.

The Fertile Crescent

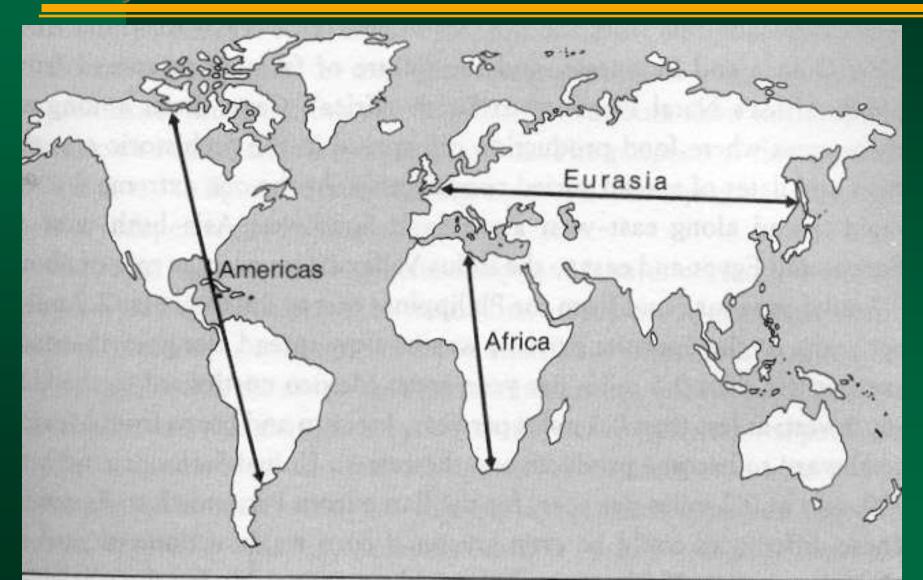


IT SPREAD BY DIFFUSION TO EUROPE, ALTHOUGH THE DOMESTICANTS INVOLVED UNDERWENT NUMEROUS CHANGES IN ORDER TO BESUITABLE TO THE DIFFERENT ENVIRONMENTAL CONDITIONS THAT EUROPE PRESENTED.

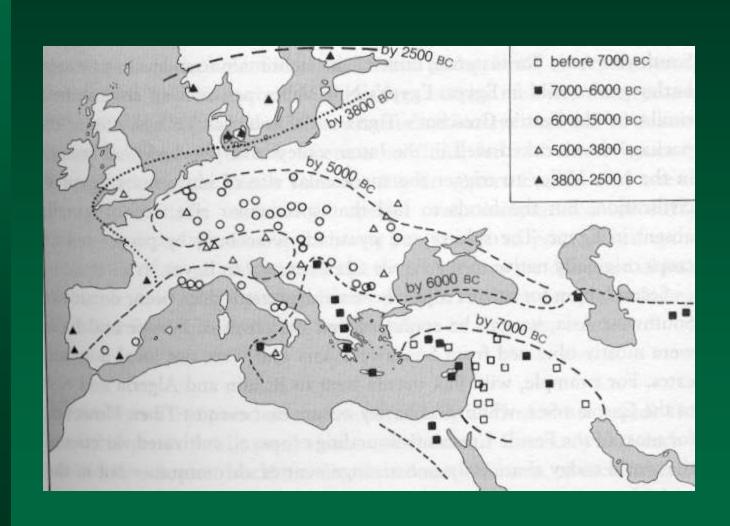
Centers of origin of food production.



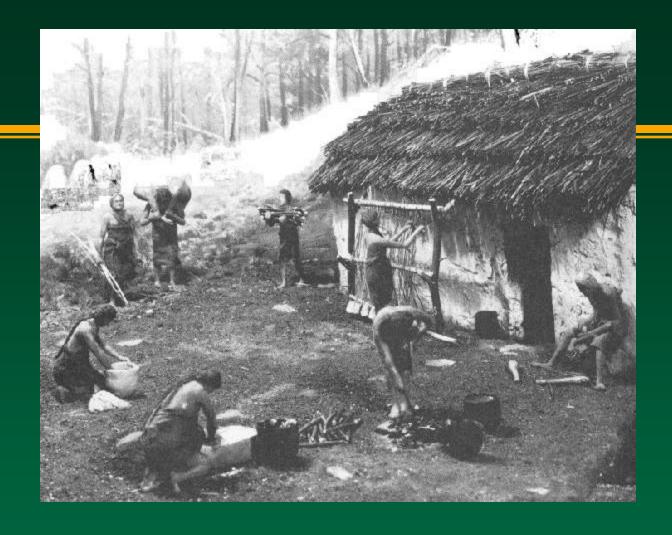
Major axes of the continents



The spread of Fertile Crescent crops across western Eurasia



IT WAS NOT UNTIL 5500 B.P. THAT AGRICULTURE WAS COMMON THROUGHOUT THE BRITISH ISLES.



Artist's conception of a farmhouse in Denmark during the horticultural era there (about 2700 B.C.)

AGRICULTURAL COMMUNITIES
EMERGED INDEPENDENTLY IN TWO
OTHER AREAS OF THE OLD WORLD:
CHINA AND SOUTHEAST ASIA.

VILLAGE LIFE APPEARS TO HAVE EMERGED IN CHINA SOMETIME BEFORE 6000 B.P. (MILLET AND PIGS, RICE AND SOYBEANS ADDED LATER). AGRICULTURE IN SOUTHEAST ASIA MAY HAVE ORGINATED AS EARLY 9000 B.P. (YAMS, TARO, AND RICE).

HORTICULTURE WAS ALSO
INDEPENDENTLY ADOPTED IN TWO
REGIONS OF THE NEW WORLD:
MESOAMERICA AND PERU.

THE ORIGINS OF AGRICULTURE IN THE NEW WORLD HAVE BEEN DATED TO AROUND 9000 B.P., ALTHOUGH SETTLED VILLAGE LIFE APEARS NOT TO HAVE EMERGED FULL BLOOM UNTIL SEVERAL THOUSAND YEARS LATER.

IN GENERAL, THE PLANT
DOMESTICANTS THAT HAVE BEEN
FOUND IN THE NEW WORLD ARE
ENTIRELY DIFFERENT FROM THOSE
THAT DEVELOPED IN THE OLD
WORLD.

IN ADDITION TO MAIZE, THESE INCLUDE LIMA BEANS, SQUASH, TOMATOES, POTATOES, MANKIOC, CHILI PEPPERS, AND CACAO.

IN CONTRAST TO THE OLD WORLD, THE NEW WORLD GENERALLY LACKED DOMESTICATED ANIMALS BECAUSE OF A LACK OF SUITABLE SPECIES.

TABLE 9.3 Approximate Dates of First Attested Evidence for Domestication of Large Mammal Species

Species	Date (B.C.)	Place
Dog	10,000	Southwest Asia, China, North America
Sheep	8,000	Southwest Asia
Goat	8,000	Southwest Asia
Pig	8,000	China, Southwest Asia
Cow	6,000	Southwest Asia, India, (?)North Africa
Horse	4,000	Ukraine
Donkey	4,000	Egypt
Water buffalo	4,000	China?
Llama/alpaca	3,500	Andes
Bactrian camel	2,500	Central Asia
Arabian camel	2,500	Arabia

- THE ONLY DOMESTICATED ANIMAL OF ANY REAL SIGNIFICANCE IN THE NEW WORLD WAS THE LLAMA, WHICH WAS DOMESTICATED IN PERU AROUND 5500 B.P.
- THE LACK OF DOMESTICATED ANIMALS WOULD HAVE ROFOUND SIGNIFICANCE FOR NEW WORLD CULTURES.

MOST SIMPLE HORTICULTURALISTS
LIVE IN HEAVILY FORESTED
ENVIRONMENTS AND PRACTICE A
FORM OF CULTIVATION KNOWN AS
SLASH-AND-BURN.

THIS CULTIVATION TECHNIQUE INVOLVES CUTTING DOWN A SECTION OF FOREST GROWTH AND THEN SETTING FIRE TO THE ACCUMULATED DEBRIS. THE ASHES THAT REMAIN SERVE AS FERTLIZER, AND USUALLY NO OTHER FERTILIZER IS ADDED.

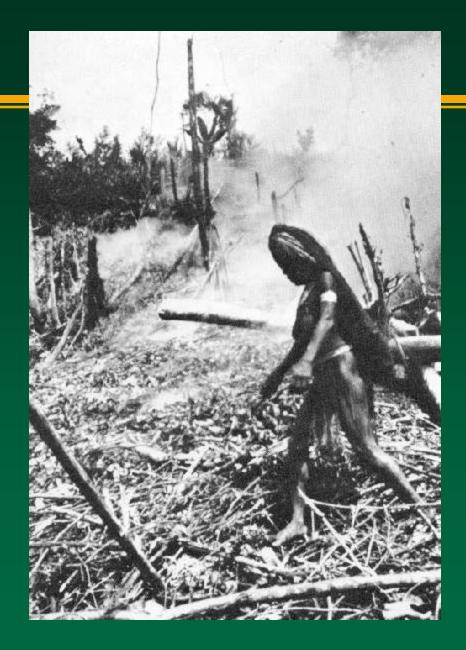


Slash and burn agriculture. Dry rice planted among unburned remnants of forest.

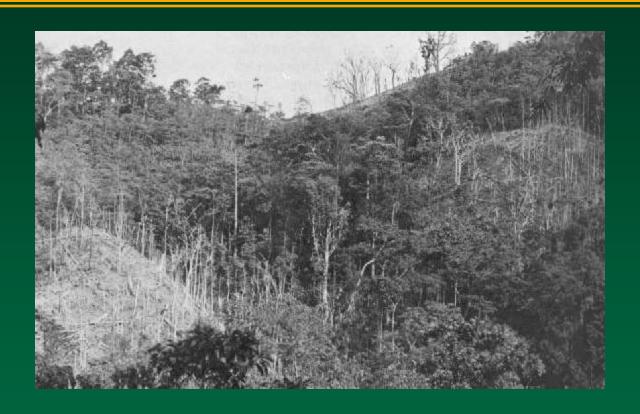
SINCE WOOD ASHES GENERALLY SERVE AS THE ONLY FERTILIZER, SLASH-AND-BURN CULTIVATION IS ASSOCIATED WITH SHORT-TERM SOIL FERTILITY.

- ASHES ARE WASHED AWAY BY RAIN AFTER A YEAR OR TWO, AND FOR THIS REASON A PLOT OF LAND CAN ONLY BE CULTIVATED FOR THAT LENGTH OF TIME.
- IT MUST THEN BE ALLOWED OT REMAIN FALLOW LONG ENOUGH FOR THE FOREST TO REGENERATE SO THAT NEW ASHES CAN BE PRODUCED.

Tsembaga Maring woman during the burning phase of swidden cycle.



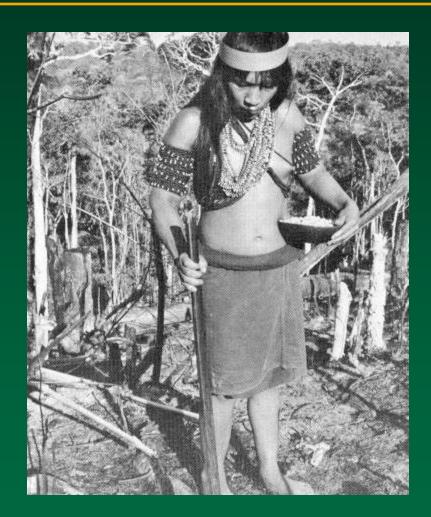
- THE FALLOW PERIOD ORDINARILY LASTS ABOUT 20 TO 30 YEARS.
- BECAUSE THIS SYSTEM REQUIRES LENGTHY FALLOW PERIODS, ANY SOCIETY PRACTICING IT MUST HAVE MUCH MORE LAND AT ITS DISPOSAL THAN IT WILL HAVE UNDER ACTUAL CULTIVATION AT ANY GIVEN TIME.



Partly consumed felled timber remains to be burned in swidden gardens set in advanced secondary forest (Philippines).

SUCH LAND USE REQUIREMENTS
PUT LIMITS ON POPULATION
DENSITY, AND TROPICALFOREST
CULTIVATORS OFTEN MAINTAIN
POPULATION DENSITIES OFLESS
THAN 10 PERSONS PER SQUARE
MILE.

This Amahuaca woman is using a digging stick to plant corn in a recently burned garden.



CULTIVATED PLANTS CONSTITUTE THE BULK OF DIETARY INTAKE AMONG SIMPLE HORTICULTURALISTS.

SOME ALSO POSSESS DOMESTICATED ANIMALS (SUCH AS PIGS) BUT MOST MUST RELY UPON HUNTING OR FISHING FOR THEIR SUPPLY OF ANIMAL PROTEIN.



Tsembaga Maring, who supplement their horticulture by raising pigs, on the way to a pig slaughter.



Dispatching a pig. Pigs have great ritual significance throughout New Guinea and Melanesia.

SIMPLE HORTICULTURALISTS
PRODUCE MORE FOOD PER UNITOF
LAND THAN DO HUNTERS AND
GATHERERS. SOME EVEN
PRODUCE A SMALL ECONOMIC
SURPLUS.

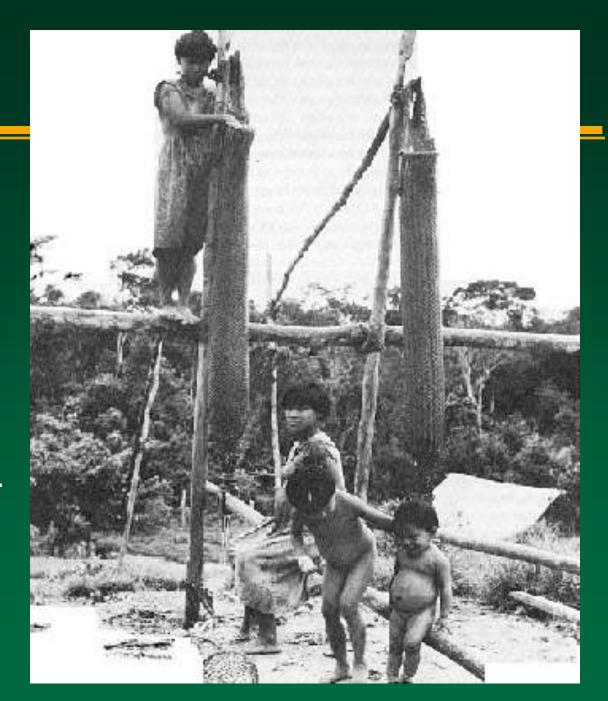
YET THEY DO NOT ENJOY A SUPERIOR STANDARD OF LIVING. SOME ARE PROBABLY INFERIOR. THEY DO NOT CONSUME MORE CALORIES, AND THEIR INTAKE OF PROTEIN IS LOWER. THEY WORK HARDER, IT TAKES MORE TIME AND **ENERGY TO PRACTICE** HORTICULTURE.

THUS, IT IS MORE INTENSIVE, BUT IT DOES NOT LEAD TO GREATER MATERIAL BENEFITS.



Yecuana women, Venezuela, grating manioc roots into a piece of an old canoe. Bitter manioc (or yucca) is the mainstay of the South American tropical forests.

Grated manioc is placed in special basket containers and the poisonous juice containing prussic acid is squeezed out.
Yecuana, Venezuela.



Median Size of Societies

H&G 40

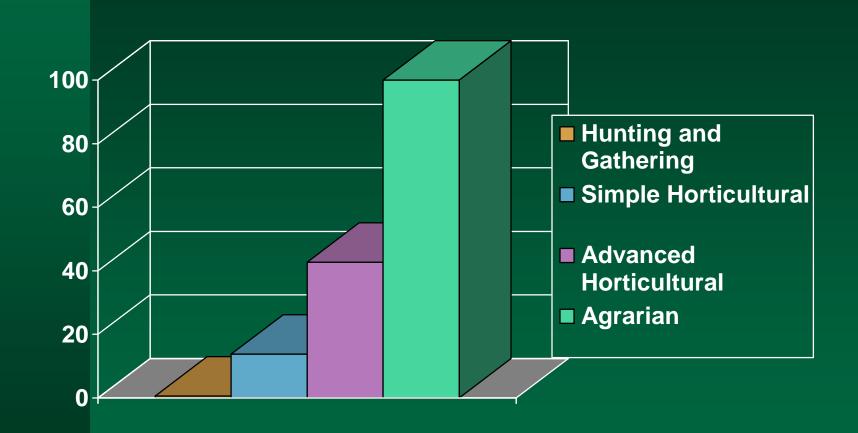
Simple Horticulture 1,500

Advanced Horticulture 5,250

Agrarian +100,000

Industrial +15,000,000

Median Population Density per Square Mile



Settlement

IN MOST AREAS SIMPLE HORTICULTURALISTS HAD TO MOVE THEIR SETTLEMENTS EVERY FEW YEARS. THIS SUBSTANTIALLY INCREASED THE PERMANENCE OF HUMAN SETTLEMENTS, ENABLING PEOPLE TO ACCUMULATE MANY MORE POSSSEIONS.

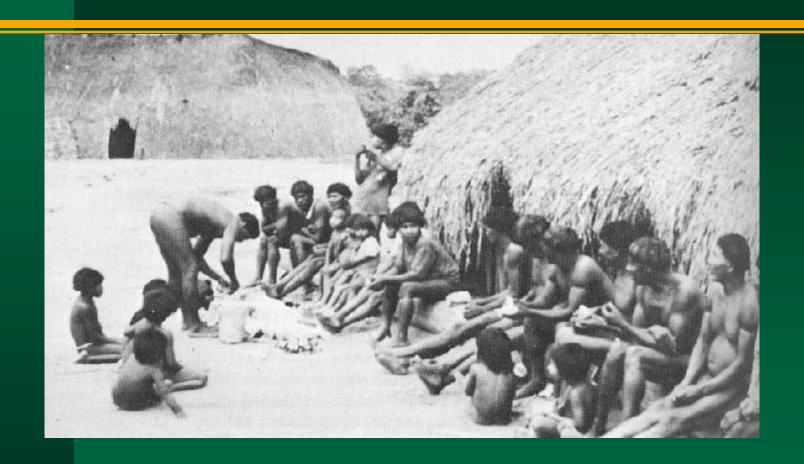
Settlement

No longer did groups have to move about constantly in search of food. Mode of production forced them to stay in one place for extended periods. Some could be permanent. Dwellings also become more substantial. Jarmo contained 20 to 25 houses an an estimated population of 150 (4* the average H&G band).

WHILE HUNTERS AND GATHERERS CIRCULATE GOODS THROUGH GENERAL RECIPROCITY, SIMPLE HORTICULTURALISTS PRACTICE "REDISTRIBUITON."

REDISTRIBUTION DIFFERS FROM RECIPROCITY IN THAT REDISTRIBUTION IS A MORE FORMALIZED PROCESS INVOLVING THE MOVEMENT OF GOODS INTO THE HANDS OF SOME PERSON OR GROUP THAT SERVES AS THE FOCAL POINT FOR THEIR REALLOCATION.

WHEN REDISTRIBUTION OCCURS,
PRODUCTS ARE FUNNELED FROM
INDIVIDUAL HOUSEHOLDS TO A
CENTRAL SOURCE AND THEN
RETURNED TO THOSE HOUSEHOLD
IN SOME SORT OF SYSTEMATIC
MANNER.



Menhinacu chieftain in front of men's house is redistributing presents given to him by the ethnographer.

- TWO TYPES OF REDISTRIBUTION MAY BE IDENTIFIED:
 - PURE REDISTRIBUTION
 - PARTIAL REDISTRIBUTION

IN PURE REDISTRIBUTION, THE REDISTRIBUTION PROCESS IS COMPLETE--THE REDISTRUTION AGENT RETURNS ALL GOODS AND KEEPS NO EXTRA PORTION FOR HIMSELF. ASSOCIATED WITH ECONOMIC EQUALITY.

PURE REDISTRIBUTIVE ECONOMIES, WHICH ARE MOST COMMONLY ASSOCIATED WITH SMALL-SCALE HORTICULTURALISTS, WORK SOMEWHAT DIFFERENTLY FROM ONE SOCIETY TO ANOTHER

ONE REDISTRIBUTIVE ECONOMY IS WIDESPREAD AMONG SIMPLE HORTICULTURAL GROUPS IN MELANESIA. THESE SOCIETIES CONTAIN EXTREMELY AMBITIOUS MEN KNOWN AS BIG MEN.

BIG MEN ARE INDIVIDUALS WHO SEEK PRESTIGE AND RENOWN THROUGH THEIR ROLES AS ORGANIZERS OF ECONOMIC PRODUCTION.

THE TYPICAL ASPIRING BIG MAN BEGINS HIS CAREER BY CULTIVATING LARGER GARDENS AND RAISING BIGGER PIG HERDS.

HE DOES THIS BY DRAWING ON THE HELP OF CLOSE RELATIVES AND NEIGHBORS, WHO THEMSELVES HAVE A STAKE IN HIS SUCCESS.

IF HE IS SUCCESSFUL AT HIS ATTEMPTS TO INCREASE THE PRODUTIVTY OF HIS OWN GARDENS AND HERDS, HE WILL EVENTUALLY HAVE ACCUMULATED ENOUGH FOODSTUFFS TO HOLD A LARGE FEAST, AT WHICH TIME THESE FOODSTUFFS WILL BE REDISTRIBUTED TO OTHER VILLAGE MEMBERS.

PRESTIGE AND SOME RENOWN FALL UPON HIM THROUGH THE HOLDING OF A SUCCESSFUL FEAST.

BUT THERE ARE USUALLY OTHERS IN HIS VILLAGE WITH THE SAME ASPIRATIONS.

IF HE IS CONSISTENTLY ABLE TO HOLD LARGER FEASTS, HE IS GENERALLY GIVEN CONSIDERABLE PRESTIGE. BUT SHOULD HE FALTER, HIS STATUS IS QUICKLY LOST, AND HE WILL BE REPLACED BY HIS COMPETITORS.

THE QUEST FOR HIGH STATUS ON THE PART OF BIG MEN HAS DEFINITE ECONOMIC CONSEQUENCES.

- ECONOMIC PRODUCTIVITY
- CIRCULATION OF GOODS
- INCREASE IN CONSUMPTION

- LEADS TO A GENERAL INCREASE IN THE QUANTITY OF GARDEN PRODUCTS, DOMESTICATED ANIMALS, FISH, AND OTHER PRODUCTS.
- PEAST PREPARATIONS INVOLVE NUMEROUS EXCHANGES OF GOODS AND SERVICES. COMPETITIVE FEASTS IS A VITAL PART OF THE ECONOMIC SYSTEMS.

THE BIG MAN'S ROLE IS THAT OF AN ECONOMIC INTENSIFIER: HIS ROLE IS TO INCREASE THE LEVEL OF PRODUCTION BEYOND THAT OF WHAT IT WOULD OTHERWISE BE.

HARRIS ARGUES THAT THIS HAS ADAPTIVE SIGNIFICANCE FOR SMALL-SCALE HORTICULTURE. IT SERVES THE PRACTICAL FUNCTION OF PREVENTING THE LABOR FORCE FROM FALLING BACK TO LEVELS OF PRODUCTIVY THAT OFFER NO MARGIN OF SAFETY IN CRISES SUCH AS WAR AND CROP FAILURES.

INEQUALITY

SIMPLE HORTICULTURALISTS
EXHIBIT GREATER INEQUALITIES
THAN HUNTER & GATHERING
SOCIETIES, BUT THESE ARE NOT
INEQUALITIES OF PRIVILEGE OR
WEALTH, BUT OF PRESTIGE.



Yanamamo men intoxicated on ebene, a hallucinogenic drug, prepare for a "friendly" duel with men from a neighboring village. Such duels sometimes turn violent and lead to war.

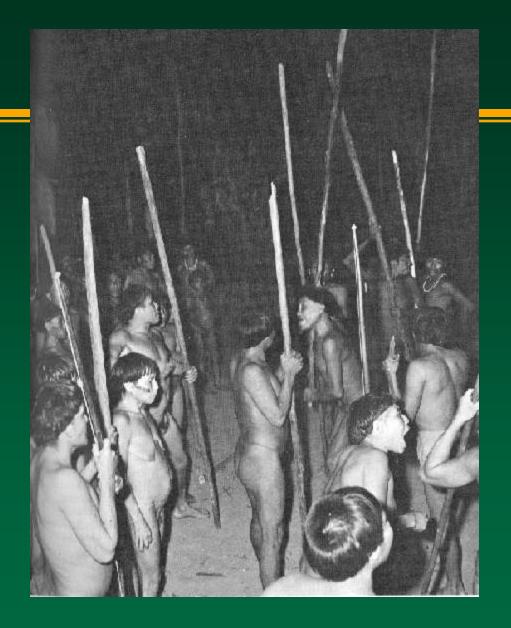
INEQUALITY

FOR THIS REASON, SIMPLE HORTICULTRAL SOCIETIES ARE "RANK" SOCIETIES. RANK SOCIETIES ESTABLISH A PRESTIGE RANKING SYSTEM CHARACTERIZED BY A LIMITED NUMBER OF HIGH STATUS POSITIONS THAT CONFER NO SPECIAL MATERIAL ADVANTAGE.

INEQUALITY

- THE PRESTIGE RANKING SYSTEM IS INTIMATELY CONNECTED WITH THEIR REDISTRIBUTIVE PATTERN.
- INDIVIDUALS WHO REPEATEDLY DEMONSTRATE THEIR PROWESS IN HOLDING SUCCESSFUL FEASTS COME TO BE PERSONS OF HIGH RANK: THEY COME TO BE HELD IN CONSIDERABLE RESPECT, ENVY, AND SOMETIMES EVEN AWE.

Yanamamo club fight. Egalitarian people are not without problems of law an order. This particular fight is over an accusation of adultery.



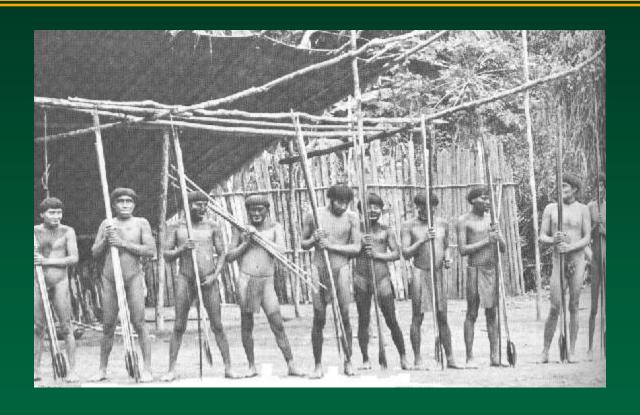
ALTHOUGH A SOCIETY MAY HAVE ONLY ONE GENUINE BIG MAN, THERE ARE LIKELY TO BE OTHER PERSONS (HIS COMPETITORS) THAT ARE ALSO HELD IN HIGH REGARD.

- TO BECOME A BIG MAN, A NUMBER OF PERSONAL QUALITIES ARE NECESSARY. GENEROSITY ABOVE ALL.
- HIGH RANK MUST BE EARNED THROUGH TALENT AND EFFORT; IT CANNOT BE ACQUIRED THROUGH HEREDITY.

- BIG MEN ACCUMULATE WEALTH, BUT THEY DO NOT GAIN FAVOR BY HOARDING IT.
- RANK SOCIETIES CONTAIN STRONG PRESSURES WORKING TO PREVENT THE ACCUMULATION OF WEALTH BY INDIVIDUALS.

IN THIS WAY, THE SYSTEM OF RANKING WORKS TO SERVE THE COMMON GOOD (THROUGH THE REDISTRIBUTIVE ACTIONS OF PERSONS OF HIGH STATUS) WHILE AT THE SAME TIME PREVENTING THE FORMATION OF DIFFERENTIALLY ADVANTAGED SOCIAL STRATA.

A TRIBAL SOCIETY IS ONE IN WHICH A LARGER UNIT, TYPICALLY IDENTIFIED IN CULTURAL AND LINGUISTIC TERMS, IS DIVIDED INTO A NUMBER OF SMALLER, RELATIVELY UNINTEGRATED VILLAGES.



Yanomamo warriors ready for a raid.

THESE SMALLER VILLAGE UNITS ARE ECONOMICALLY SELF-SUFFICIENT AND POLITCALLY AUTONOMOUS.

THE INDIVIDUAL UNITS OF THE TRIBE MAINTAIN A HIGH DEGREE OF AUTONOMY, AND THERE IS NO UNIFICATION OF THE VILLAGES INTO A SINGLE POLITICAL UNIT.

THE TRIBE THEREFORE HAS A SEGMENTARY CHARACTER. TO SEEK THE NATURE OF THE POLITICAL ORGANIZATION OF TRIBAL SOCIETY, THEN, ONE MUST LOOK WITHIN THE VILLAGES THEMSELVES RATHER THAN AT THE TRIBAL UNIT AS A WHOLE.

THE STATUS OF BIG MAN CONFERS GREAT PRESTIGE AND RENOWN ON THE PERSON WHO ACHIEVES IT. HOWEVER THE STATUS CONFERS NO REAL POWER OR AUTHORITY.

BIG MEN ADVISE, SUGGEST, AND CAJOLE, AND MORE OFTEN THAN NOT THEIR WISHES WILL BE FOLLOWED. BUT THEY LACK ANY REAL POWER SINCE THEY LACK THE CAPACITY TO FORCE OTHER TO DO THEIR BIDDING.

BIG MEN ARE SUCCESSFUL LEADERS ONLY TO THE EXTENT THAT THEY SERVE THE PUBLIC GOOD. IN A REAL SENSE THEY ARE SERVANTS OF THE PEOPLE.

IN EXCHANGE FOR PRESTIGE AND RENOWN, BIG MEN MUST SERVE LONG-RANGE SOCIETAL INTERESTS, OR ELSE THEY WILL NOT CONTINUE TO BE BIG MEN.

STRUCTURE

- **DIVISION OF LABOR**
- SETTLEMENT
- RELIGION
- TRADE
- WARFARE

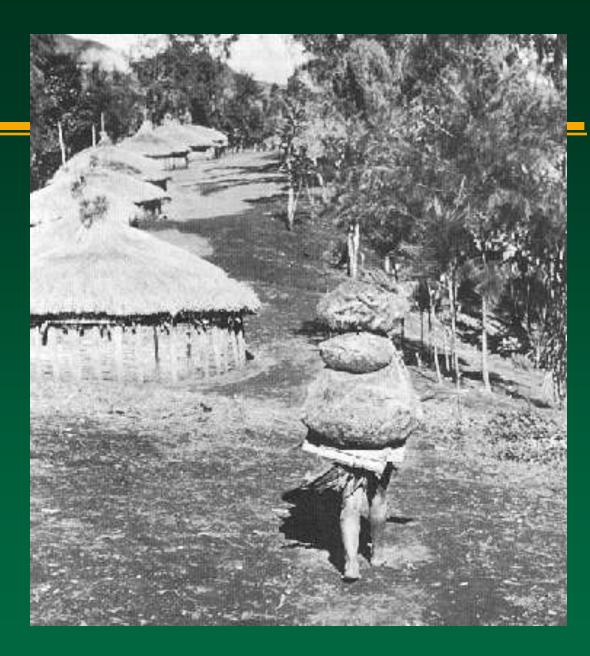
Division of Labor

- The division of labor is linked to earlier division of labor in H&G societies.
- Men continue to hunt in many of these societies, but hunting is much less productive.
- Overall men's contribution to subsistence is much less than that of women.

Division of Labor

Men are usually responsible for clearing the land when new gardens are needed, while women are responsible for planting, tending, and harvesting the crops.

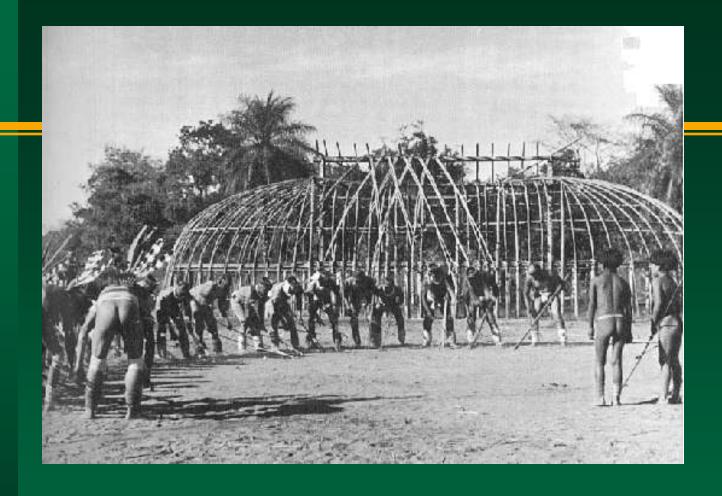
Gurumbura woman returning from a day in gardens, upper Asara Valley, eastern New Guinea highlands.



Division of Labor

In H&G there are no specialists.

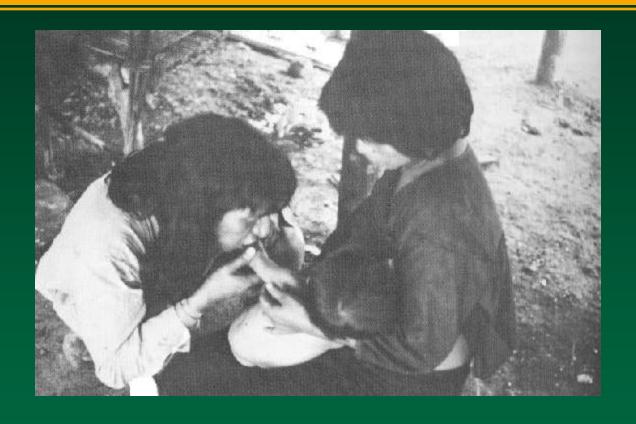
Specialization begins to occur in some simple horticultural societies, and becomes considerably more common in advanced horticultural and agrarian societies.



Kai Kare Indians of Brazil pause in house building to perform a ritual dance.

Religion

Begin to see such things as religious shrines.



An Achura shaman sucking the supernatural "dirtiness" from this baby.

TRADE

Growth in trade and commerce, combined with the increasing levels of material products, may well have led to the beginnings of formal record keeping and an increase in occupational specialization.

TRADE

In several cases there were even more striking concentrations of population. Jerhico 5,000 years before Joshua. Excavations have uncovered a community that apparently housed 2 to 3,000 people. Such cities were probably early centers of trade.

There is little evidence of warfare in early horticultural societies. In later horticultural societies the picture changed drastically and warfare became increasingly common.

- Scholars think increase linked to growth of population and the resulting scarcity of new land suitable for horticulture.
- May also be related to declining opportunities for hunting. Warfare would be a natural substitute, if women tending gardens, men have the time.

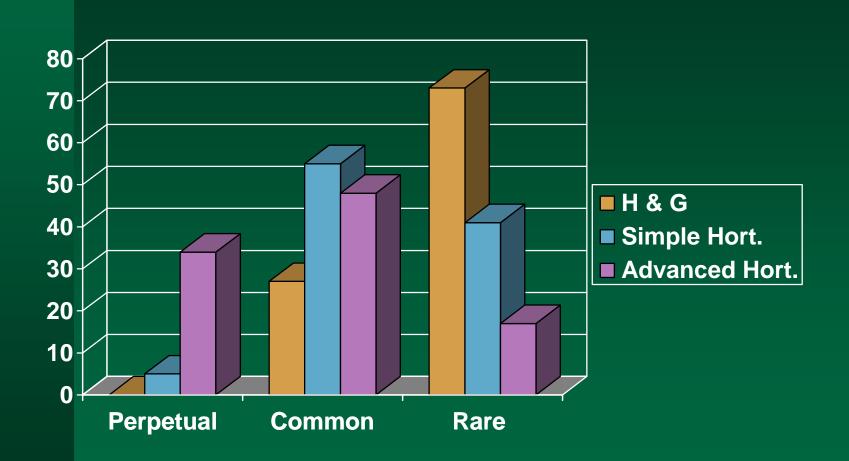
Growing pressure for land provide justification. Warfare also linked to the increase in wealth, easily stolen.

In societies in which warfare is the normal state of affairs, it is imperative that the group be able to field the largest possible number of warriors, and female infanticide seems to be the best method of accomplishing this

Warfare serves as an important mechanism for population control. Direct loss of life in combat, stimulus for female infanticide which is even a greater check. By reducing the number of girls, the group can devote its resources to the care and nurture of larger number of boys.

A survey of 609 societies found that the sex ratio among the young was most imbalanced in those societies where war was current at the time of study, and most normal in which warfare had not occurred for more than 25 years.

Incidence of Warfare



Kinship

Extended kin groups, or clans, are common and usually very important, since they perform a number of essential functions for their members.

Kinship

Kinship ties are very important in simple horticultural societies. In most these ties provide the basic framework for the structure. Small size, almost everyone related. Kin system complex, intricate rules governing relations.



The ties of kinship persist after death. Here men of the Yanomamo, Venezuela, drink the ashes of a dead relative to show respect.

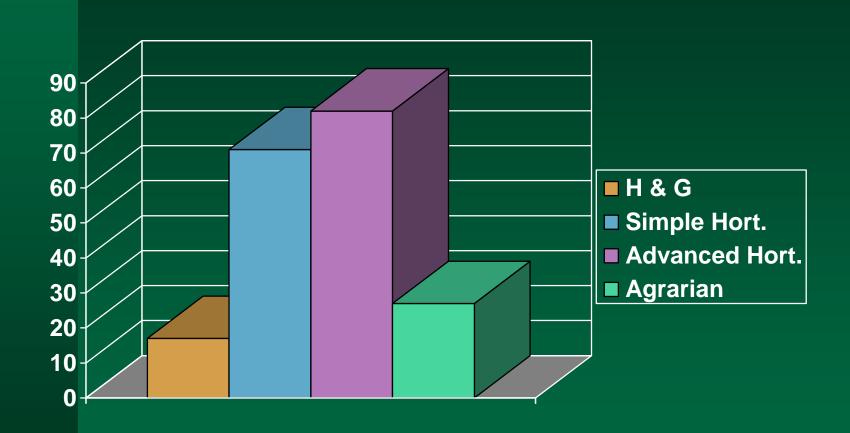
Kinship

- Clans perform a number of essential functions. Mutual aid associations, protection against enemies. Most powerful clans assume leadership.
- Concept of kin includes dead too.
 Religion designed to appease the spirits of dead, very common in hort.

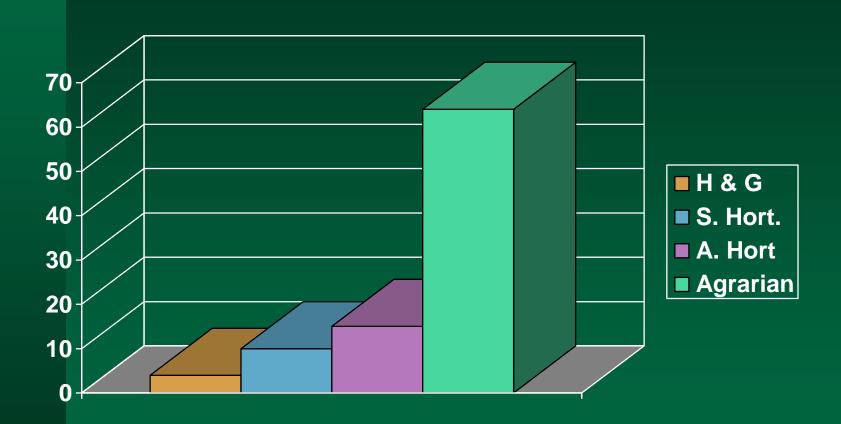
Functions of Kinship:

- Protection
- Regulatory functions
- Economic support
- Religious beliefs

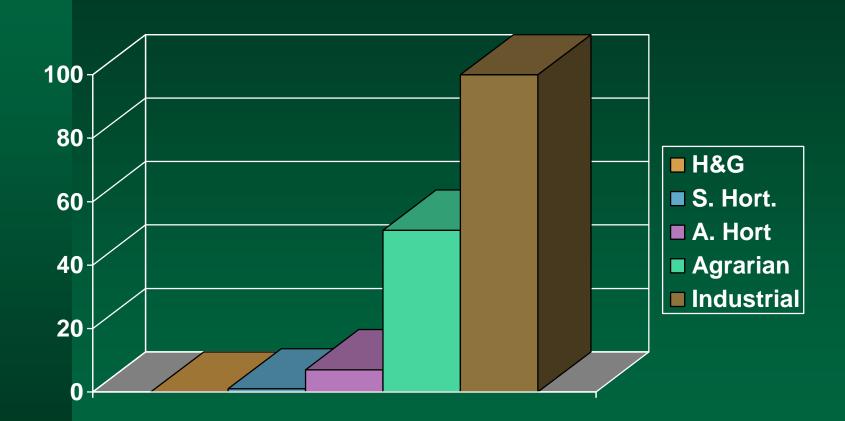
Incidence of Ancestor Worship



Belief in a Creator God



Complex Status System



Societies with Slavery

