

Indian Institute of Technology Guwahati

NPTEL

**NPTEL ONLINE CERTIFICATION COURSE
An Initiative of MHRD**

Gender and Literature

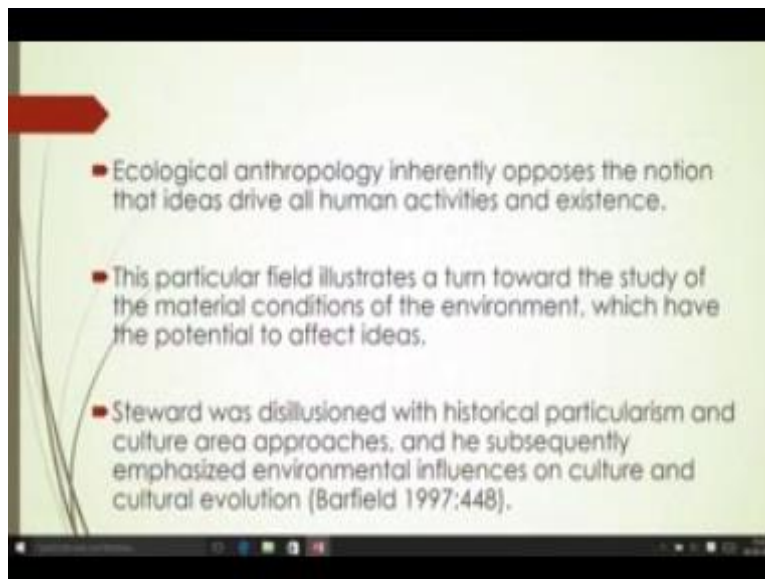
By

Dr. Avishek Parui

**Department of Humanities and Social Sciences
Indian Institute of Technology Guwahati**

We have just discuss the relevance of ecological anthropology and will try to broaden wise ecological anthropology any margin and which perhaps is seem to be pretty much important in trying to understand how the relations between human and nature has quite risk and in trying to understand the interrelations between humans and nature.

(Refer Slide Time: 01:04)



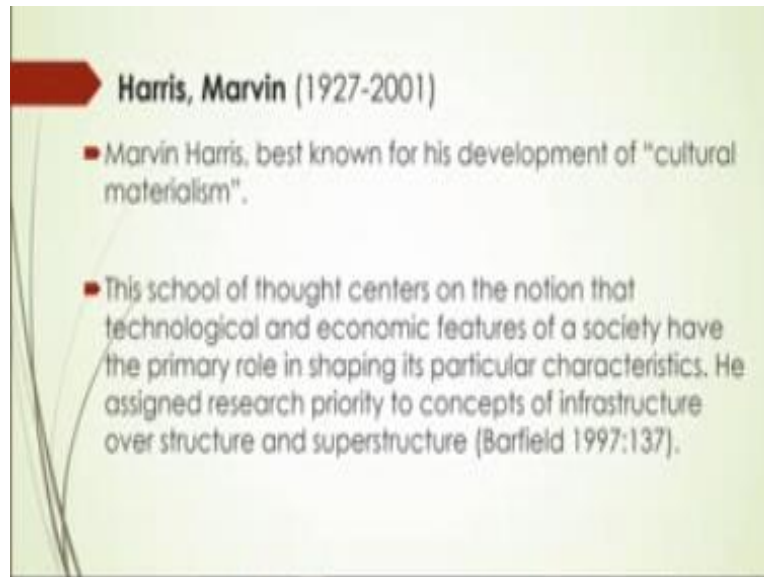
Now as we had looked at and discussed how steward work has come up with a different concept in trying to maxims and understand.

(Refer Slide Time: 01:17)



The various interrelations and oh beginning from the 1960s there has been and RG increased in terms of the needs in order to locate the various changing trends and inter interactions which exist between human in nature or human the ecosystem.

(Refer Slide Time: 01:47)

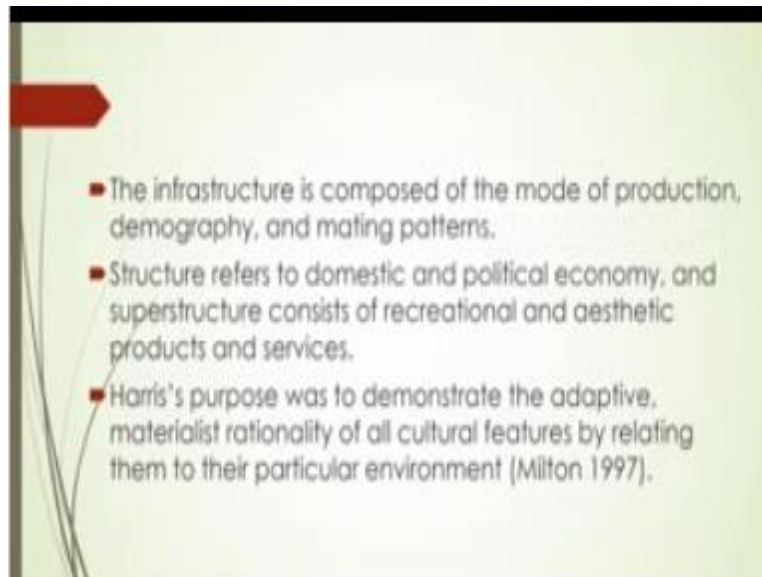


Now of moving on next to what we had seen then discussed from Julian's keywords we will try to pick and discuss some of the anthropologists in this particular field and Marvin Harris is one of them and Marvin no doubt has contributed immensely in the field of ecological anthropology and he has conceptualized the term called cultural metrology and he gave a lot of emphasis on the material aspects it is it is not just the ideas which is important in trying to understand relations between humans.

And nature or human ecosystems so what Marvin Harris tries to look at focus is this particular school of thought indeed Marvin Harris belongs to tends to you know like a spouse the kind of relations that technology and economic features has a far-reaching impact or in essence have a sort of relationship with the features of a society or in stepping what society needs now these are some of the kind of characteristics which Heavy's also focus on.

And he strongly give sort of apriority to the concepts of infrastructure of a structure and super structure now when we talk about structure it is more to do with the materialistic aspect and when we talk about superstructure it is more of the ideas which is something non-physical.

(Refer Slide Time: 04:04)



Now the infrastructure as I said is sort of a mode of production and there is an interrelationship between these model production the kind of populations which inhabit a particular habitat and also the kind of the mating patterns now structure ideally refers to more of a domestic and the political economic aspect and superstructure consists of more of you know a laser is not are creational kind of production services now in this context heavy main purpose was to sow or two men demonstrate.

The kind of adaptive materialistic of all cultural features which is pretty much embedded in that particular environment now in essence we can see that the adaptive mechanism which is primarily based on this materialist aspect is to be seen in almost every cultural group while they are sort of making sense or adapting with the environment which they inhabit.

(Refer Slide Time: 05:29)



Now secondly of course the third one now Roy A Rappaport is also contributing immensely in the field of this ecological anthropology and his work some of the notable works with he has puppies are ritual meanings and ecology or ecology meaning and religion how he tries to interpret and relate or sort of tries to critically understand ecology and religion how people make sense of their ecology through the use of religion such as rituals ceremonies and so on.

And so forth and also his prior work on peaks for the ancestor was has contributed immensely despite so much of criticism now what are the kind of contributions so rich report has made he in fact has brought a new meaning in terms of trying to understand ecology from the structural and functional his perspectives he tries to bring instruction and together in order to Maxine's or understand ecology and in this he conceptualized a term called a paradigm or rather a way of looking ecology from the new functionalist perspective which I will both is give conceptual clarifications in the latest slide.

Now using these new functionalism approach he tends to bring in new ideas or a new perspective in trying to located understand human and ecology and Rappaport tends to see culture as something which is sort of a function of the ecosystem and also he strongly focuses on trying to understand

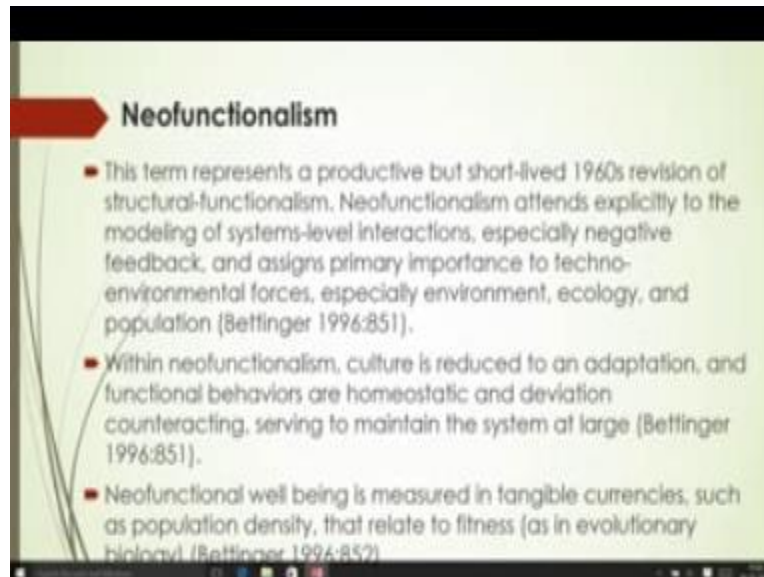
the carrying capacity and with of course needs to be understood in the context of energy expenditure which perhaps is precisely the central themes in retrofits studies.

And he has conducted quite an extensive study in new Linear and among the same Birgit right now we would be elaborating that in a later discussion now Rapport in a sense of tries to you know like look at like a systematic study of how Richard religion and ecology are interrelated and are to be seen as something which is synchronic which is parents and also as something which is functionalist and these sort of characteristics of a society which he studied among the same burger tribes contributed in France to the making sense of the ecology which they have inhabited.

And as a result of this scientific revolution functionalism in anthropology has second a new level innocence in ecology and which perhaps is one of the main contributions of Rapport now as I said of what Rapport has come with a new paradigm by employing the terminology called new functionality now what is new functionality now the term sort of was revised or reused beginning from the 1960s and which primarily focus on trying to sort of bring forth the structural and functional is perspectives.

And new functionality in essence tends to you know explicitly I'm trying to make sense of understand the system level interactions and especially the kind of negative feedback which is of immense importance to techno environmental forces now this sort of interplay which is in the context of environment ecology and population is perhaps what he intends to see from the new functionalist approach now within this new functionalism culture in essence is reduced to sort of an adaptive mechanism or an adaptation and the kind of behavior the functional behaviors of those populations are home aesthetic and deviation.

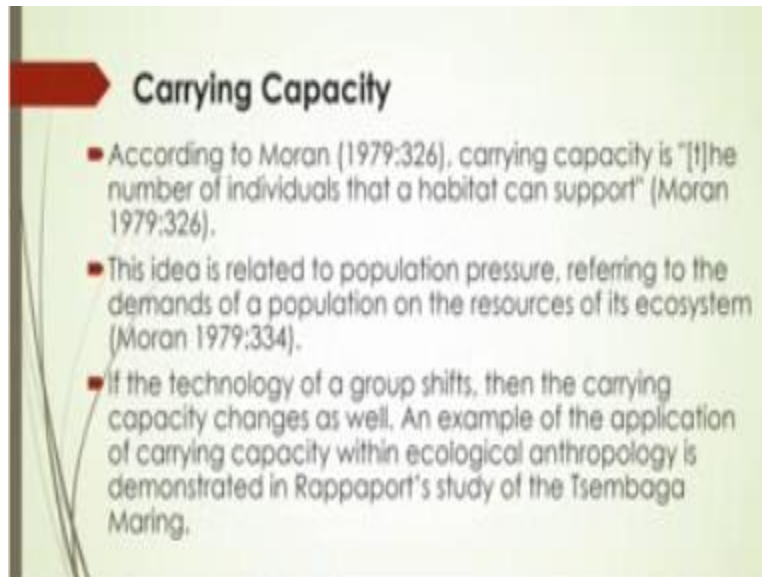
(Refer Slide Time: 11:16)



Which is counteracting and sir maintain the systems at now new functional also tends to measured sort of the tangible currencies such as the population density and also that relates to the Fitness which is primarily focused as in the evolutionary biology now why is population given importance in this new functional perspective now the more a population increases or the density of the populations it tends to have an implications or influences on the natural surroundings.

And obviously it will put more pressure on the natural resources therefore Rapport also gives an understanding of the carrying capacity of a particular environment of how the human populations in essence make a subsistence in terms of the means of life now Mullen has again given the an explanation of what the carrying capacity is where I quote what Mullen says is carrying capacity is the number of individuals.

(Refer Slide Time: 12:54)

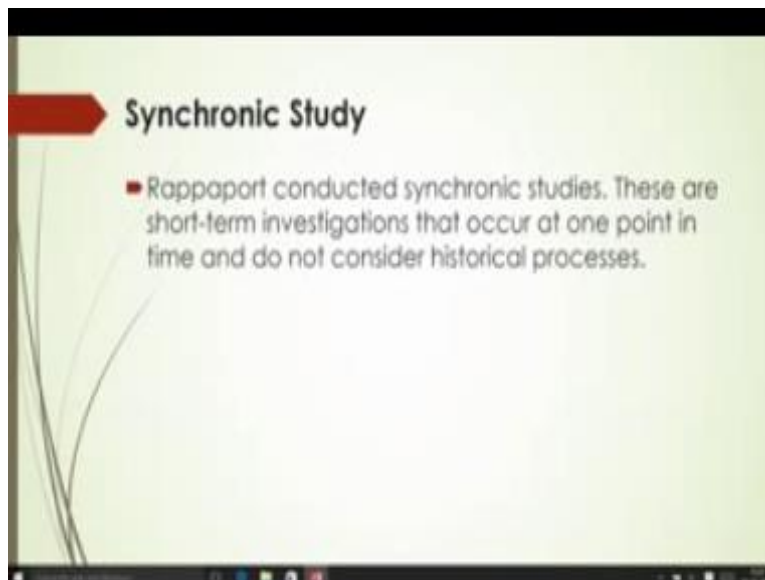


That habitat can support that is the natural resources in a particular environment which can in essence support or can sort of the supply the demand of the population and this particular idea of Moran is related to the kind of population pressure which in a sense can be refer to the demands of our populations on their sources of that particular ecosystem now when we talk about popular let us tries to refresh our mind by bringing in multiples ideas or issues on populations wherein he tends to not sort of one us that if a population increases in a in an uncontrolled manner it in away will have a far-reaching impact on the habited.

Now moving on what moron has in essence tries to explicitly explain here is that if the kind of technology with a particular group and gives us see if that is from more of a simple tool or a complex or maybe using a simple tools like X ho and then certain other simple tools and if people move on to much more of a modernized or a civilized so-called kind of technology like fractals and so and so forth it will definitely handle or if not affect the carrying capacity so in a sense the evolution of technology has directly impacted on the carrying capacity it will definitely change.

Now one particular example of the applications of this carrying capacity within the discipline of this ecological anthropology is vividly explained by rapid study among the same burger marine in New Guinea which I will elaborately give her a picture in a later discussion

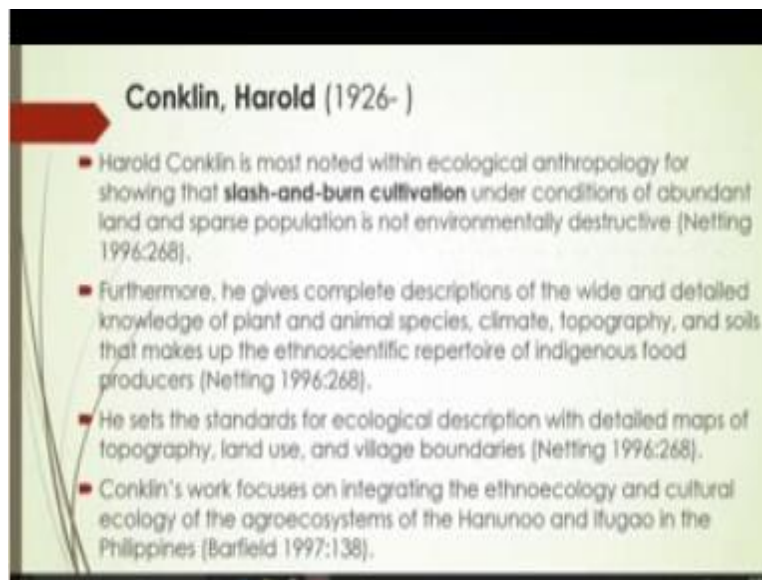
(Refer Slide Time: 15:38)



Now what is this synchronous studied and which Rapport has talked about now in is it is more or less based on a sort of investigation rather than a longitudinal kind of study remember when a field work is being carried out on a particular cultural group or a society and pro-police usually involves maybe as a participant observation by engaging an ethnographic study or politically may before a period of like few months or may be a year and then few years now in this synchronic study it is more on some investigations that occur at a particular point of time.

And thus not really taken to account the historical processes now the validity or rationality of an empirical research again is normally when a society or a culture who is being studied we tend to look at the social and economic history of that particular group but over here it's more of sort of I want say a journalistic kind of investigation but it is a very brief kind of fieldwork which is being conducted in this what Rapport has mentioned about in this synchronic study.

(Refer Slide Time: 17:18)



Now moving on the other and suppose this cold Herald Company now googans contribution is pretty much he is sort of a pioneer in the field of studying the agriculture in traditional societies and his main contribution is on the method or the kind of socio-cultural relationship which is seen in the context of slash-and-burn cultivation and England is pretty much well known in the field of anthropology for his contributions of this slash-and-burn cultivation which is also known as shifting cultivation.

And also mostly known as zooming practices now depending on the kind of reagent and the graphical area there has been a defendant's event and in the areas like southeast area it is also known as Sweden agriculture now over here what is the primary focus it tends to look at the kind of the availability of land and also the kind of populations which in essence inhabit and practices this agriculture system now under this conditions as there is an abundance of availability of land and if a population is sparsely populated it will have less environmental effect or there will be less destruction of the environment now for those who are not very familiar.

And then new to the practice of this cultivation usually a particular community if not a family tends to locate a patch of land and clear those forests and usually engage in burning so that the

nutrients and fertility of the soil is written and after few years of cultivating that particular area they move on to a different path of land by keeping that area to remain self so that it is regenerate and revitalize the soil new so it is sort of like a cultivation which is being shipped from one place to another now the recent research on the shifting cultivation what they have found out is due to the increase in population there is an increasing demand of availability of plant.

And people tend to and gets more permanently rather than leaving that area for failure so which means rather than what the traditional practice of shifting cultivation now it becomes more of a permanent cultivation now in the process it tends to sort of to be seen as environmentally destructive because owing to the kind of practices which involves like scaling down of trees and then burning them soon and so forth now many of the environmentalist is not the scientific community tends to see these practices or something which is posing a threat to the environment.

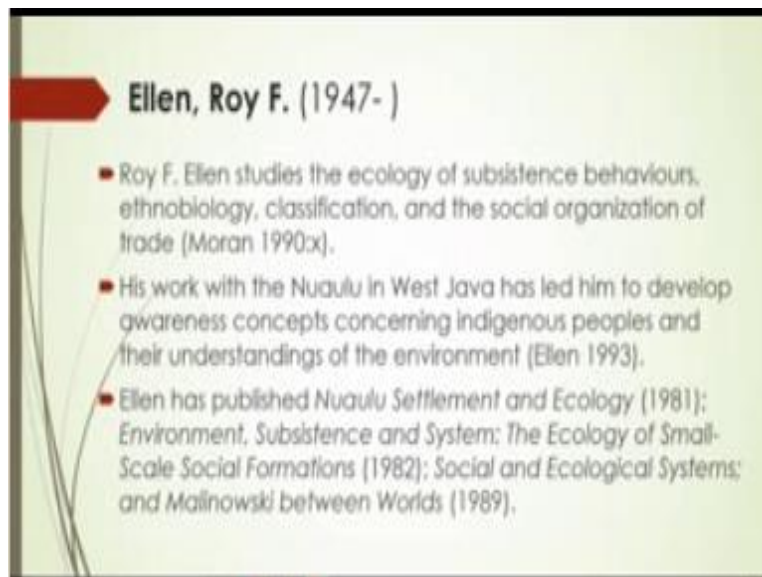
And also from the economic perspective if you look at it is not really the kind of output we deal with this which is being received it is not really benefitting if not from the market orientation it is not really beneficial now netting father gives an explanation that a wide and detailed knowledge of plant and animal species the climate the topography and soils are more or less based on that nor scientific reporter of indigenous food producers now again this induces knowledge or the ad no scientific which a particular community posit in a way is based on the idea of subsistence rather than accumulation or profit.

Now therefore not just agriculture practices but they also do have an abundant knowledge in terms of managing the plants animals and different topographical and the climatic change now netting also further basing on Coulomb's understanding of certain one cultivations heat tends to set the standards of the ecological description with a clear explanation of the cartography of land-use and village boundaries now this sort of ecological description again is important because usually people tend to dwell in a place where they can flourish in terms of this agriculture practices now coulombs focus was more on integrating this ethno ecology.

And cultural ecology remember this he tends to you know clubbed together and try to see the relationship between this ethno ecology and cultural ecology of the ecosystem or the ecosystems

of the community called the Hanna and if you go in the Philippines now he conducted an extensive study and in the Philippines in the rural areas or traditional practices of those communities in Philippines now in that study he tends to see the kind of relationship between the ecology and the cultural practices of those peoples in trying to make sense of the agro-ecosystem.

(Refer Slide Time: 24:30)



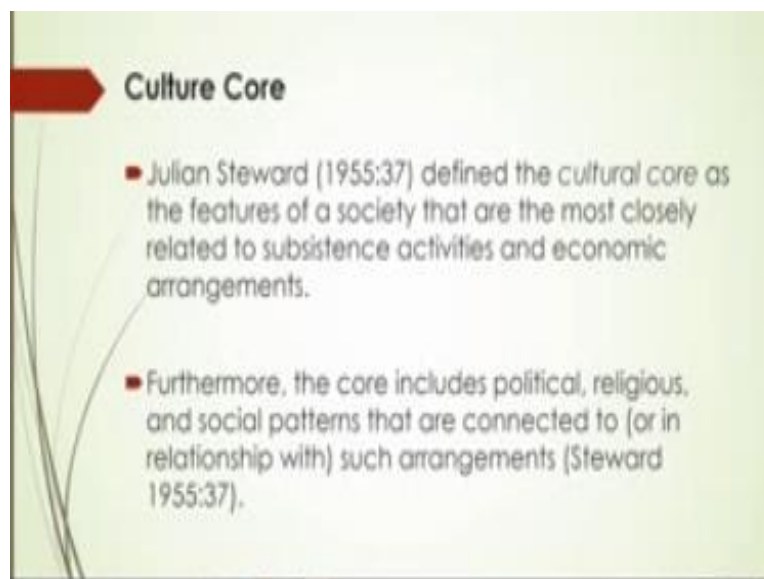
Now another anthropologist who has contributed immensely in the field of ecological anthropology again is Roy Island Rhode Island is more known for his extensive research on the kind of traditional ecological knowledge and local knowledge of a particular community now Allen means focus was in his studies on the ecology of subsistence behavior how a particular community tends to involve or try to max means of their ecology.

And they tends to sort of follow these traditions or practices of subsistence and he also focuses on the ethno biology classification and the social organization of trait and his work was mainly confined in the West Java among the Manu community and through his work he comes to develop the kind of increasing understanding of the concepts which are pretty much widely used by the indigenous peoples and their understanding of the environment so in a sense that sort of

relationship between the ecology and the indigenous peoples were pretty much being emphasized by Roy element now Ellen has quite a number of publications.

And few of his publications here are the nova settlement and ecology which was published way back in 1981 and also environment subsystems and systems the ecology of small-scale social formations which was published in 1982 and social and ecological systems and Malinowski between oils that is way better 1989 now in the entire throughout of his research he tends to see the duality between environment subsistence and social systems of those indigenous peoples how they tend to maximum of their environment and the kind of ecological knowledge which they have for this in essence were to be seemed from a subsistence agriculture practices.

(Refer Slide Time: 27:31)

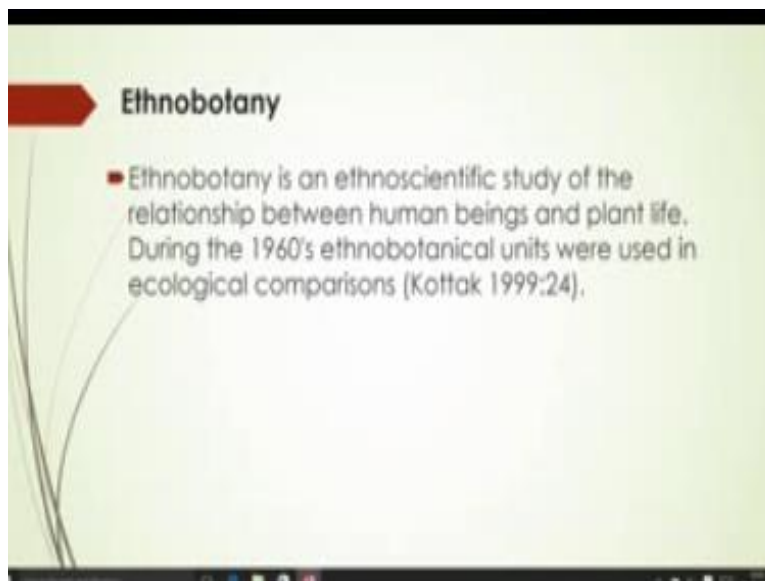


Now as I had talked about the cultural core which was mentioned by the density but here he defined is what is culture poured and now the diversity work define give conceptual definitions of cultural core as something which is the features of a particular society that are closely related to subsistence activities and economic arrangements so there are different economic Arrangements indifferent societies in different period of time now it will be difficult to see the kind of these subsistence activities.

And economic arrangement from a modernist if not a capitalist economic perspective now ideally this culture core is also pretty much as explicit in the line of how a particular community which inhabit a particular environment Maxim or make full use of the existing available natural resources in order to meet their needs and perhaps not something they do not believe in the idea of surplus and they usually engage in agriculture practices which in essence fulfill their basic requirements or the techniques.

And furthermore this culture also includes the political religious and social patterns that are sort of interrelated -that is or in relationship with and such arrangements now in a sense you can say that culture core is also a part of that as updating to a specific or particular environment now ethno botany is also a part of the understanding of a particular community.

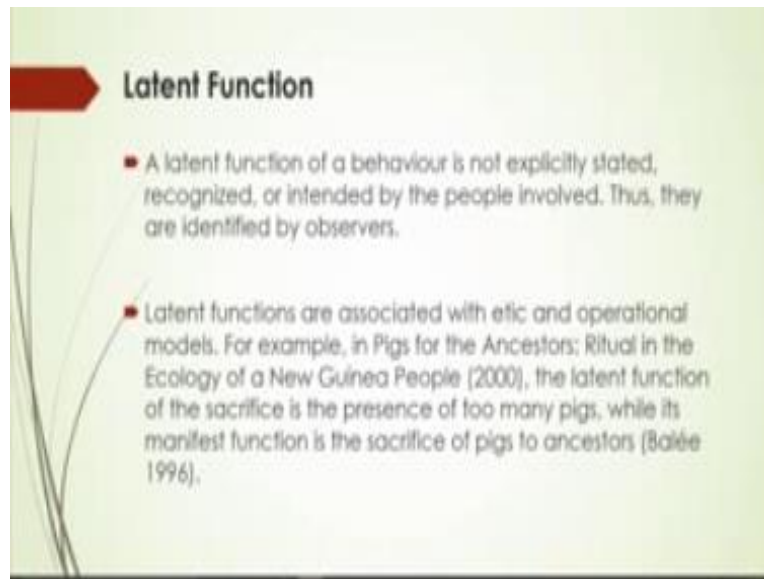
(Refer Slide Time: 29:37)



In which the in essence of the plant the species in their sort of habitat are a now as normally both botany again is and at no scientific study of relationship between human beings and the plant life now we're back in the 1960s this ethno botanical units were used in ecological comparisons now why is this ethno botany important now if you look at some of the indigenous communities they do Maxims and understand the potentials and the intrinsic value of plants now

before this modern medical system was introduced many of these infamous peoples rely on these plants as medicines or medicinal plants and this extensive or what's knowledge which they have on these plants have in essence contributed to their well-being and even till today this ethno botany is pretty much river.

(Refer Slide Time: 01:45)



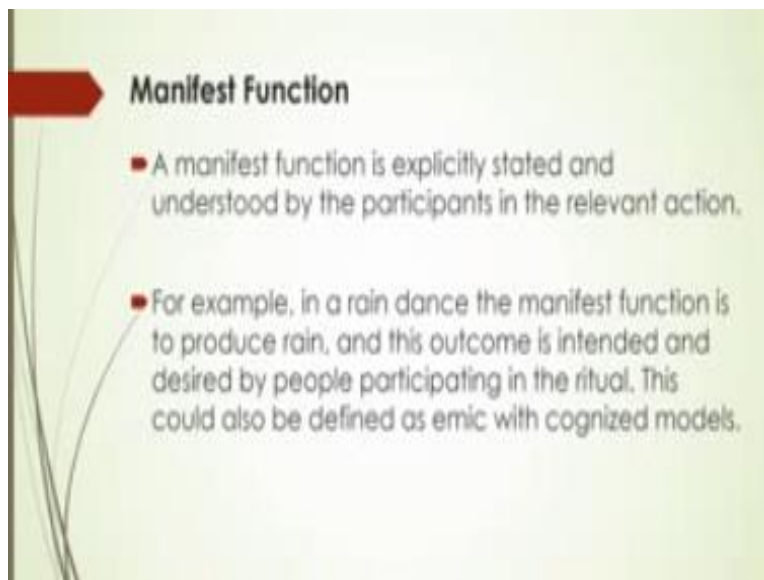
Now there are different functions of how these things are being carried on and there are two ways of looking at one is the manifest function done is the letters from Latin functioned now a little functions of a particular community behavior is not something which is explicitly stated or recognized or which is perhaps intended by the people involved in it thus they are identified by the observers which is not simply explicitly Sound or expressed rather Latin functions are more or less associated with the ethic and operational models for example if you see Rapp port's works on pigs.

And for the ancestors well which is more the ritual in the ecology of new Janelle people the little functions in that particular community is the sacrifice of too many peaks that is slaughtering of a number of animals while its manufacture many fest functions in that particular sacrifice of is the sacrifice to pitch to then sister now what is the sort of hidden meaning if not the idea which is

embedded in this sacrifice of the pig now there can be two levels of function that is the Latin and the manifest function the manifest function can be the kind of sacrifice which is being done to the immigrants to their ancestors whereas the Latin can be sort of the number of Peaks which are beings lightered in that particular region now these are to be sort of categorically understood.

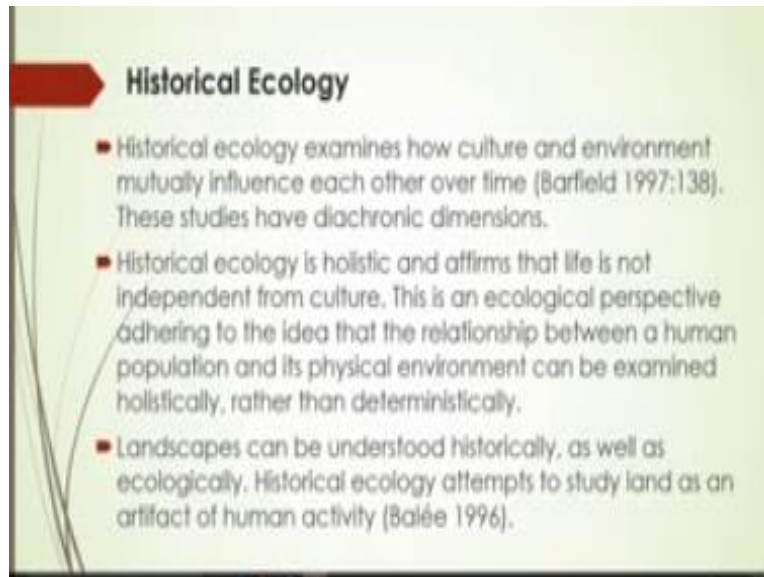
And in many response and it is sort of explicitly stated or which is much or evident and apparent and which is understood by the participant in the relevant accent now in Latin functions it requires an observer to sort of look at the in depth meaning which is being attached to it rather than the outside if not the vivid expression of that particular sacrifices now for example in a rain dance.

(Refer Slide Time: 33:54)



The manifest function could be to produce rained and this outcome usually is intended and desired by people participating in the ritual and this could be defined as epic and cognized models now this is the image expression and whereas Latin is more of an ethic now if you look at the Latin functioned by giving an example of these rain dance again this particular outcome might have a different explanation and a different intention of trying to explain how people are being participating in that particular ritual and the desire to receive abundant rain.

(Refer Slide Time: 34:48)



Now if you look at the historical ecology historical ecology tends to you know make sense or understand the how cultural environment mutually influence each other over a period of time maybe can be generations and sort of a continuous which has been a privilege in the past years and these studies have sort of diachronic dimensions and what are these diachronic dimensions and why is it important to sort of historically understand the kind of relations which exist between culture and environment and how these two are mutually influencing each other now historical ecology again is a holistic.

And a theme that life is not independent from culture so even if community lives in isolation from different societies they do have a kind of practices which is broadly understood dance culture and viscous again is an ecological perspective which in essence adhere to the idea of the relationship between a human population and its physical environment and this has to be understood and examined holistically rather than deterministically now as we have discussed in the previous lectures on how human ecology is to be seen from environmental determinism.

And environmental possibility now environment usually do not determine the behavior of a particular community and it can be therefore it is important to see from much more of a holistic

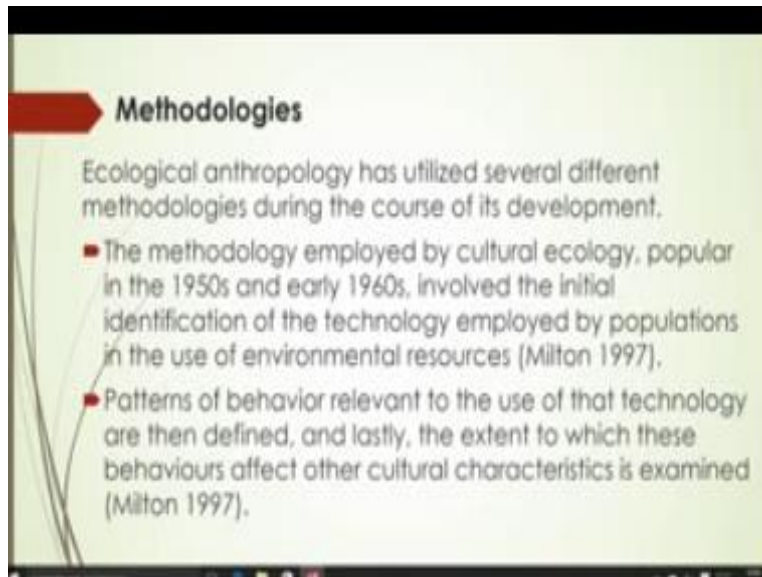
approach there can be no single explanations it is not suffice to think from uni-dimensional approach rather it has to be seen from a multi-dimensional or a holistic approach now for example the landscape can be explained or understood historically in a different way now what is this landscape again landscape if we try to index the idea of culture can be seen as a cultural landscape.

Now a cultural landscape again can be not necessarily the physical aspect but it can be also more of ideational it can be imaginary the kind of social memory a particular community has attached to that particular landscape has also to be captured if it has to be seen in a more holistic way now why is landscape to be understood or explained historically because historical ecology against attempts to study land as an artifact of human activity what is this artifact usually there are different kinds of imprints or meanings which are being attributed to the natural surroundings or ecosystem for instance a river can be sacred to a particular community or maybe a stone can be a stone which is usually an artifact can have certain kind of connections.

And interrelations between the human and that particular object therefore landscape has to be sort of contextualized or understood from the perspective of historical ecology now if you look at many and the indigenous communities or those who tend to sort of express their ethnic identity to a particular landscape they do have the stories of their attachment and the kind of value which they attached to for instance the sacred forest or a second group now a separate group in the US communities they attempt to reserve that particular forest because they feel that the spirits of their ancestors dwells or may be before they depart from this London will they tends to dwell in that place therefore this spirit which is in the existence of that particular environment.

So separate to that community now therefore a landscape can have a multi-faceted meanings and it has to be understood from a multi-dimensional perspective now the some of the methods which is widely used in the field of ecological anthropology.

(Refer Slide Time: 40:28)



Methodologies

Ecological anthropology has utilized several different methodologies during the course of its development.

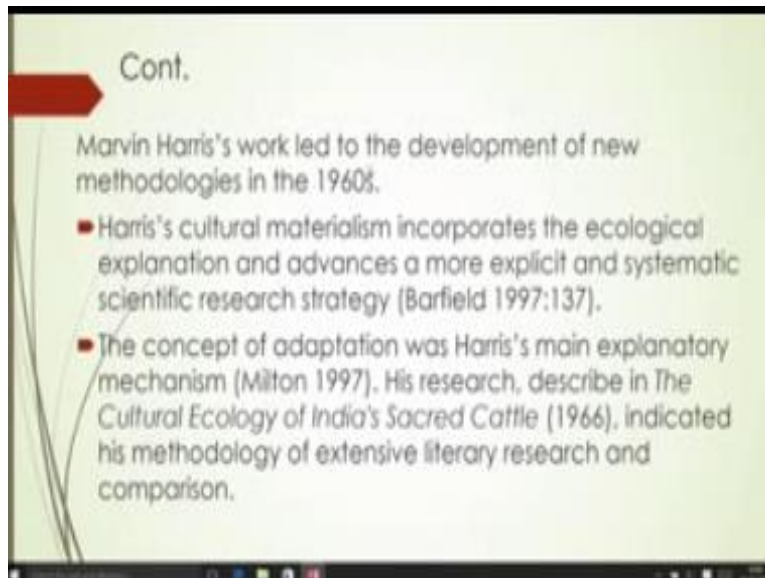
- The methodology employed by cultural ecology, popular in the 1950s and early 1960s, involved the initial identification of the technology employed by populations in the use of environmental resources (Milton 1997).
- Patterns of behavior relevant to the use of that technology are then defined, and lastly, the extent to which these behaviours affect other cultural characteristics is examined (Milton 1997).

Since its development now the culturally call in cultural ecology one of the mythology which is popularly being used beginning from 1950s and early 60s involves the prior identifications of the kind of technology which is being employed by populations in the use of environmental resources now again why is technology important now if you look at the kind of different levels of society or how the civilization has sort of an impending on human societies technology in essence has explicitly plays a very important role in trying to make sense of the environment by human populations.

Now this is one of the first mythology which was being posited and used by in the cultural ecology and the second is the patterns of behavior which is relevant to the use of that particular technology and lastly this the extent to which these behaviors affect other cultural characteristics is again indignant and understood now what are the patterns of this behavior which are relevant to the use of technology now as I had discussed previously with the changes in this technology as technology becomes finer.

And more sort of modernized a sort of behavior also changes and maybe a lifestyle or modes of production or our relationship with the environment has changes bit by bit and then sometimes it can be more of a drastic change now let us give an example look at the works of Marvin Harris.

(Refer Slide Time: 42:47)



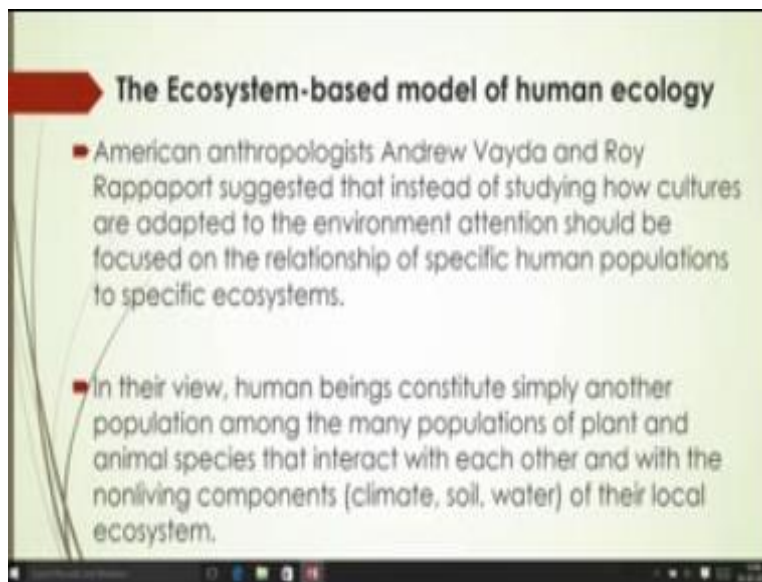
What are the kind of metal in which he has employed in trying to develop in the field of this ecology in which was smallest used in the 1960s no way we had discussed heavy cultural metal is not the method or the concepts which he used incorporates the ecological explanations and advances a more explicit and systematic scientific research strategy now he tries to you know bring in this Methodist aspect that is the most product and how humans and gives in sort of trying to the means of livelihood now this concept of adaptation which was used by Harris mainly tries to have an explanatory mechanism.

And this research also tries to focus on the extensive literary research in comparison and in one of his work the cultural ecology of India secret cattle again here we tend to look at why a particular community for a particular community and animal is considered to be sacred and depending on that this sort of behavior which is being attributed to the relationship with that

environment and thirdly Rappaport Nevada also has contributed significantly to the applications of new metals in 1960s.

And one of them has focused upon the ecosystem approach are in trying to understand the functioning and the flow of energy and this ecosystem approach for quite some time remain popular among the ecological anthropologist in the sixties and seventies and ethno ecology was also relevant for quite some time or three decades and this ethno ecology methodology falls within the cognitive and proposition it is more to do with the kind of knowledge or ideas which a particle community has learned if not embedded within them.

(Refer Slide Time: 45:54)



Now let us look at the ecosystem based model of human ecology now there is this American anthropologist by the name called and do we are and Roy Rapp port we suggested that instead of studying simply how culture are adapted to the environment attention should rather be focus on the relationship of specific human populations to the specific ecosystems that is it is not just something where a culture should simply you know add up to an environment but rather how the sort of interrelationship with co-exist between human populations and the ecosystem.

So therefore they tries to you know like bring in a new trend or a new way of approach in looking at human and environment now in their view or pretends to see that human beings in essence constitute another population among our populations of plant and animal species that in essence are interact each other and with then on living components as well that is the climate the soil water and their local ecosystems.

So which rather seems to be much more of a holistic approach in trying to make sense of the relationship between humans and it in the environment now therefore from the sort of understanding ecosystems rather than the culture constitute the fundamental units of analysis in their conceptual framework of human ecology so which means they give a lot of importance to the ecosystem rather than the culture.

So in a sense we can say that they were more attuned to the environmental determinism deterministic approach and for them cultural traits are of interest only as they can be shown which again contribute to the population survival in the context of the ecosystem that again is the environment possibly.

(Refer Slide Time: 48:38)



Roy Rappaport

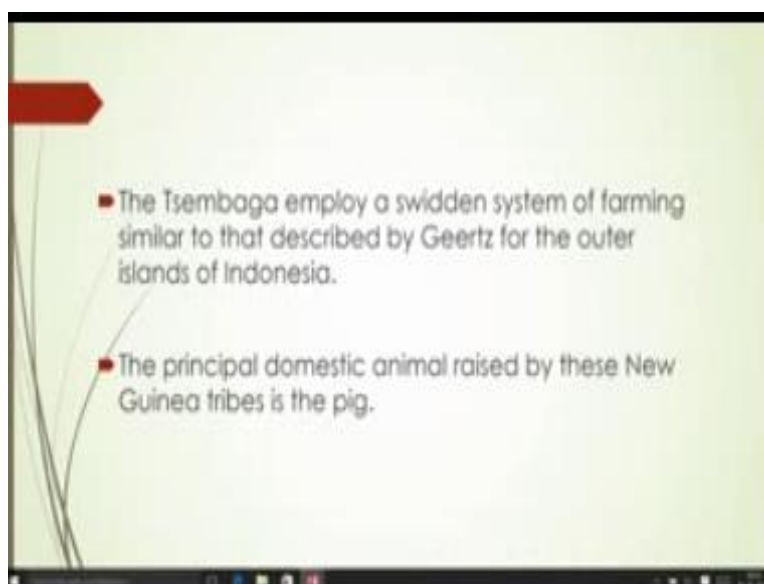
- Roy Rappaport's well-known work *Pigs for the Ancestors* (1968), follows the ecosystem-based model of human ecology and attempted to demonstrate how the religious rituals practiced by the Tsembaga tribal group of New Guinea functioned to maintain their population in balance with the available resources of their environment.
- Rappaport saw religion, an institution that Steward had largely excluded from his concept of the ecologically adaptive cultural core, as playing a key regulatory role in relations between the Tsembaga population and the other components of their eco- system.

Now as I said Roy Rappaport now moving on to some of the work with these anthropologist has done now Roy Rappaport as I said is known for his work on picks for the ancestor which was published in 1968 again follows this ecosystem based model of human ecology and here a Rappaport tries to understand and demonstrate how religious rituals which was practices by the same Berger tribal group of new genera functioned to maintain their populations in balance with the available resources of their environment.

That is the balances that is what in the modern problems we talk about sustainability that is it is important to you know like looked at the carrying capacity of our debt resource and perhaps the same Berger community were pretty much able to you know like sustainably use the resources or they were able to sort of balance in terms of through their religious rituals.

Now again wrap up attempts to see relevant as something and institutions what key word has largely excluded from his concept of the ecologically adaptive cultural core now which again plays a key regulatory role in the relationship between sanbanggol population and the three components of the ecosystem now this is something which Rappaport idea is partly surpassing if not different from the density what idea of religion.

(Refer Slide Time: 50:41)



Now as I said the same burger indent we are communities with practices a system of Sweden farming that is a slough and one cultivation which was similar to what was described by 3/4 grids for the outer islands of Indonesia now if you look at many of the finer and support and for policies they tend to study communities which are in isolation or which rather we can listen from those who are far from the modernist idea of this civilization.

And they tend to you know like give a detailed description of not just the social practices but their economic practices and remember when we talk about a human and environment relationship it is important to focus on the economic aspects that is that mode of production how this modes of production again has an impact on the cultural practices or rather these economic practices over a period of time has become a way of life of this particular community.

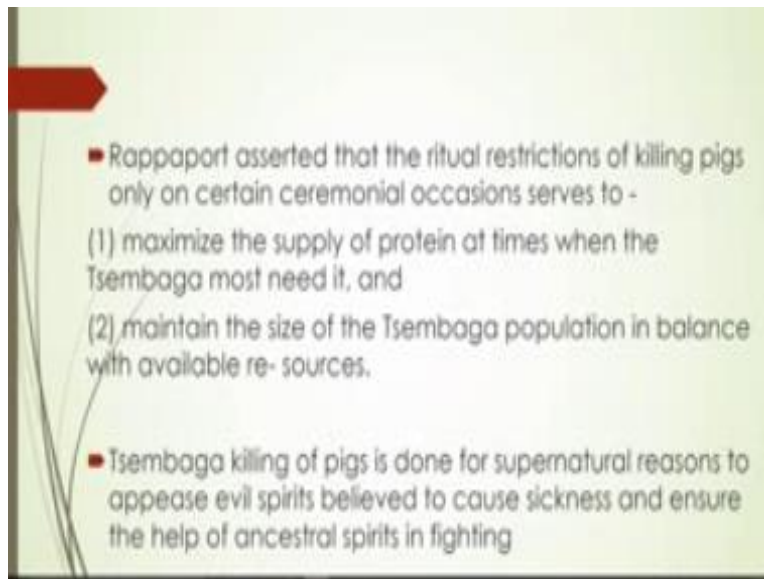
Now one the pertinent point or secularity of this chamber the community was they were and it and sort of rearing animals that is domestic animals which we are live by this particular community again is a peak now why is the peak so much important is the pick something which is sort of a wealth to them or what purpose does it serve now for instance in the different communities like mostly the tribal communities in north is they again get a lot of importance to owning or ratings the most front-end is which is locally known as naturally.

Now it is not just for their own convention but also itself proposed in terms of the social and religious practices and on very important occasions they tend to slaughter these anyone now similarly the peaks tends to have Hill a very important position in the context of the same burger community and which I will explain here now when we look at the religious practices and how is this religious practices impacting on the environment there is this sort of interrelationship which goes on in the life of the fossil cycle of the hamburger community.

Now there is these practices of the great ritual fist wherein a number of pigs are beings slaughtering this occasion and these practices again have often been thought to be an example of maladaptive cultural trait which is similar to the second cows of India now while this sometimes an observer might tend to see these practices as mal adaptive cultural practices because at one go

n number of animals are beings slaughtered now Rappaport has given a different explanation in which they argue that far from being maladaptive practices of this their culture these rituals regulations of peak killings actually functions to better adapt the hamburger population to their tropical forest ecosystems now why is it that this is more adaptive rather than mal adaptive.

(Refer Slide Time: 55:23)



Now Rappaport in his findings from the field asserted that the ritual restrictions of these killings of pigs only on certain ceremonial occasions served to sort of maximize the supply of protein remember the myth of animals has sort of catered to the supply of protein to human body and this supply of protein at times when the same burger community needs the most and when does these people need mostly they when they go for a war and usually in the war people tend to you know like sometimes turf and then they do not have a sufficient supply of you know a food system well with a sort of helpful for the human body.

Now when this warring communities or warring groups come back to their original home habitat they conduct this kind of ritual so that it sort of supply this particular protein and slaughtering of a number of animals are being carried out now why is this possible again in the assembler community is because they are small in number and they are able to sort of balance with the kind

of resources which are available to them now for instance the killing of pigs in this community again is also being carried out for certain reasons.

And one of them is the supernatural region and which again is to sort of an appeasement practices to those evil spirits which were perhaps seems to be you know a melody or coding certain sickness and diseases and also through these sacrifices practices it again helps the spirits of those ancestors in fighting and remember if you look at the tribal warfare warring groups they tend to practice different kind of rituals before even setting up for a war that is seeking the help of their ancestors so in a way this appeasing or sort of giving a reverence to the ancestors spirit enhances this community in order to you know be more strong if not vigorous when they go to the war front.

So in a way the slaughtering of this pig is not sacrifice of these big serve two purposes that is one appeasing the supernatural forces like the evil spirits and also alongside it tends to you know give a boost to the ancestral spirits in their fight now Rapport not only see this ritual observing the Newton's to the hamburger populations but also it tends to father you know through this virtual cycles it functions to maintained the population density which in a way is compatible to the long-term carrying capacity of that particular ecosystem.

And this is being practices by regulating the frequency of the death of few animals and the intensity with the warfare occurs so there is this interrelationship between what is being practices in terms of sacrifice rituals and also in the war front how there has been a sort of a symbolic relationship which exists in this practices now if we are to look at the from the cultural perspective there are certain rules again which are being followed by the these communities and remember there is a continuous engagement of intertribal warfare.

And which tends to be part of the traditions of many communities who continuously engage in fighting amongst themselves and this at this very critical juncture when this war goes on which was easily carried out for a limited period of time were symbolized by this fist now why is this fist again important why is this the killing of pigs if not the fist so symbolic to damage it not only to my mind I feel that it is not only cater to the Newton's pretends to the whirring groups but also

the community fees innocence has created that togetherness or maybe a sort of corporations through these kind of practices now the sort of fist together and then sort of share their ideas.

And a social cohesion is created by these practices now ideally they can be no group which more to the war front however great the provocation might be until a sufficient heart has been assembled to hold a proper fist so in away to get up again for the second expedition this kind of ritual is important and through this they tends to reinvigorate if not strengthen themselves to move on to go on for the second expedition thus the variability of December the community to end gives in a particular war is also determined by the number of this particular animal speech they have produced or they owned and depending on these they are sort of ability to you know or risk the peak again is determined by the overall state of the ecosystem.

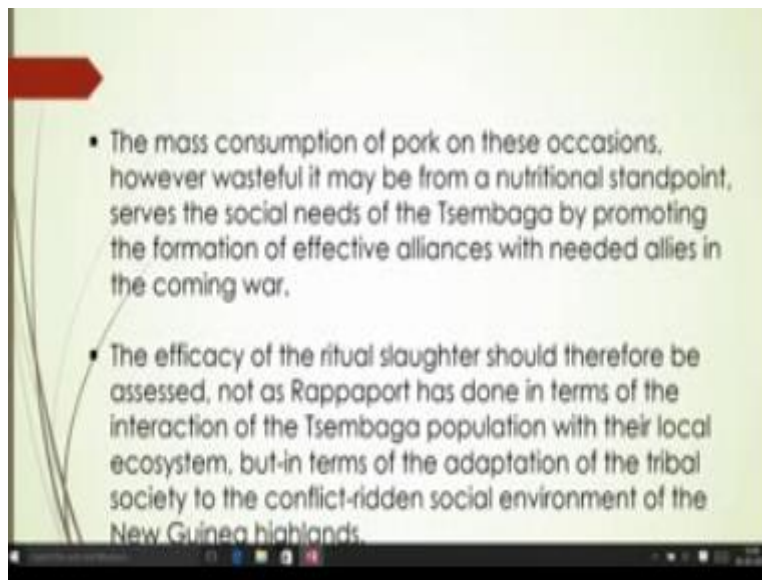
So in a way if one is capable of rearing a number of these animals it is a sign of a test of masculinity now the status of an individual is also being seen from owning of the number of animals and then in which they are capable of rare how much animals they have for this particular feast therefore this sort of economic practices in a way also influenced the social or political practices and again it has sort of an overriding implications on the environment when they talk about the adaptive capacity of slaughtering if not wearing enemies.

And of course this particular community again apparently are not really concerned with the ecological efficiency and perhaps they engage in slaughtering pigs for religious and social reasons and they tend to not because they are trying to until the maximum flow protein from the ecosystem to themselves now therefore it is important to look at and understand how there is social and religious reasons behind these practices this is not to be seen simply in isolation from the ecological efficiency there can be sort of an adult adaptive or maladaptive perspective now in practice this mass slaughter of a pig at the end of a truth if not a war is also symbolizes.

The kind of wealth and power one hand and remember the wealth and the power of an individual again is counted or measured by the number of animals which they owned and with innocence also ensured that the support of both the insists the spirit which in a way help them in fighting and also they are human allies in the next round of Fighting's which they sort of

strengthen themselves and then with these practices they are able to you know like condition themselves or better equip themselves for the other round or next round of expedition.

(Refer Slide Time: 1:06:10)

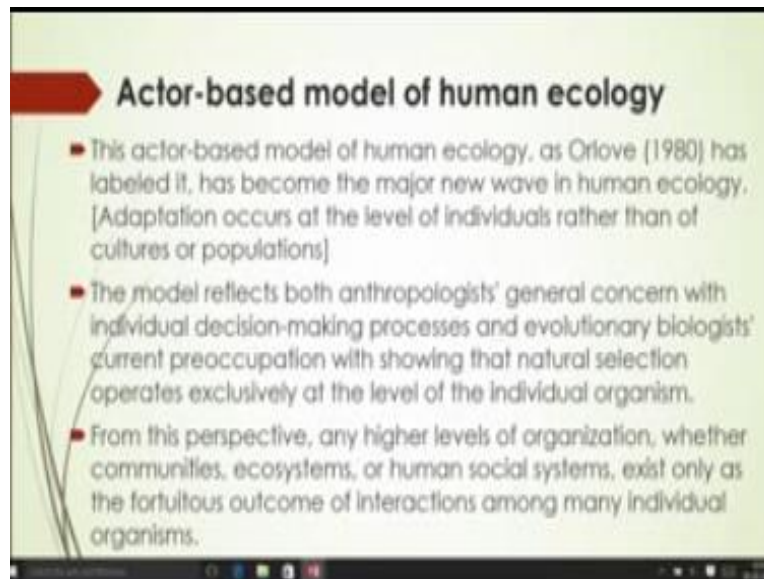


Now usually these results are being attended by big masses and the mass consumption in a way can rather decent in this particular occasions now from an outsider's perspective it rather looks to be sort of a wasteful practices and or maybe from a nutritional point of view however it tends to serve more of a social needs to build community because it enhances in terms of an effective alliances with the needed allies which in a way are coming to or M gazing in a war.

So may beat the times of a truce or is being signed this sort of fist is a pretty much essential for them to and it plays a significant role in terms of enhancing the social cohesion if not the alliances within different communities now therefore or ideally it has to the kind of practices has to be seemed or located in the context rather than simply the manifest function it has to be seen from the ideas which are embedded in that practices the ideas behind this practices therefore the efficacy of the slaughter of these animals should therefore be assessed not as Rapport has done in terms of the interactions of the ham burger community with the local ecosystems.

But rather it should be seen in terms of their adaptations that is the adaptations of the tribal society to the conflict reagent social environment of the New Guinea Highlands therefore these practices serve a dual purposes to them not just the nutritional supply but then also in terms of making and alliances if not a peaceful coexistence of different communities in that area.

(Refer Slide Time: 1:08:51)



Now moving on to the second model of human ecology which I also popularly known as database model of human ecology and what the what is this extra base or the ecology about it rather tries to develop by or look in way back in 1980and it has become one of the major new web in human equality and what is espouses that adaptation occurs at the level of individuals rather than on the cultures or populations which again is you know like contradictory to what we had this explained from the same burger community where in Rapport's give and explain explicit explanations about how the culture in a way determines the human activity in terms of the relationship with the ecology.

But echo based model again is pretty much indeed justice in that sense it is different from what we have this discuss now in this model it reflects that both metropolis are as a general concerned with the individual's decision making processes and which was primarily being initiated by the

evolutionary biologist and which also have been carried on with the current preoccupation with source that the natural selection operates exclusively at the levels of the individual organism over here is not the other individual which is important but the individual in his relationship with his own part that is the organism now from this perspective if you look at any levels of organizations whether it can be in relationship with the communities.

The ecosystems or the human social systems it exists only as the fortuitous outcome of interactions among many individual organisms therefore in this model it is the individual which is given a much higher priority no matter its relationship with any forms of organizations now in the case of human society therefore environmental adaptation is often seen as occurring not as a result of natural selection on the culture or social system level but rather as the result of the outcomes of thousands of individuals decisions about how best to interact with the environment.

Now which means the individual is not socially or culturally conditioned but they individuals themselves make a decision in order to add up if not how best to interact with the environment so it is not the interest of the society but the community but it is in the interest of the individual rather how they tend to function in relation to the environment now over here the individuals assumes to be making choices and this is innocence and giving and by exploiting the available resources while coping with the environmental hazards.

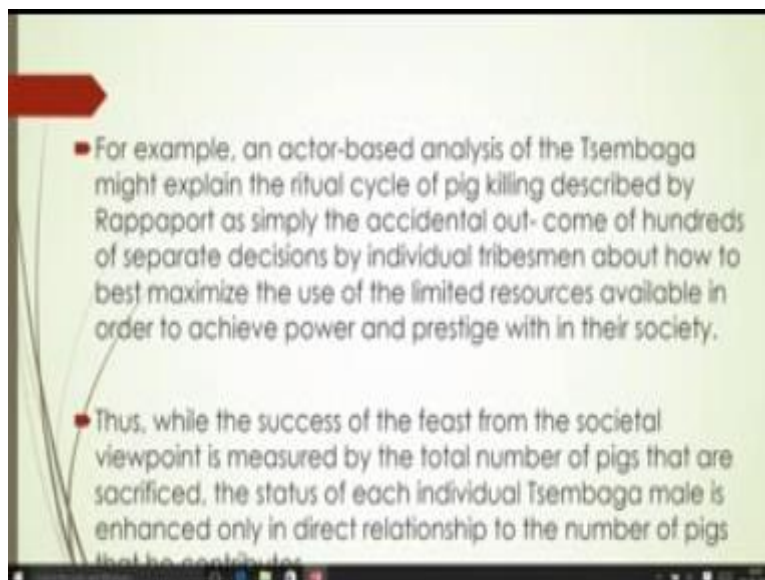
Now for instance those who make these questions will survive and prosper and those who choose less YC will be selected against so in a way in this context we can recall what judge they will talk about in terms of adaptation now when we talk about adaptation it is also about the choices which we as an individual neck it is not how terrible we are but rather the kind of choices which met and if we make the right choices then there are ample chances of or extensive larger chances of being to survive.

And then prosper now if we given an example of an actor based and licensed in the context of the same burglar community in the context of the ritual cycles of the pig killing which was explained explicitly by Rappaport again our is not something to be seen as an accidental outcome of how an individual makes a decision in relationship with his tribesmen for instances of how to

make a Bess maximize the use of those limited resources which are available in order to achieve power.

And prestige within that particular society thus we can in a sense conclude and Connor understand the success of disk space from societal viewpoint and it has to be rather sinned from the community or community own ideas rather than the individual choices.

(Refer Slide Time: 1:15:03)



Therefore we need to differentiate between that model of is oriented orientation from the societal if not more of the community oriented therefore this pretty clear that what kind of model influences an individual to conduct or behave in relations or in function to the environment we'll stop here and then continue in the next lecture thank you.

Centre For Educational Technology

IIT Guwahati

Production

HEAD CET

Prof. Sunil K. Khijwania

Officer- in- Charge, CET

Dr. Subhajit Choudhury

CET Production Team

Bikash Jyoti Nath

CS Bhaskar Bora

Dibyajyoti Lahkar

Kallal Barua

Kaushik Kr. Sarma

Queen Barman

Rekha Hazarika

CET Administrative staff

Arabinda Dewry

Swapam Debnath