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ABSTRACT

Designed for use as supplementary instructional material in a cultural anthropology course, this learning module uses a systems approach to allow students to see the connections and similarities which most cultural groups share on the basis of the type of economic organization that they exhibit. The module begins with a general discussion of economics, systems theory in cultural anthropology, and the use of models. The bulk of the module applies a generalized model of economic organization to hunting and gathering, pastoral, and horticultural forms of economic organization. These economic systems are described in terms of: (1) population size; (2) range of material culture, including transportation, manufacturing tools, raw materials, diet, shelter, clothing, food processing, ritual objects, children's items, musical instruments, recreational traits, art, and utilitarian-personal traits; (3) non-material culture; (4) ritual behaviors and belief systems; (5) social groups; (6) communication; (7) political traits; (8) kinship; (9) medicine; and (10) sexual behavior. Finally, a test for students is presented. (LAL)

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Economic Systems

A Modular Approach

**Cultural Anthropology
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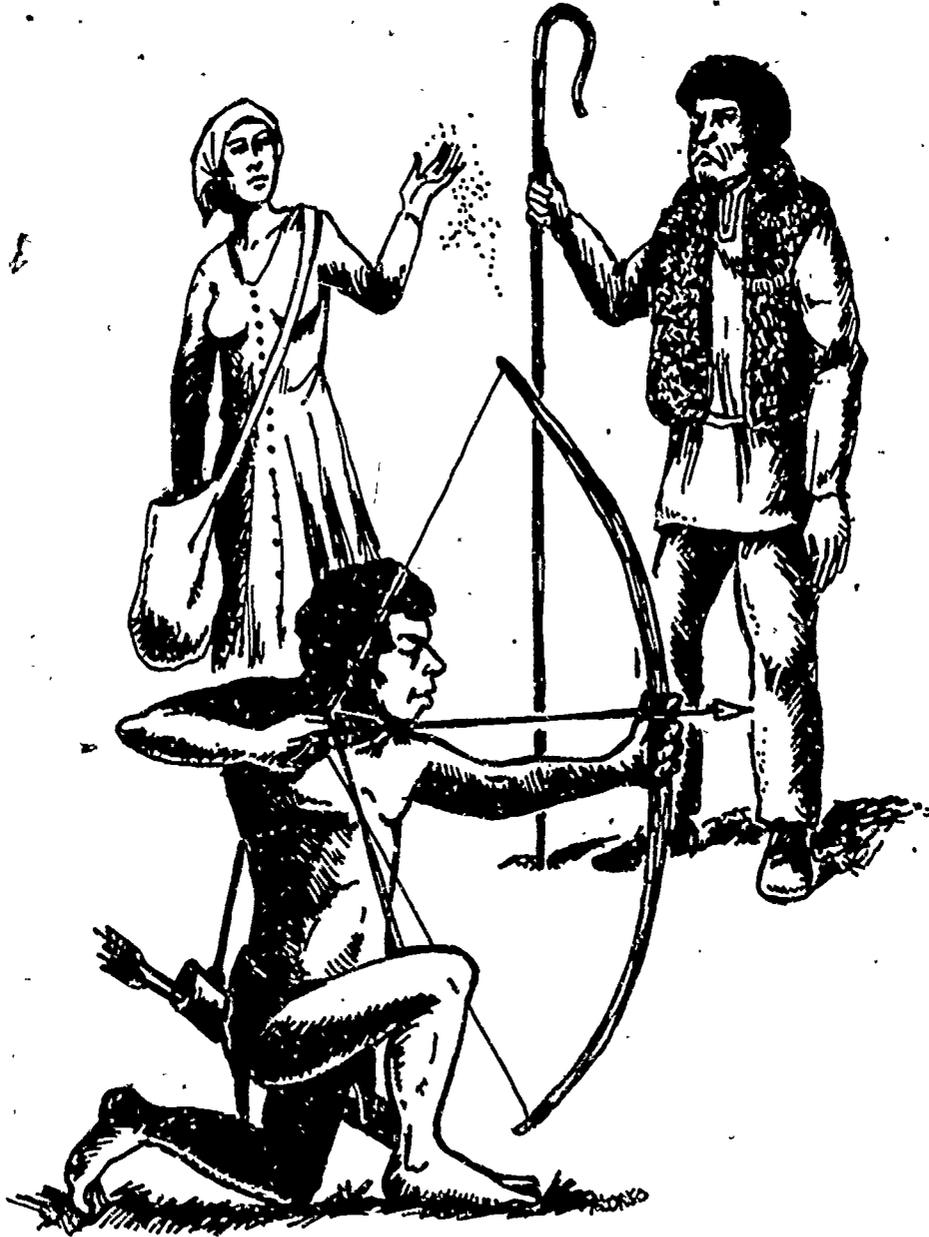
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ECONOMIC SYSTEMS



Introduction:

This module has been prepared as a guide to a specific area within Cultural Anthropology. Your task will be to read the materials, perform the tasks at the end of the module, and to cross check your answers with the information in the module upon completion of the performance activities. It will be your responsibility to keep up with the reading assignments in the textbook, and to take lecture notes, and film notes.

The module is designed to give you a basis for mastering a specific amount of information, and has been field tested with over 1000 students who have demonstrated by their performance on examinations, that the modular approach can increase the probability of student mastery. The theoretical perspective which is employed is based upon cognitive psychology, gestalt psychology, behaviorism and programmed learning.

Economic anthropology is a controversial area within the larger discipline. This module is designed around a systems approach, which allows a student to see the connections and similarities which most cultural groups share on the basis of the type of economic organization that they exhibit. The section covers hunting and gathering, pastoralism, and horticulture. It utilizes a model and applies the basic framework to each type of economic organization, with some narrative background pertaining to each type of economic adaptation. The unit is based around the concept of economic determinism.

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ECONOMICS

The manner in which people organize to obtain ECONOMIC traits influences all aspects of their culture. At one time, most people secured their food through hunting large and small game, fishing, and the gathering of wild plants. The production of food via cultivation is a relatively recent technological innovation, initiated no more than eight to ten thousand years ago. Cultivation acted as a major trigger, causing cultures to grow in size and complexity. Anthropologists are interested in ascertaining the basic traits that form the core of a culture. One way to examine a large group of cultures is to design a system which facilitates comparison and extracts core information.

SYSTEMS THEORY in cultural anthropology allows the anthropologist to look beyond the idiosyncratic features of a specific culture and to determine whether a trait is unique to a culture or part of a larger pattern. However, all models tend to have a fatal flaw; they cannot always picture reality. Differences in language, tradition and technology are a few of the factors which cause wide variations between cultures. The systems approach, however, demonstrates that despite such variations, general patterns are relatively constant among cultures which share a particular mode of economic adaptation. In this unit, a systems format is used to demonstrate generalized models for three types of economic adaptation: hunting and gathering,

horticulture and pastoralism.

A specific model has been created for each economic system. This makes comparison of different groups much easier. MODELS make it possible for an observer to take large amounts of data and to reduce cumbersome verbal descriptions to an outline. The use of modeling theory does not substitute for the elaborate mechanisms of cultural complexity which can only be viewed in pure descriptive ethnography. It serves as a method whereby quick comparisons can be made according to a standardized format. Each category within the model contains a RANGE of possibilities found within the entire spectrum of that form of cultural organization. As a consequence, students can select the appropriate traits which are found within a specific culture. Some traits will have to be added or deleted according to the specific culture. It allows most observers to make gross or generalized statements about the type of lifestyle which is found for groups that are lumped under each model. As with any model, the degree of precision is relative; some cultures can be fitted to the format, others cannot.

Models were originally developed by archaeologists and museum specialists. They both shared a desire to organize and to emulate a functional approach. Their questions revolved around the use of objects or traits and institutions within the overall framework of a culture. Archaeologists were not able to view cultures which left



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behind artifacts, thus observations from the recent or historical past by ethnographers gave them clues as to the use of tools within a larger context. If an archaeologist analyzed an ethnographic report and observed that a tool of a specific type was used for a specific function, it might be possible to infer that a similar type of artifact from the past might have been used in the same way. INFERENCE can be carried one step further. If certain types of economic organization can be characterized around broad themes, it should be possible to take the traits from each category to make generalizations about the probable life-style of a group.

Archaeological inference is based in large part on the statistical analysis of site contents along with classification. Modeling is then seen as a methodology which not only classifies the present but also clarifies the past. Museum specialists were able to approach the presentation of their collections in the same fashion.

I. GENERALIZED MODEL

- A. DESCRIPTION: The specific type of economic adaptation.
- B. POPULATION SIZE: A commentary about the relationship between population size and technology.
- C. RANGE OF MATERIAL CULTURE:
 - 1. HUNTING, FISHING, GATHERING, DEFENSE, CULTIVATION*, ANIMAL HUSBANDRY*: (*for horticulture, pastoralism, agriculture)
 - 2. TRANSPORTATION:
 - 3. MANUFACTURING TOOLS:
 - 4. RAW MATERIALS:
 - 5. DIET:
 - 6. SHELTER:
 - 7. CLOTHING:
 - 8. FOOD PROCESSING:
 - 9. RITUAL OBJECTS:
 - 10. CHILDREN'S ITEMS:
 - 11. MUSICAL INSTRUMENTS:
 - 12. RECREATIONAL TRAITS:
 - 13. ART:
 - 14. UTILITARIAN - PERSONAL TRAITS:
- D. NON-MATERIAL CULTURE:
- E. RITUAL BEHAVIOR; BELIEF SYSTEMS:
- F. SOCIAL GROUPS:
- G. COMMUNICATION:
- H. POLITICAL TRAITS:
- I. KINSHIP:
- J. MEDICINE:
- K. SEXUAL BEHAVIOR:

HUNTING AND GATHERING as a method of economic organization has existed longer than any known system. It dates back to the basic FORAGING practices of the early hominids and is linked to the omnivorous patterns of diet displayed in those early forms more closely related to man. As a method or system of adaptation it requires that a high level of knowledge about the habitat be developed in order to ensure a food supply as seasonal conditions exert their influences. Knowledge about the MIGRATION pattern of life forms, such as insects, birds, mammals and fish, were required. Complex classificatory and descriptive categories arose with which to meet basic biological needs. However, PLANT GATHERING has placed more food in the mouths of humans than hunting. Thus, a complex process for the categorization for plants was present.

II. HUNTING AND GATHERING MODEL

- A. DESCRIPTION: The least complex method of organization, it generally utilizes almost everything within the habitat, with an emphasis upon a practical knowledge of the local flora and fauna. (No cultivation of food crops.)
- B. POPULATION SIZE: The relative size of most hunting and gathering groups is linked to the specific conditions encountered in the environment. A group which has a low level of technological information and a relatively barren habitat would tend to have a low population density. A society which has a rich habitat and a somewhat higher level of technology might exhibit a greater population density.
- C. RANGE OF MATERIAL CULTURE:
1. HUNTING, FISHING, GATHERING, DEFENSE: ropes, line, animal traps, snares, nets, bolas, spears, blowguns, slings, clubs, armor, shields, darts, throwing sticks, poison, net weights, sinkers, decoys, spear throwers, projectile points, bows, arrows, quivers, digging sticks, burden nets, baskets, boxes, pouches, gourds, seed beaters.
 2. TRANSPORTATION: kayaks, sledges, canoes, floats, oval craft, carrying baskets, saddles, travois, burden nets, stretchers.
 3. MANUFACTURING TOOLS: choppers, knives, awls, axes, scrapers, chisels, adzes, drills, pressure flakers, forging implements, arrow straighteners, needles.
 4. RAW MATERIALS: bone, wood, bamboo, hides, teeth, stones, fibers, bark, shells, feathers, beaks, claws, fur, skin, nuts, berries, charcoal, ash, lime, clay, roots, gourds, blood, urine, viscera, leaves, copper, iron, obsidian.
 5. DIET: meat, fish, fowl, insects, snails, grubs, larvae, fruits, nuts, seeds, stems, vegetables, leaves, roots, tubers, honey, berries, milk, blood, marrow, oil, fat, juice, fermented beverages.
 6. SHELTER: caves, grass windbreaks, tents, plant houses, bark houses, thatch houses, pit houses, stone houses, snow houses, igloos, teepees, long houses, sweat houses, menstrual houses, ceremonial houses.
 7. CLOTHING: g-string, tailored pants, tailored shirts,

public aprons, leggings, boots, sandals, skirts, blankets, hats, snow clothing, ceremonial clothing.

- 8. FOOD PROCESSING ITEMS: spoons, ladles, strainers, storage containers, cooking slabs, cooking stones, boiling rocks, boiling baskets, cooking jars, cooking boxes, spits, ovens, mortars-pestles, smokers, drying frames, leaching devices, graters, shredders, serving trays, feast plates, feast bowls, nets, leaves, shells, bamboo, beverage containers, gourds, mats.
- 9. RITUAL OBJECTS: coup sticks, war bonnets, scepters, chiefs' hats, trophies, shrunken heads, scalps, altar pieces, charms, amulets, bear skulls, buffalo heads, capes, sacred stones, masks, costumes, fetishes, curing objects, bones, hair, crystal, ancestor objects, totemic objects.
- 10. CHILDREN'S ITEMS: cradles, swaddling, headshaping devices, rattles, tops, specific objects used for enculturation.
- 11. MUSICAL INSTRUMENTS: drums, clappers, bows, thumb piano, rattles, cymbals, flutes, whistles, bull-roarers, horns.
- 12. RECREATIONAL TRAITS: pipes, dice, gambling trays, gambling sticks, balls, bladders, knuckle bones, hockey sticks, fermented drinks, drugs, sweat houses, dance houses, sexual objects, string figures.
- 13. ART: carving, incising, sculpture, weaving, bead-making, necklace stringing, rings, bracelets, body-decoration, painting, dressing, scarification, tatoos.
- 14. UTILITARIAN-PERSONAL TRAITS: cosmetics, cases, toothbrushes, combs, body oil, soap.

D. NON-MATERIAL CULTURE:

E. RITUAL BEHAVIOR, BELIEF SYSTEMS: Hunting and gathering groups are deeply concerned about their overall relationship with nature; almost all are animistic. Their desire is to maintain a proper balance within nature. As a consequence, ritual behavior and belief systems emphasize the importance of nature. Plants, animals and geographical areas are usually assigned ritual roles within the supernatural realm. Ritual specialization exists for some of these groups; however, it is usually related to a generalist role within the culture. Specific rites of passage for the stages of life frequently occur.



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- F. **SOCIAL GROUPS:** The kinship system usually serves as the fundamental institution within hunting and gathering groups. Primary groups are present within the kindred, along with secondary groups and aggregations. The extended family and other traits are found with the nuclear family.
- G. **COMMUNICATION:** Oral tradition is the most common method of communication and information transmission. There are some examples of visual communication, such as pictographs, carvings and paintings which carry symbolic meanings usually related to ritual behavior or histories of events. Drama, dance and storytelling are frequently used to reinforce the transmission of information which is deemed important.
- H. **POLITICAL TRAITS:** The political structure ranges from simple bands to highly complex societies. It is possible to link the type of political format with the level of economic complexity. Larger groups tend to place a greater emphasis upon leadership roles; smaller ones are usually more egalitarian.
- I. **KINSHIP:** Marriage is present in all hunting and gathering groups. Monogamy and polygamy both occur. Marital residence can range from matrilineal, patrilineal, or bilocal to neolocal. Descent varies: bilateral, matrilineal, and patrilineal are present.
- J. **MEDICINE:** Curing specialists are generally divided into shamans, surgeons and bone setters. A variety of healing methods are present. Illness is generally linked to supernatural powers.
- K. **SEXUAL BEHAVIOR:** A full range of sexual behavior exists; the degree of permissiveness is linked to the specific cultural group's attitudes.

The DOMESTICATION of food plants ushered in a new era of cultural and social evolution. Its impact was analogous to that of the use of fire or the inception of tool-making. This stage of cultural evolution enabled groups to sharply control the amount and type of plant energy they would receive from a given body of land. Although still dependent upon nature, groups were generally able to cultivate more food energy than they consumed. Thus, food storage, surplus, trade and a larger population resulted. The greater pool of knowledge available in larger groups increased social and technological changes as well.

Domestication results in plant energy being harnessed as selected plants are confined to a narrower range. In the wild or undomesticated state, a tremendous variation in plant and animal life exists. Cultivation changes the natural ecosystem because it involves the clearing of land, planting of crops, and the elimination of competing undomesticated plants in the cleared area. Biologists use the term DIVERSITY INDEX to describe the range of flora and fauna within a given geographical setting. All forms of cultivation affect (and narrow) the diversity index. In order to calculate the diversity index, a biologist measures off an area and counts up the number of different life forms, including plants and animals. A standard formula is applied and a diversity index is calculated. The index is generally low when applied to fields where crops are growing and higher in a so-called natural state.

In most habitats, the culmulative effect of long term cultivation on the soil eventually reduces the yield of domesticated plants so substantially that the occupants must allow the land to return to its original uncultivated state. This is not problematic if other fertile land is available; however, if there is competition from other groups for the same land, an increased potential for hostility is created.

Social stratification and specialized political and ritual traits are associated with horticultural societies. Such cultures are complex in comparison to hunting and gathering groups. A sedentary life allows the creation and acquisition of material and non-material traits which far surpass mere survival traits. Although the overall model categories are the same for these two economic modes, the horticultural groups show much greater cultural richness and diversity than hunting and gathering cultures.

A number of theories have been propounded about the first PLANT DOMESTICATION centers; there is no concensus as to the exact location of all of the original centers. Early domestication probably involved a variety of methods. Observation of the relationship between the growing stages of seeds, nuts and tubers, and their utility as food sources in the adult phase probably preceded domestication. Recognition of this cause and effect syndrome probably depended upon a number of social and environmental prerequisites. The first involves mobility--the frequency and range of a

group's movement would affect opportunities to observe the growth cycle of plant foods. It is probable that hunting and gathering groups which had a more patterned migration route and supportive habitat were better able to observe the growth sequence of various plants. A short growing season for the special plants which were a normal part of a group's food supply might have served as a cue for the early domesticators. A supply of fresh water, a partly sedentary pattern, and a favorable habitat would increase opportunities for observation and thus the probability of discovering how to cultivate plants.

Some hunting and gathering groups came close to achieving domestication via the harvesting of wild plant materials. The Piate Indians harvested grass seeds from wild plants which grew in areas that had been cleared through the use of fire. They further shaped the area by diverting snow melt through primitive yet functional ditches; this procedure retarded erosion and soaked the soil. As a consequence, the Piatees were able to gather a larger amount of grass seeds. True domestication had not taken place, because the seeds were not sown by the Indians. Yet, a clear relationship between the growth of plants and the change in the diversity index was present. Thus, the Piatees were just a few stages away from plant domestication.

There has been no agreement as to which plants were domesticated first. We know that tubers are gathered by hunting and gathering groups, and that tubers will sprout

and grow into adult plants. Nuts and seeds can also be observed from the early stages to maturity. It is an educated guess that tubers were initially domesticated in tropical areas, and seed plants in more temperate climates. Knowledge about domestication of plants was spread through cultural contact. Domestication took place over a long temporal phase. Parallel discovery and domestication were present. The natural vectoring patterns of plants via wind, oceans, currents and animals also caused widely separated parts of the world to have many of the same types of plants. Changes in the earth's geology, via the separation of once solid land masses also contributed to the spread of plant forms. There is also evidence that the domestication of plants which were somewhat alike took place independently.

PROBABLE OR POSSIBLE DOMESTICATION CENTERS*

Seven major homeland regions of domesticated plants:

1. Mexico - Central America
2. Andean Highland in South America
3. Southeast Asia (Ganges Valley to Burma)
4. Southwest Asia (Indus Valley to Asia Minor)
5. China - including Northern Indo-China
6. Highland of Abyssinia
7. Mediterranean Region

Known in both the OLD and the NEW WORLDS before A.D. 15:

1. Sweet potatoe
2. Cotton
3. True gourd
4. Coconut
5. Domesticated dog
6. Chicken

MEXICO - CENTRAL AMERICA:

1. Maize
2. Beans - lima, kidney

3. Squashes
4. Tomato
5. Avocado
6. Red Pepper

NORTH AMERICA:

1. Sun Flower
2. Jerusalem artichoke

SOUTH AMERICA:

1. Manioc
2. Sweet potato
3. Irish potato
4. Peanut
5. Cacao
6. Pineapple

SOUTHEAST ASIA:

1. Taro
2. Yam
3. Banana
4. Breadfruit
5. Sugar cane
6. Rice

CHINA:

1. Some forms of Millet
2. Barley
3. Citrus fruit
4. Peach
5. Soy bean
6. Tea

EASTERN MEDITERRANEAN:

1. Olive
2. Fig

NORTH-CENTRAL EUROPE:

1. Rye
2. Oats

ABYSSINIA:

1. Some form of Wheat
2. Some form of Millet
3. Some form of Barley
4. Some form of Sorghums
5. Some form of Coffee
6. Some form of Cowpeas

SOUTHEAST ASIA:

1. Some form of Wheat
2. Some form of Millet
3. Some form of Barley
4. Some form of Apple
5. Some form of Cherry
6. Some form of Grapevine
7. Some form of Peas, Lentils

*Taken from Dr. Carl Sauer, University of California, Berkeley, lecture notes.

III. HORTICULTURAL MODEL

- A. **DESCRIPTION:** The simplest level of food production which relies upon the domestication of plants. It is distinguished from agriculture in that a digging stick or hoe is used, but not a true plow or complex irrigation. A few horticultural societies also utilize hunting, fishing, and gathering to supplement food supplies. The more complex forms of horticulture can sustain enormous populations, while the less complex ones are not as productive.
- B. **POPULATION SIZE:** The overall population size and its density are linked to the precise level of horticultural technology and the corresponding soil fertility of the area, and the seasonal limitations which are present. Generally, higher population density and size is present than with hunting and gathering groups. The population size increases because of the ability to produce and store a surplus of food. Calories produced exceed the rate of consumption.
- C. **RANGE OF MATERIAL CULTURE:**
1. **HUNTING, FISHING, GATHERING, DEFENSE, FOOD PRODUCTION:** ropes, line, animal traps, snares, nets, bolas, spears, blowguns, slings, clubs, armor, shields, darts, throwing sticks, harpoons, knives, fish hooks, fishing lures, fishing spears, poison, net weights, sinkers, decoys, spear throwers, projectile points, bows, arrows, quivers, digging sticks, burden nets, baskets, boxes, pouches, gourds, seed beaters, trade items, hoes, shovels, planting sticks, harvesting devices.
 2. **TRANSPORTATION:** sledges, canoes, floats, oval craft, carrying baskets, travois, burden nets, stretchers. Domesticated animals: dogs, cattle, goats, sheep, llamas, camels - used for burden.
 3. **MANUFACTURING TOOLS:** choppers, knives, awls, axes, scrapers, chisels, adzes, drills, pressure flakers, forging implements, arrow straighteners, needles, trade items, sharpening stones, grinders, hammers, looms.
 4. **MATERIALS:** bone, wood, bamboo, hides, teeth, stones, fibers, bark, shells, feathers, beaks, claws, fur, skin, nuts, berries, charcoal, ash, lime, clay, roots, gourds, blood, urine, viscera, leaves, copper, iron, obsidian, trade items.
 5. **DIET.** meat, fish, fowl, insects, snails, grubs,

- larvae, fruits, nuts, seeds, stems, vegetables, leaves, roots, tubers, honey, berries, milk, blood, marrow, oil, fat, juice, fermented beverages, sweet potatoe, coconut, beans, squashes, manioc, bananas, corn, some cereal grains, rice, taro, breadfruit, gourds. Domesticated animals: pigs, cattle, sheep, camels, goats, chickens, dogs.
6. SHELTERS: caves, lean-tos, tents, plank houses, bark houses, thatch houses, pit houses, stone houses, long houses, sweat houses, menstrual houses, ceremonial centers, family compounds, corrals, village settings, adobe dwellings, wattle and daub (mud, straw), food storage, shelters, stilt houses.
 7. CLOTHING: g-string, tailored pants, tailored shirts, public aprons, leggings, boots, sandals, skirts, blankets, hats, ceremonial clothing.
 8. FOOD PROCESSING ITEMS: spoons, ladles, strainers, storage containers, cooking slabs, cooking stones, boiling rocks, boiling baskets, cooking jars, cooking boxes, spits, ovens, mortars-pestles, smokers, graineries, drying frames, leaching devices, graters, shredders, serving trays, feast plates, feast bowls, nets, leaves, shells, bamboo, beverage containers, gourds, mats, ceramic containers, pottery.
 9. RITUAL OBJECTS: war bonnets, scepters, chiefs' hats, trophies, shrunken heads, altar pieces, charms, amulets, skulls, capes, sacred stones, masks, costumes, fetishes, curing objects, bones, hair, crystal, ancestor objects, totemic objects, captured items.
 10. CHILDREN'S ITEMS: cradles, swaddling, headshaping devices, rattles, tops, specific objects used for enculturation.
 11. MUSICAL INSTRUMENTS: drums, clappers, bows, thumb pianos, rattles, cymbals, flutes, whistles.
 12. RECREATIONAL TRAITS: pipes, dice gambling trays, gambling sticks, balls, bladders, knuckle bones, hockey sticks, fermented drinks, drugs, sweat houses, dance houses, sexual objects, string figures.
 13. ART: carving, incising, sculpture, weaving, bed-making, necklace stringing, rings, bracelets, body decoration, painting, dressing, scarification, tattoos.
 14. UTILITARIAN - PERSONAL TRAITS: cosmetics, cases,

toothbrushes, combs, body oil, soap, brushes, scent, bath and bathing implements.

- D. RANGE OF NON-MATERIAL TRAITS:
- E. RITUAL BEHAVIOR AND BELIEF SYSTEMS: Horticultural groups are concerned about their relationship with nature. Their focus tends to be somewhat different than hunting and gathering groups, in that additional rituals and belief system ideology are developed to explain the production of crops. Quite frequently the plants which a group depends upon are integrated into a cosmological or supernatural explanation of creation. Some horticulturalists utilize elaborate rituals to ensure that the planting and harvesting sequence will be productive. Ritual specialization is more frequent than in hunting and gathering cultures. The elaboration of gods, spirits and life-forces tends to become more complex for horticulturalists, In some groups, specific rites of passage are present.
- F. SOCIAL GROUPS: The kinship system continues to serve as the fundamental institution within the group. Primary groups are present within the kindred, together with secondary groups and aggregations. As the population increases in size, other situational groups take an increasing role in the life of a society. The larger the group, the greater the emphasis placed upon formal institutional complexes which take over the role of kindred institutions.
- G. COMMUNICATION: Oral tradition is the most common method of communication and information transmission. There are examples of visual communication which carry symbolic meanings, usually related to ritual behavior or histories of events. Drama, dance and storytelling are frequently used to reinforce the transmission of information which is deemed important. The need to accumulate information about crop yield usually leads to mathematical advances.
- H. POLITICAL TRAITS: The political structure is based upon leadership along family lines, including nuclear and extended families, and sometimes clans. In some cases the political format acknowledges specialized leadership roles. Horticultural societies generally develop more complex political structures because larger population size increases the need to organize. A true tribe is sometimes present.
- I. KINSHIP: Marriage is a recognized state within horticultural societies. Monogamy and polygamy are found. Polygyny is sometimes viewed as an ideal, in that a large number of children and workers can help with

food production under normal conditions. They can raise caloric energy in excess of their consumption needs. Extended families are the norm. Marital residence can range from patrilocal, neolocal, or matriloccal, to biolocal. Descent varies from bilateral or matrilineal to patrilineal.

- J. MEDICINE: Curing specialists are generally divided into shamans, surgeons, and bone setters. A variety of healing methods are present. Illness is frequently linked to a spiritual malady.
- K. SEXUAL BEHAVIOR: A full range of sexual behavior exists; however, the degree of permissiveness is linked to the specific cultural group's attitudes. Sexual behavior and ritual is frequently linked with the fertility of the fields. Sympathetic magic is used to insure the fertility of the people and their fields and crops.

PASTORALISM is a rather unique method of adaptation which employs a combination of horticulture and herding. The raising of animals dominates the secular and sacred world of the group. Most anthropologists are of the opinion that pastoralism developed after the onset of civilization. Pastoralists tend to be located in areas where land is not conducive to relying solely upon food production via cultivation. Animals are used as storehouses of food, and the group is careful to protect and care for them. Pastoralists are skilled in animal husbandry, and are able to provide care during birth, and when the animals are ill or injured. Ritual behavior to promote the well-being of animals is generally elaborate within pastoral groups.

Many pastoral societies have a pattern of movement whereby they go from pasture to pasture depending upon the seasons. Usually their shelters are found at the seasonal pasture locations or are carried with them. Generally, both human and animal populations require food supplements, hence the cultivation of crops. Whether or not plant domestication occurs is dependent upon the tradition of the group; there are some pastoralists who do not grow crops. Material wealth, prestige, status and power are usually measured by the number of animals owned and on their perceived quality and value. As a consequence, large numbers of animals are often acquired. This practice accelerates the biological impact of pastoralism upon an area. Some geographers have suggested that in certain regions the process has given

impetus to the expansion of deserts.

Most pastoralists treat their livestock as special creatures which have spiritual as well as more pragmatic characteristics. Because of the land requirements for grazing, pure pastoralism never developed into a long-standing universal system. The Mongols, some East African and West African societies, plus some Middle-Eastern cultures adopted pastoralism. Most of these groups emphasized a warrior tradition. They frequently generated complex social and political systems centered on the role of warriors within their cultures. As a generalized attitude, many pastoral societies looked down upon the life-styles of town and farm dwellers. They considered pastoralism as a freer mode of existence; they felt that their life-style was SUPERIOR.

IV. PASTORAL MODEL

- A. **DESCRIPTION:** The method whereby food production is centered around the care of domesticated grazing animals, which also occupy an important place within the cosmological and supernatural worlds. Most pastoralists have some form of horticulture which supplements the diet of both animals and people. The primary focus of pastoral cultures is on matters pertaining to the well-being of the herd. Types of animals: camels, sheep, goats, cattle, llamas, reindeer, horses.
- B. **POPULATION SIZE:** Population and its density are linked to the level of technology in horticulture and animal husbandry. Ecological factors such as the fertility of the soil and the seasonal limitations on both grazing and harvesting influence the population. The majority of pastoral groups utilize arid or marginal land; this creates extremes in population pressure during droughts. Regardless of the total population, density is usually quite low.
- C. **RANGE OF MATERIAL CULTURE:**
1. **FOOD PRODUCTION, ANIMAL HUSBANDRY:** hunting, fishing, gathering, defense, ropes, line, animal traps, snares, nets, bolas, spears, blowguns, slings, clubs, armor, shields, darts, throwing sticks, harpoons, knives, fish hooks, fishing lures, fishing spears, poison, net weights, sinkers, decoys, spear throwers, projectile points, bows, arrows, quivers, digging sticks, burden nets, baskets, boxes, pouches, gourds, digging implements, hoes, planting implements, knives, axes, harvesting implements, bridles, bells, tethers, nail trimmers, castrating tools, horn trimmers, branding tools, medical tools, animal blinders, halters, saddles.
 2. **TRANSPORTATION:** sledges, canoes, floats, oval craft, carrying baskets, saddles, travois, burden nets, stretchers, some use of domesticated animals for carrying in specific cases: dogs, cattle, reindeer, camels, llamas, horses.
 3. **MANUFACTURING TOOLS:** choppers, knives, awls, axes, scrapers, chisels, adzes, drills, pressure flakers, forging implements, arrow straighteners, needles, trade items, sharpening stones, grinders, hammers, looms.
 4. **RAW MATERIALS:** bone, wood, bamboo, hides, teeth, stones, fibers, bark, shells, feathers, beaks, claws, fur, skin, nuts, berries, charcoal, ash,

lime, clay, roots, gourds, blood, urine, viscera, leaves, copper, iron, obsidian, trade items.

5. DIET: meat, fish, fowl, insects, snails, grubs, larvae, fruits, nuts, seeds, stems, vegetables, leaves, roots, tubers, honey, berries, milk, blood, marrow, oil, fat, juice, fermented beverages, yams, beans, squashes, corn, cereal grains, gourds.
Note: The animals which are herded are usually kept for wealth and status; this tends to limit their use for food. Many pastoralists link ritual sacrifice with the killing of herd animals. Some rely upon blood and milk as staples; this allows the animals to remain alive. A living food storage system results. Studies of sacrificial frequency among pastoralists usually indicates that a large number of animals are killed for ritual purposes; the meat of these animals is then consumed.
6. SHELTERS: caves, lean-to's, tents, thatch houses, pit houses, stone houses, yurts, hide shelters, long houses, ceremonial centers, family compounds, corrals, village settings, adobe dwellings, wattle and daub, food storage.
7. CLOTHING: g-string, tailored pants, tailored shirts, breech cloths, pubic aprons, leggings, boots, sandals, skirts, blankets, hats, snow clothing, ceremonial clothing.
8. FOOD PROCESSING: spoons, ladles, strainers, storage containers, cooking slabs, cooking stones, boiling rocks, boiling baskets, cooking jars, cooking boxes, spits, ovens, mortars-pestles, smokers, graineries, drying frames, leaching devices, graters, shredders, serving trays, feast plates, bowls, nets, leaves, shells, bamboo, beverage containers, gourds, mats, ceramic containers, pottery.
9. RITUAL OBJECTS: scepters, chief's symbols, trophies, altar pieces, charms, amulets, skulls, capes, sacred stones, masks, costumes, fetishes, curing objects, bones, hair, crystal, ancestor objects, totemic objects.
10. CHILDREN'S OBJECTS: cradles, swaddling, headshaping devices, rattles, tops, specific objects used for enculturation.
11. MUSICAL INSTRUMENTS: drums, clappers, bows, thumb piano, rattles, cymbals, flutes, whistles.
12. RECREATIONAL TRAITS: pipes, dice, gambling trays, gambling sticks, balls, bladders, knuckle bones, hockey sticks, fermented drinks, drugs, sweat houses,

. dance houses, sexual objects, string figures.

13. ART: carving, incising, sculpture, weaving, bead-making, necklace stringing, rings, bracelets, body decoration, painting, dressing, scarification, tattoos.
14. UTILITARIAN-PERSONAL TRAITS: cosmetics, cases, toothbrushes, combs, body oil, soap, brushes, bathing implements, razors.

D. NON-MATERIAL CULTURE

- E. RITUAL BEHAVIOR AND BELIEF SYSTEMS: Pastoral groups are concerned about their relationship with nature; almost all are animistic. Their desire is to maintain a proper balance within nature; as a consequence, ritual behavior emphasizes the importance of spiritual forces which relate directly to the animals which are herded, the plants which are cultivated, and the other elements of nature which fit into the local ecological system. Special attention is usually given to the forces which control rain, sun fertility, and the well-being of the animals. Ritual specialists sometimes exist; their role is determined by the community.

Elaborate rituals to mark the stages of life, i.e., rites of passage, are common among many pastoral groups. Practices such as circumcision, scarification and cliterectomy are found in many of the initiation rituals. Rituals which acknowledge birth, human status, pregnancy, taboos, adulthood, marriage, parenthood, political leadership, ritual leadership and economic leadership are present.

- F. SOCIAL ORGANIZATION: The kinship system usually serves as the fundamental institution within the pastoral groups. Primary groups are present within the kindred along with secondary groups and aggregations. Age grading and the use of age-sets sometimes exist. As the population increases, social institutions are used which help to create unity within the group.
- G. COMMUNICATION: Oral tradition is the most common method of communication and information transmission. There are examples of visual communication, such as carvings and paintings which carry symbolic meanings usually related to ritual behavior or histories of events. Drama, dance and story-telling are frequently used to reinforce the transmission of information which is deemed important.
- H. POLITICAL TRAITS: The political structure ranges from bands to extended families, clans, and tribes. It is

- possible to link the type of political format with the level of technology. Groups which are larger usually place a greater emphasis upon a more complex political system. Competition for land and other resources sometimes encourages the development of a powerful military force with specialized leadership roles.
- H. KINSHIP: Marriage is a recognized state within pastoral societies; monogamy and polygamy are found. Extended families and clans are present in a large number of cases. Societies which have age-grading and age-sets use these institutions as extensions of smaller kinship units. Marital residence can range from patrilocal, neolocal or matrilocal to bilocal. Descent varies from bilateral to matrilineal or patrilineal.
- I. MEDICINE: Curing specialists are generally divided into shamans, surgeons, and bone setters. A variety of healing methods are present. Illness is frequently linked to a spiritual malady.
- J. SEXUAL BEHAVIOR: A full range of sexual behavior exists; the degree of permissiveness is linked to the specific cultural group's attitudes.

Performance Activities

Please fill in the blanks:

1. The manner in which people organize to obtain E traits influences all aspects of their cultures.
2. S theory in cultural anthropology allows the anthropologist to look beyond the idiosyncratic features of a specific culture.
3. All models have a fatal flaw; they cannot always picture R.
4. M make it possible for an observer to take large amounts of data and to reduce data to an outline.
5. Each category within the model contains a R of possibilities.
6. Models allow archaeologists to carry I one step further.
7. The G model is divided into eleven major categories.
8. Description: covers the specific type of E organization.
9. Population size: covers the relationship between size and T.
10. The broad grouping of M culture covers fourteen sub-sections which relate to objects found within a culture.
11. N M culture describes traits which are ideas or abstracts; they don't have a physical basis yet they serve as organizational components around which material traits can be clustered.
12. B systems are found within the non-material category.
13. Social G are found within the non-material category.
14. C is found within the non-material category.

15. P traits are found within the non-material category.
16. K is found within the non-material category.
17. M is found within the non-material category.
18. S behavior is found within the non-material category.
19. The range of material culture contains H.
20. The range of material culture contains F.
21. The range of material culture contains G.
22. The range of material culture contains D.
23. The range of material culture contains C.
24. The range of material culture contains A
H.
25. The range of material culture contains T.
26. The range of material culture contains M
tools.
27. The range of material culture contains raw M.
28. The range of material culture contains D.
29. The range of material culture contains S.
30. The range of material culture contains CL.
31. The range of material culture contains F
processing.
32. The range of material culture contains R
objects.
33. The range of material culture contains children's
I.
34. The range of material culture contains M
instruments.
35. The range of material culture contains T
traits.
36. The range of material culture contains A.

37. The range of material culture contains P _____ traits.
38. H _____ G _____ as a method of economic organization has existed longer than any known system.
39. It dates back to the basic F _____ practices of the early hominids.
40. Knowledge about the M _____ patterns of life forms were required.
41. F _____ gathering has placed more food in the mouths of humans than hunting.
42. The H.G. model does not utilize any C _____ of food crops.
43. The links between the population size and level of T _____ information and the richness of a habitat determine the ultimate or relative size of a group.
44. Hunting and gathering groups emphasize N _____ within their belief systems.
45. The D _____ of food plants ushered in a new era of cultural and social evolution.
46. Biologists use the term D _____ index to describe the range of flora and fauna within a given geographical setting.
47. A relatively S _____ life allows the creation and acquisition of material and non-material traits in horticultural societies.
48. There is no consensus as to the exact location of all of the original P _____ domestication centers.
49. The _____ Indians were an example of a group that was on the verge of switching to horticulture.
50. Carl Sauer identified seven major homeland regions of domesticated plants; these included: M _____ - Central America.
51. A _____ - Highland.
52. Southeast A _____.
53. Southwest A _____.

54. Another major homeland region of domesticated plants identified by Carl Sauer is C _____ including Northern Indo-China.
55. Another region is the Highland of A _____.
56. Also the M _____ region.
57. M _____ was domesticated in Mexico-Central America.
58. Squash, tomatoes, avocados and peppers were domesticated in M _____.
59. The H _____ model is more elaborate than the hunting and gathering model.
60. Ritual in horticultural societies is frequently linked to C _____ production.
61. P _____ is a unique method of economic adaptation.
62. Ritual behavior to promote the well being of A _____ is found within pastoral groups.
63. Pastoral groups generally emphasized the ownership of L _____ numbers of animals.
64. Pastoral groups frequently worshiped the spirits of A _____.
65. Material culture also included information about A _____ husbandry.
66. A W _____ tradition was common to many pastoral societies.
67. Most pastoralists generally felt that their mode of life-style was S _____.

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FOR JUNIOR COLLEGES

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