

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

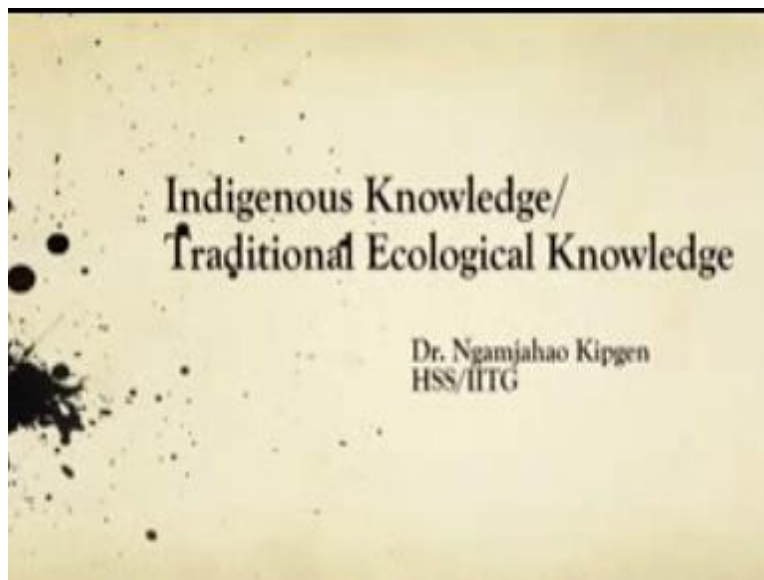
**NPTEL
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Ecology and Society

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Yeah, within the team of natural resource management.

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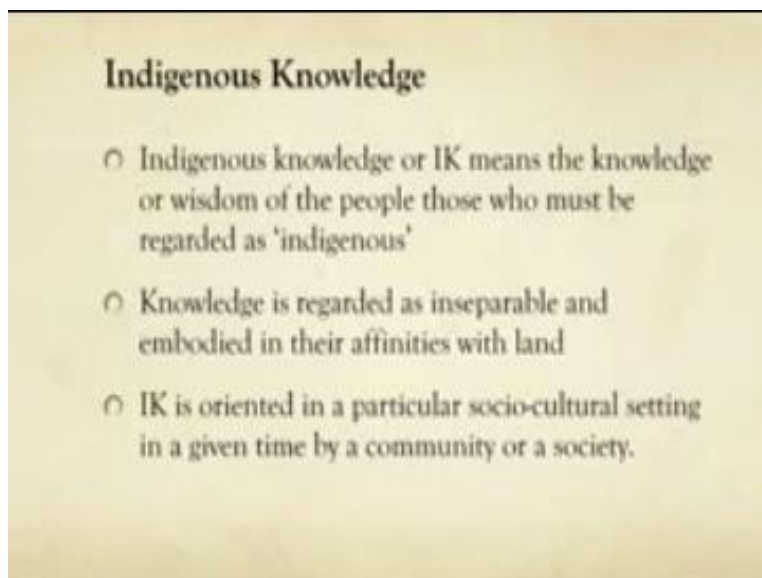
I will be covering a few teams on a few topics such as indigenous knowledge or traditional ecological knowledge and also how the different world view or so to say how is indigenous people notion of life project different from the dominant development discourse and also we would be looking at a case the dis which is primarily conducted by me among the kuki tries in Nordic India.

So in that we will be trying to look at how the ecological knowledge are being formed and how it is being related with the culture landscape now before going into all those it will be vital for us to look at the pretty the notion of this indigenous knowledge how it is being understood and what are the concepts and meanings of how indigenous knowledge comes into being. Now in this knowledge which is also popularly known as ik means the knowledge or wisdom of the people those must be you know regarded as indigenize.

Now a position which normally arises is can this intense knowledge the process by people who are non indigenous or people who belong to a different category, now what is this notion of indigenous and who are indigenous people according to the ILO conventions it regarded the English people as those communities who has been residing in a particular geographical locations or territory or much before the intervention of the colonies or how they for the coming of his culinology.

Now if that is the case there are also people communities who have been residing in the particular the replica landscape say for the past maybe 50years hundred years so and so forth.

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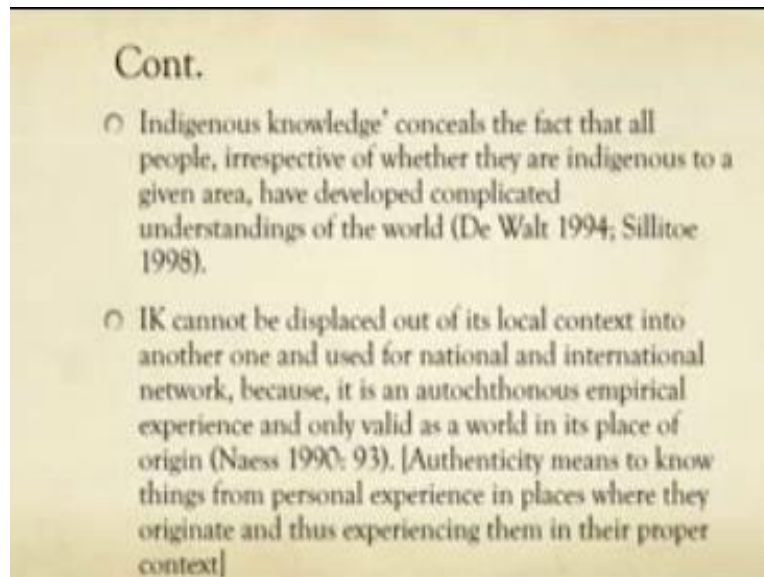
So in that context can we say that this idea of knowledge or traditional ecological knowledge can be much more suited or relevant rather than using the term indigenous knowledge? Now without delving much into the issue of what could perhaps be you know a suitable term and then over the reason why I am trying to make a clarification is here because I will be trying to use the IK and PEK more or less as the same thing and then which will be used interchangeably well throughout the lecture.

Now knowledge in a way is regarded as something which is inseparable and also pretty much embodied in their affinities lengths, so this is some kind of attributes which when we try to look at knowledge in the context of the indigenous people. Now we all know like knowledge can be different types it can be formal the written ones which is documented and then it can be sort of knowledge which is normally you know orally handed down from four generations which is pretty much the case generally among the native or the indigenous people.

Now their knowledge in a way is pretty much confined or embedded in the graphical landscapes which they belong to, so in the process they are pretty much familiar returned by diversity flora fauna and so on and so forth, now I care the in business knowledge is also pretty much oriented in a particular socio-cultural setting in a given time by a community or society, now by saying so that is in a particular context in a given time now what if a particular socio-cultural community is being displaced from their origin or habitat what could be the likely and possible will it affect the knowledge speeds they have in this particular geographical second.

So these are some of the poisons which normally we can you know post when we discuss this idea of indigenous knowledge.

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Now mostly so far if you look globally the indigenous peoples are spread of course the entire world and many studies have been taken into account by the and so policies the ecologies and so and so forth in trying to locate maximum of not just social cultural practices but also the idea of knowledge in terms of how they you know manage their natural resources and the reason why this management of this natural resources of the indigenous people is given afflict an important theme or topic of research is mainly because they are seen to be more close to nature and then have sustainably managed resources.

So these are some of the you know ideas or development with use witness in the past few decades, now according to Sillitoe and De. Walt what they have says is the indigenous knowledge conceals the fact that all people respective of whether they are indigenous to a given area have developed a complicated understanding of the world so which means with the kind of interaction or an experience different societies develop certain kind of you know understanding or Maxims of their natural surroundings.

So which means as I have pointed out earlier like the indigenous knowledge means only to those people who are Tomas indigenous so Sillitoe and De. Walt in away help you know tries to make

a doubts clear by saying that it is not necessarily the in business to a given area but in the general discourse you know human tends to have developed some kind of various kinds of understanding of how they you know manage their natural resources.

Now the second thing which Naess also pointed out is against indigenous knowledge cannot be in or displaced out of its local context into another one and use for a national or international networks or because it is optimist that is empirical experience only valid as a world in its place of origin by being the timing it as opportunist it means that since it is being originated from that particular place it will be only suitable and then relevant in that area, so which means this whole idea of you know transferring or maybe displacing this particular knowledge for various other purpose will be you know not suitable and irrelevant.

Now what our Neass tries to make a point here by saying that it is this empirical experience and only that it is a world in its place of origin in some sense it makes a lot of you know a valid point here because most of the time I mean what is happening globally is the trend of how this knowledge of many indigenous people origins are being in a way hijacked or being transferred by many scientists and then this knowledge are not given the rightful recognitions or what we known as this so-called patent rights.

So this idea of you know transferring this idea knowledge is something which Neass in away is not really you know accepting it, now by saying that autochonus is something which is necessary or the origin of its place in a way it talks about the audience's authenticity which means in order to nor things from the personal experience in places where they ordinate and then thus experiencing them in the proper context. So which means the knowledge in a way has to be understood in its context rather than out of its context.

So it is important for once to have a first-hand experience of encountering those objects facts and figures it is original to practical setting, so that enables them to have that sort of personal experience in places where they all units. So therefore this authenticity is something which is also highly talked about when we discuss the indigenous knowledge which always their original place.

Now Ceylon and musicians also have a different take here when they say indigenous means something is organizing locally and perform by a community or society in this specified place so even the Ceylon institutions are like very vocal and talking about the idea of this of the points or maybe linking with its origin therefore in this knowledge in a way emerges as people's perspective and experience in the environment it is not simply based on a mere speculation or perception but it is also based on experience in an environment at a given time and in a continuous process that is based on observations and interpretations in relation to the local we acknowledge everyday rationality and transcendental powers.

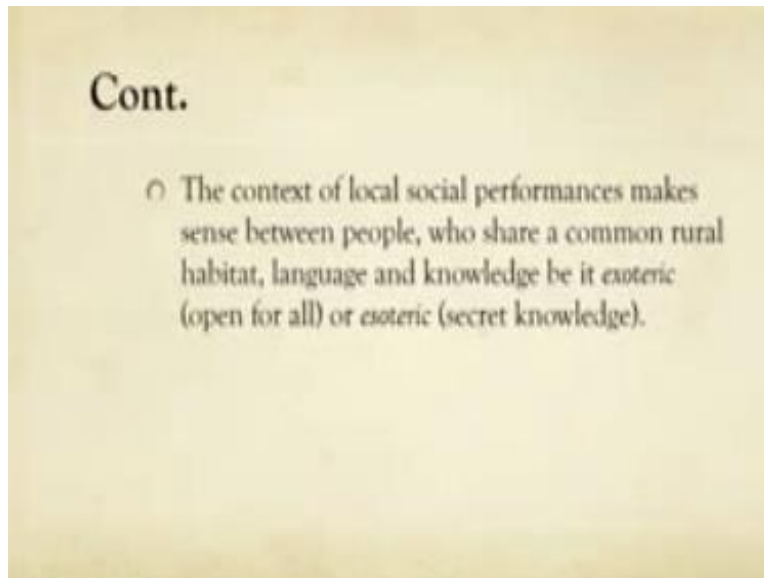
Now over here this observation and interpretation is something which is given an important share, now why is it important to employ this idea of observation here because normally if you take the examples of the incidence people they don't really you know and get into the formal classroom kind of teachings which normally we does in academics for instance the farming communities let us say, so the child or the children in the family usually observe and drive to learned from the kind of practices the parents and the elder stars may be deep link or trying to you know and give certain kinds of activities in the farm.

So this sort of ethical practices are not something which is being taught formally to the children but by way of this observed observation they tend to you know Maxim's of it and they apply that when they become adults or maybe when they become you know the rightful each to you know engage in that kind of as cultural activities. So therefore it is something which is pretty much you know an exponential kind of base in a particular environment in a given context and usually in a continuous process.

So it is not something that you know you set a particular debt and then so how do you are being taught, so it is not like the kind of farmer trainings which we normally witness in the present day time because those are based on you know more less confined to the formal way of teaching base in the you know classroom kind of environment so these are rather something which is learned in depth particular you know authentic environment it is being experienced as it is a continuous process.

So these are some of the ideas which emerges when we talk about the indigenous knowledge of how the maxims of your environment.

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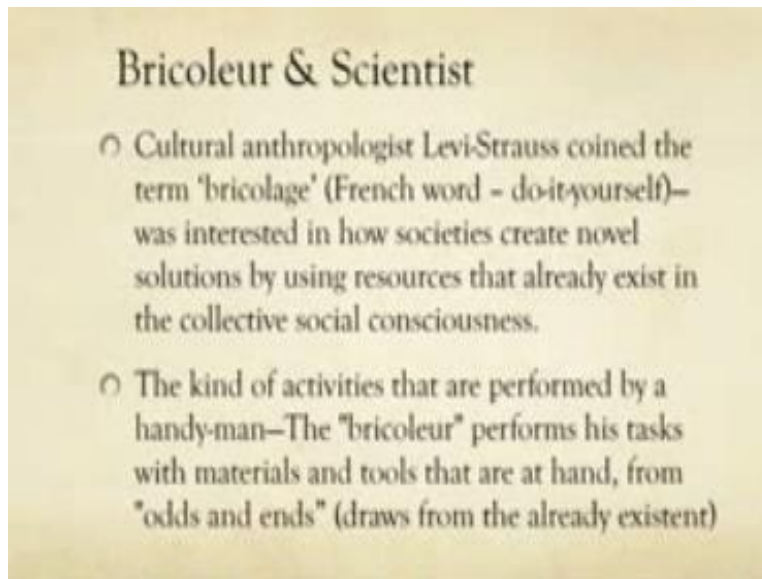


Now this is the context of this local social performance in way maxims between people who normally share a command role habited language and knowledge the esoteric open for old or esoteric that is a sacred knowledge. Now why is that the language also becomes important peers in terms of you know imparting this knowledge or if one tries to make sense of the knowledge, because you language that way as we had also discussed in the previous lectures how language in a way tends to you know indicate certain kinds of embedded meanings.

Because of language normally which is being understood by an outsider's or maybe from an esoteric viewpoint will be different from how the communities or those who inhabit that particular environment of their for example the name safety and those the names they give to animals and plants will also be sometimes used in the daily discourse of trying to you know which will be in a way more organizing.

So this idea of language and at the same time the kind of socio-cultural practices which is being shared between people maybe the kind of rhythms and there is also rituals cycle so on and so forth, if something which also needs to be you know understood I will come to the culture rituals and ceremonies when we talk about the case study among the kuki trips.

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So for time being we will try to sort of to have a much more fuller understanding of what indigenous knowledge is it will be important to situate and locate by you know differentiating it from what are the sort of nuances between industries and I knowledge which is in science or the scientific knowledge. Now Levi Strauss in his seventh mind he tries to look at the knowledge which is being processed I mean by the native people, so Levi Strauss coined the term called bricolage.

So it is a French word which also means do it he also that is because Levi-Strauss was pretty much interested in knowing how societies create these novel solution by using resources that already exist in the collective social consciousness. Now how does one make sense of you know or maybe let us say the development of is ethno ecology ethno medicine so and so forth, now we have also discussed in the previous lectures that by using the prefix ethno the scientific

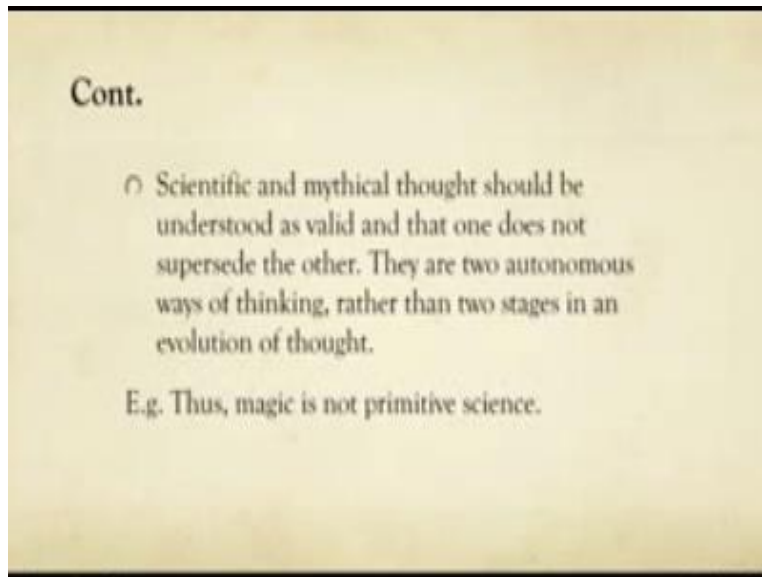
community are in a way trying to you know like bridge the gap or maybe trying to accommodate the idea of these native peoples in the domain of the scientific discourse like that no ecology have nobody seen so and so forth.

Now what Levi-Strauss in a way is pretty much enthusiastic and trying to look at how these societies you know we are able to or attempts to create these novel solutions by using resources which in a way have been already in existence or pretty much pretty predominant in the collective consciousness which have been witness every day. So what could perhaps be the steps involved in that maybe for instance will it be based on the trial and error kind of experience, so you know like the native societies might not have or does not have the kind of modern lab with is laboratory systems.

Now how do they try to experience and test the sort of potentials of maybe a particular plants or harps shrubs so and so these are something with in a way interested Levi-Strauss in trying to look at the kind of practical knowledge or solutions which this native societies have so the kind of activities that are performed by a handyman that is the bricoleur performs he starts with materials and tools are at hand from put hand grows from the already existent consciousness and resources.

Now broccolis again is can be compared to you know the performance by a handyman that is trying to use the already available resources right and then this starts with metals and tools that are a hand that is in order to you know bring a solution that is the odds and ends.

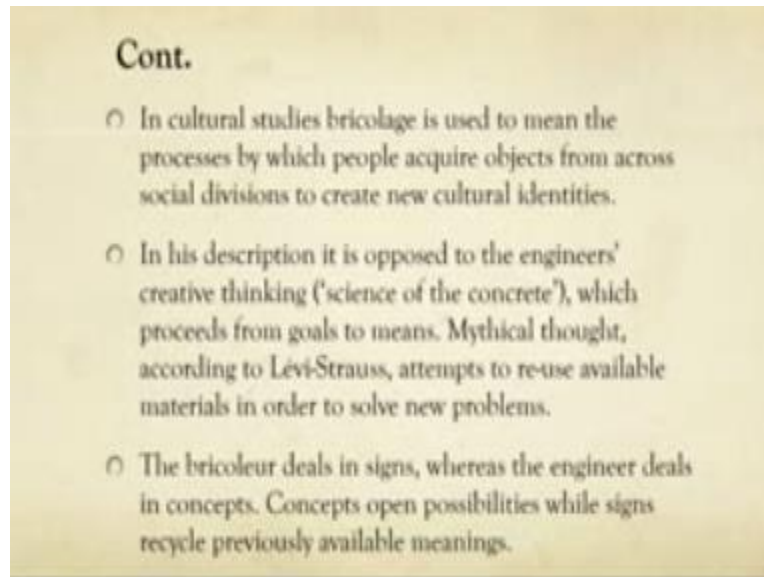
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Now therefore this scientific and this mythical thought should be in a way understood as valid and that one does not supersede the other which means they are two autonomous ways of thinking rather than two stages in an evolution of thought, so in a way by saying so Levi-Strauss tries to reject the idea that the motion of this evolution or evolutionary idea of how the mythical thought are generally termed to be uncivilized but what strong strives to point out here is the scientific and mythical thought has to be in a way understood as valid and they have their own autonomous ways of thinking rather than two stages and an evolution of thought.

Now normally if you look at these ideas of how the science or scientific community tries to you know do in a laboratory settings they normally do not use tools which are either irrelevant now for example let us say magic is not a primitive science why because normally magic is something which also have their own autonomous ways of how it operates and it is effective as long as the people's subscribes or are being guided by this mythical belief or the prevalence of the extraordinary kind of power which exists alongside.

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Now usually in this cultural studies that is bricoleur is used to mean the process by which people in away acute objects from across social divisions to create new cultural identities now in the description of Levi-Strauss he tries to talks about how it is opposed to the engineers creative thinking that is the science of the concrete, which proceeds from the goals through means that is usually a scientist or science of the concrete focuses more on setting up goals and then thereby try different means to achieve or to reach that particular goals.

On the other hand this mythical thought according to Strauss rather attempts to you know reuse the available materials in order in order to solve new problems, so which means the kind of you know attributes one has that is medical thoughts normally tends to you know and get in for example if we give the examples of let us say the cannery building community I can way in a way is usually used for you know transportation but if a particular symbol is being carved at the end of the cannery let us say maybe a scold or any kind of images.

So as those scanner building communities maybe for example among the in the drop program Islander which is studied by Malinowski talks about how this they can know is being built, so in order to get you know defend from the attack of circs normally these communities used to you

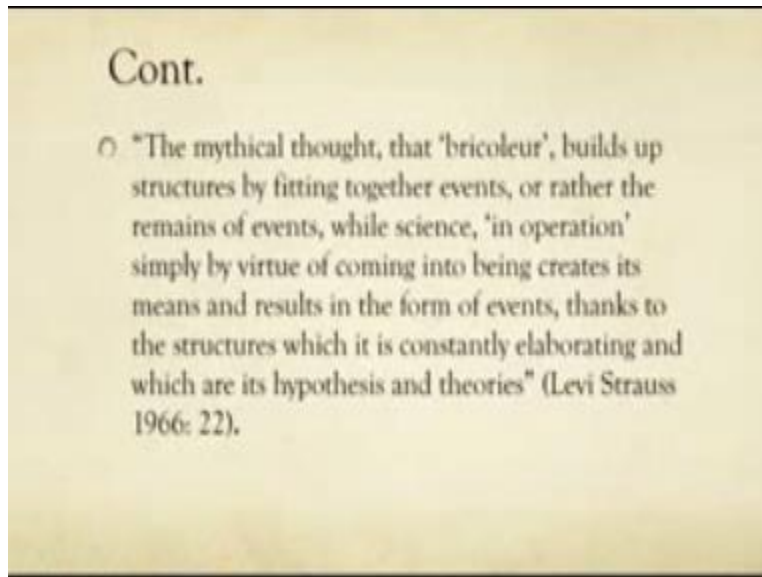
know make certain kinds of images and symbols at the end of the canary, so which in a way is pretty much instrumental and in serving their purposes, so therefore this idea of the reuse of these available materials to solve their new problems with something which is pretty much different from this idea of science of the concrete with innovate proceeds from the goals to means.

Now therefore this idea of the social cultural beliefs and practices has to be understood of how a particular community make sense or use their resources in terms of what significant purpose that does it served them, now the bricoleur again deals in the use of science whereas the in the engineer deals concepts that is terminally these ideals so and so forth. Now as I was talking about the carving of the images or symbols at the end of the can way in away is a part of science.

So concepts in a way opens possibilities of you know possibilities can be more inviting critics and then there is also a scope for you know improvement and people can reject the ideas and then come up with newer ideas so that is sort of possibilities Lister while science in a way recycle to basically available meaning, so in a way it to encounter or to solve the new problems it tries to you know recycle itself.

Now this particular mythical thought that is the bricoleur builds up structures by fitting together even, so it tries to you know our negotiate and understand different sets of you know even by putting them together that this structuralism or rather the remains of events may be for instance let us an example of a hunting society.

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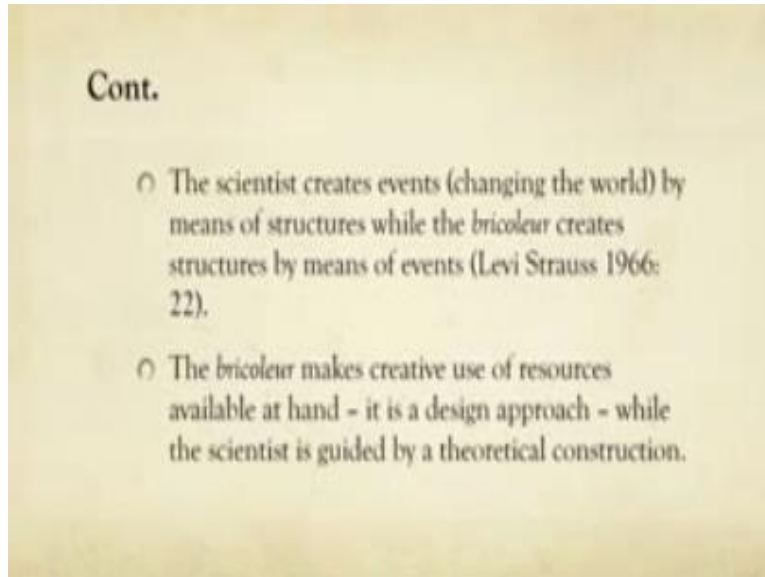


So may be before going for a hundred perform a particular kind of ritual that is in terms of you know praying to the spirit of the animals so that they get they are fortunate enough in the game, so at the end like when they go for hunting so as a result of that they might be getting a sort of a handsome kind of return, so normally those even which happen separately can be in a way put together and structure.

So science in away is operated differently because simply by virtue of coming into being or create its means and result as I was talking about how the goals are set to means and the form of evenness, so this structure in a way is something which constantly elaborate and which are its hypotheses and theories. Now usually in science what we do is form a hypothesis here right and then tends to you know look at the validity and the application of it but rather in the context of this mythical thought that is the prior year they simply tries to you know structure the by fitting in those even together.

So therefore there is this continuous process of you knows reuse and recycle of the available resources in terms of solving their problems.

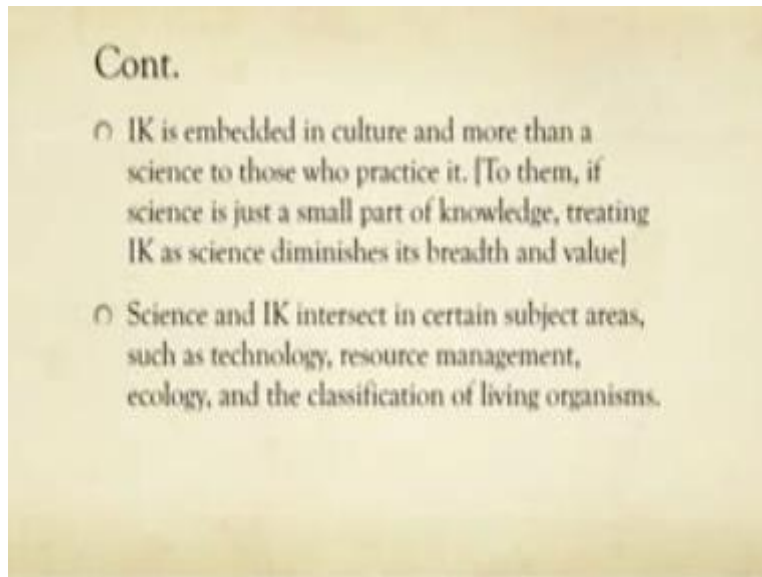
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The scientists in a way also creates even that is changing the world by means of structure while the bricoleur on the other hand creates structure bindings of events now sort of you know the binder is between the science of concrete and break for you so the writer in a way you know next sense makes creative use of the resources available it is more of a design effort while the scientist is in a way guided by a theoretical construction.

So in a way own is pretty much theoretical and other is practical and it tries to make sense of the resources which is available in that particular natural surroundings.

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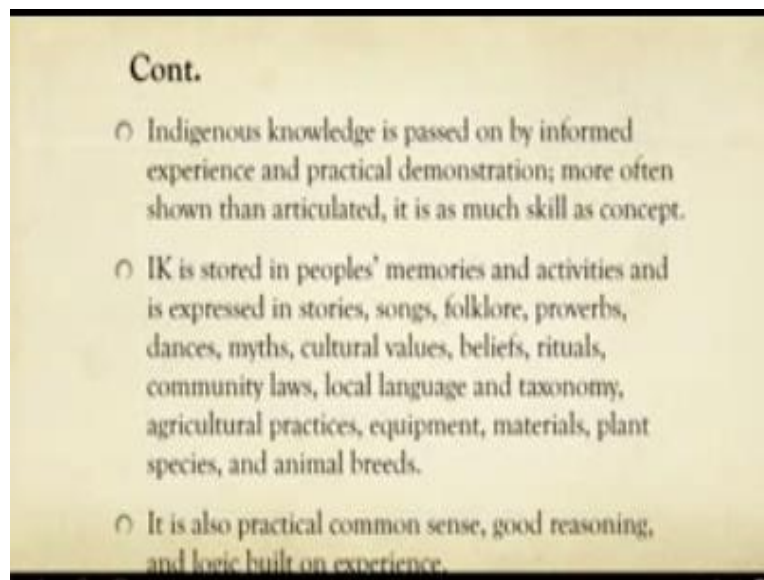
Now as we have discussed what then is indigenous knowledge? Indigenous knowledge is you know embedded in culture and more than a science to those who practice it, so it is not simply a practice but it is pretty much embedded in culture and for those if science is a more and more a small part of knowledge treating indigenous knowledge as science in a way diminishes its breadth and value.

So to equate this in this knowledge as the science in away would you know compromises or diminishes the real meaning embedded through an indigenous knowledge no signs and induce knowledge also intersect in certain subject areas such as technology resource management ecology and the classification of these living organisms. Now therefore one can you know trying to look at the kind of boundaries if not the discourse where science and indigenous in a way overlap and the subject areas in which they can be in a way you know contextualize for example in technology on the other we have the science and technology and on we also have the indigenous knowledge technology then what then is indigenous technology.

So one is to Maxim's of how those communities are in a way you know practically using maybe the farming activities and so on and so forth and in terms of resource management how you

know the idea of this biodiversity conservation so and so forth is also strongly you know protected by the modern science and a long side we also have the news knowledge how they have innovate sustainably manage the resources and what are the ideas behind all this right and then how ecology is being perceived differently and also the classification of this the living organism. So both science and in this knowledge that we intersect in different kinds of its change.

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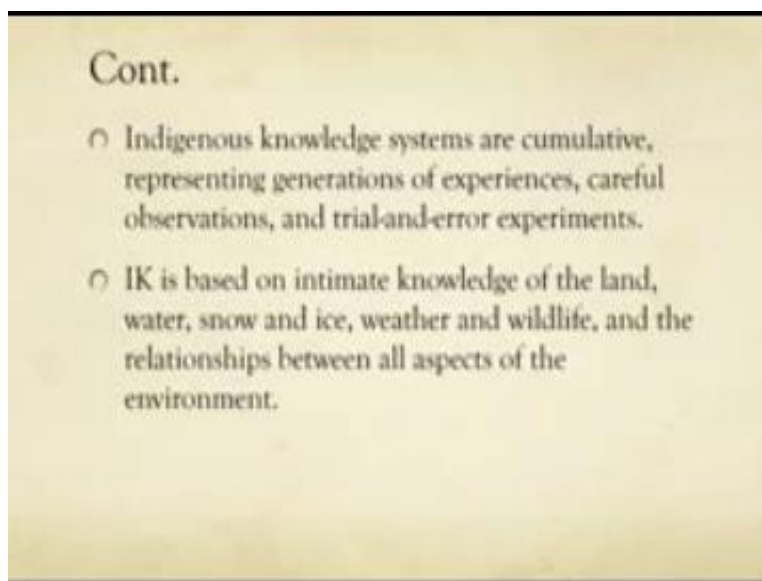


And this IK indigenous knowledge is usually passed on by inform experience and practical demonstrations more often soon than articulated it is as much skill as a constant, so as I was talking about how it is being learned that is through observations and interpretations, therefore this knowledge is not something which is being learned as a concept or theory but rather it is pass on by informed experience practical demonstrations and English knowledge is also stored in people's memories and activities and is expressed in stories, songs, folklore, proverb than needs cultural values beliefs rituals community laws local languages and taxonomy agriculture practices equipment materials plant species and animal breeds.

Now it is not something which is being you know documented in sort of a classroom or which is similar to the formal knowledge therefore this IK is usually stored in memories and activities and which is expressed in a you know multiple ways so therefore if we take the examples of let's say memory. Now will it be you know feasible if a particular community is being displaced from a particular environment will they still be in poses of these knowledge because normally those are being stored in their memories and also keeping aside the activities.

Now therefore with their constant interactions with environment and their surroundings or maybe with the fu and Founder and so and so forth we have stored gives knowledge through their memories and activities and usually which are being you know landfill experience it is also you know a practice practical common-sense which are based on route reasoning and logic built on experience. Now therefore you know one needs to understand the indigenous knowledge.

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In that sense how this we express how it is being stored because normally the modern science is invested in you know mostly documenting their knowledge because they feel that you know this knowledge which is orally handed down can in a way vanished after a point. So therefore they have been the research which normally focuses on trying the document is in the knowledge and I

am still in the works of like the P H Ramakrishna nanotechnologies have been expensive working in the northeast regions the past few decades and also tries to document some of the you know sitting cultivators their knowledge experience skill so and so forth.

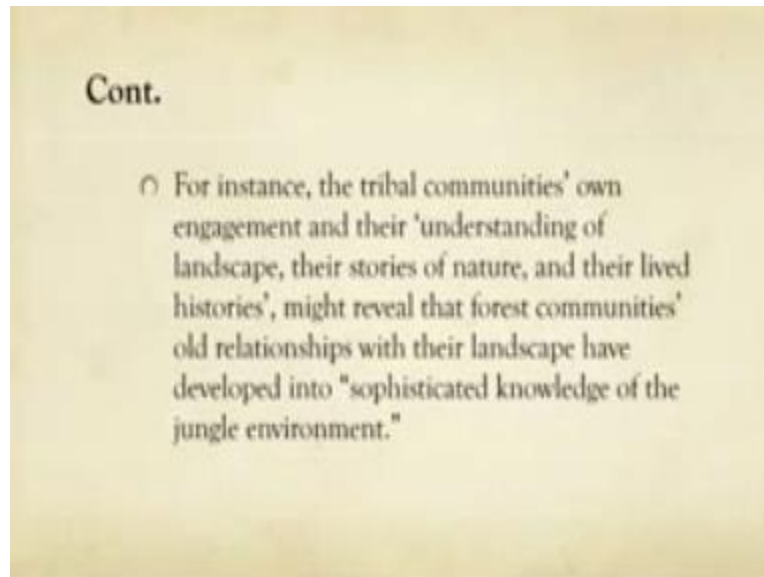
So therefore these ideas of no induced knowledge systems are in a way which are cumulative and representing the generations of experiences which are based on careful observations and also through the means of this trial and error experience. Now to put in a very simple note because the edible items like vegetables fruit so and so forth even animals for that right, now not every you know vegetables is eatable or not every fruit is you know fit for human consumption or maybe depending on the kind of pills.

So these days in a way is being developed over and over in different successive generations, but mind you the manner in which these items were you know first discover or maybe let us say from the knowledge of the bricoleur is being reused to solve their problems which of course is already and available resources. Now in depth this idea of you know trial and error experiments were pretty much evident and then with this is pretty much seen in the context of this how this indigenous knowledge systems are being developed.

Now in his knowledge in a way is also based on the intimate knowledge of the land, water, snow and ice weather wildlife and also the relationship between all aspects of the environment, now why is it that this knowledge has to be located in terms of the intimate knowledge of all these because it is not confined to only a specific you know object or perspective it is it is a multi-dimensional understanding of intimate relationship with and then this is how the worst Neass the, you know in this knowledge being from.

Now for instance if you look at the you know tribal communities the own engagement and the understanding of landscape their societies of the you know and then the stories of nature and they will live histories might in a way reveal that with the forest communities history relationship with the landscape have develop into a more sophisticated knowledge of the jungle environment.

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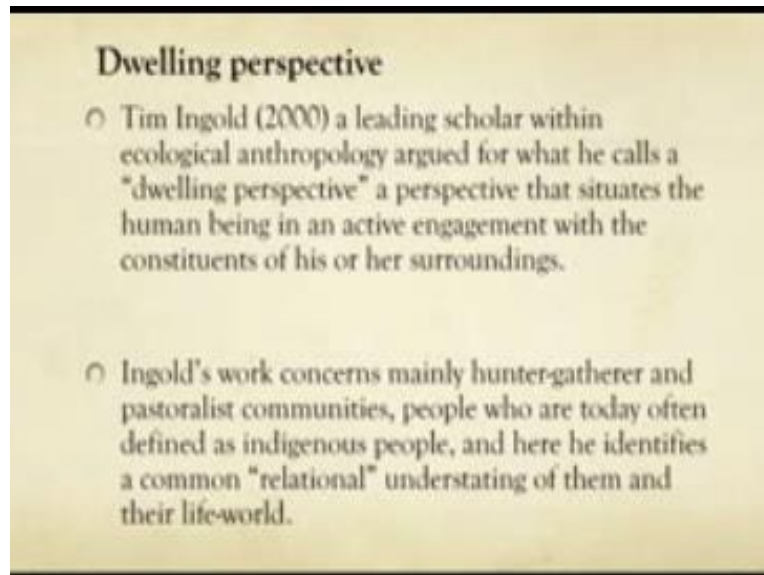


Now how because these are not something which are being learned overnight or maybe few months time or a year but this constant engagement and sort of based on the myth histories, so therefore maybe the knowledge is pretty much extensive and they are very much well-versed with the environment they are pretty much located, so that is how this knowledge is being formed and established.

Now it is not something that you know like the modern days of urban ethylene's people like going to the while and then you know being there for few days and doing the sort of environment or surroundings over there, so that the dead sort of a brief visit might not be adequate for someone to you know have this sort of form a sophisticated knowledge because it requires you know an engagement and their understanding of the landscapes, so this would perhaps impossible only if somebody really you know Maxim's of the natural resource how they are being managed and then it is not just about simply managing but it also becomes part of their socio-cultural practices.

So therefore it has you know the multi-dimensional our in-depth meaning of how once tried to situate and understand.

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Now let us try to look at the words of teeming world and other pollutants of and topologies it is work called gravity perspective, now what as teaming would try to you know expose it in his you know works over here, now he argued what he calls as you know a dwelling perspective that is a perspective that situate the human beings in an active engagement with the constituents of his or her surroundings that is in a way this tip engagement is also a segment of that indigenous knowledge.

So one needs to have this active engagement with the con students of his or her surroundings so that perhaps the you know the foundation of how in this quality is being developed, now ingold works also concerns mainly the phrasing communities the people who are engaged in hunting and gathering and also the petrel communities people who are you know today often determine and define as you know indigenous people and here the island defines a common relational understanding of them and their life worlds.

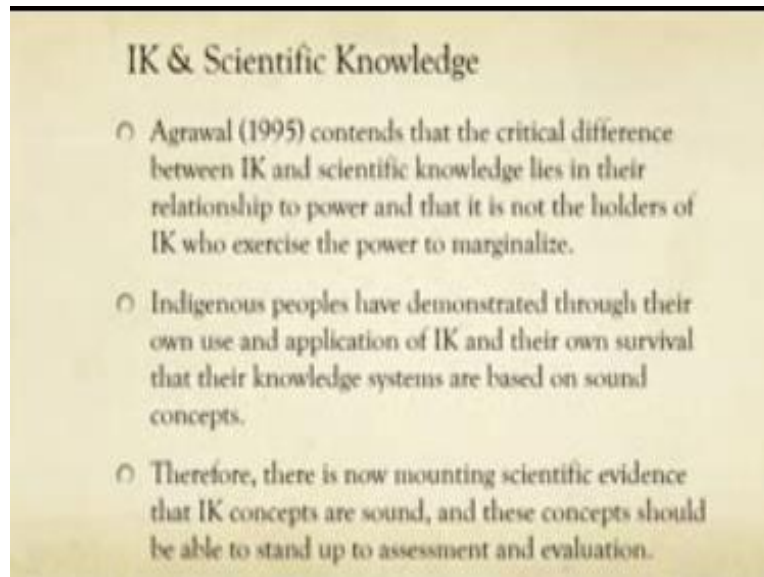
Now when we talk about understanding of them and the life world we are also looking at how the way in which the so called cosmology or the manner in which social culture practices economic political so and so for everything is being embedded. So one is to have you know a

total understanding or one is to identify these common relational understanding of the indigenous people and the language how they functioned in making sense of what is the subsystems but also beyond I gained away is shared and communicated orally by specific examples and through culture.

So it has to have that cultural connotations and it needs to have that sort of you know in that meaning which is then attached within death seated within that cultural context, now in illness forms of this communications and organizations are also vital to local levels decision-making processes and to the preservation development and split of indigenous knowledge. Now as we also have already discussed that how I guess being you know stored in not just in people's memory also by in activities.

Now I guess as discussed is transmitted by word of mouth so it is vulnerable to rapid change especially when people are being split that is maybe to a process of development projects or it can be anything voluntary or involuntary or when young people experience and lifestyles different from those of their ancestors, so normally as people becomes much more you know let us say we educated or in the Western line they did normally you know attempts to you know move away from their early ways of life and as a result that there is a possibility of rapid change in indigenous knowledge.

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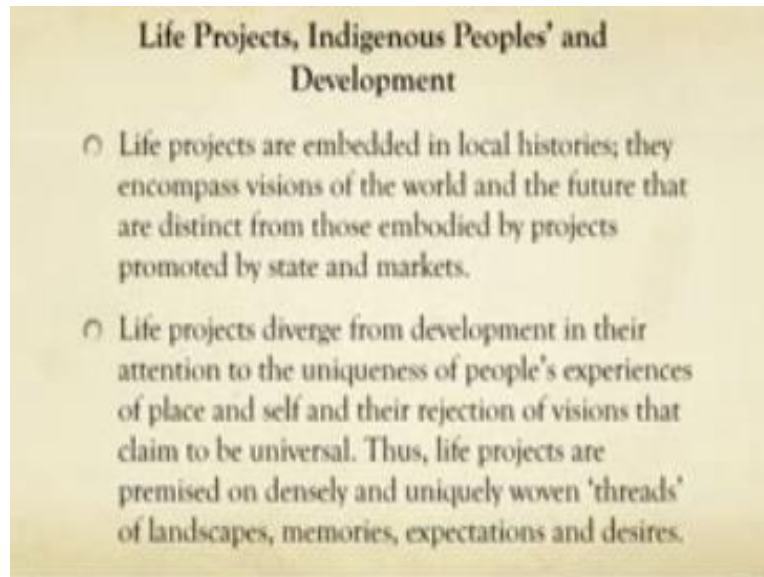


Now as I was talking like we also should you know tries to look at the differences between this knowledge and scientific knowledge, now agrawal in a way was the perhaps gives a very good differentiation between this IK and scientific knowledge now what he contends is that the critical difference between this indigenous knowledge and scientific knowledge lies in their relationship to power and that is not the holders of IK who exercise the power to marginalize.

Now that the holders of this IK exercise the power to marginalize the disease perhaps one of the critical difference that is illness people have no demonstrated food own use and application of IK and their own survival that their knowledge system are based on sound concept, therefore there is now mounting scientific evidence that IK concepts are sound and this concept should you know will be able to stand up to assessment and evaluation.

Now since the only differences between them is the know in terms of their relationship to power that is obviously the people who what is the scientific knowledge you know usually claims that the upper hand but now there is a you know including a dramatic turn where the IK also have you know these concepts are considered to be you know adequate in terms of and giving an assessment and evaluation.

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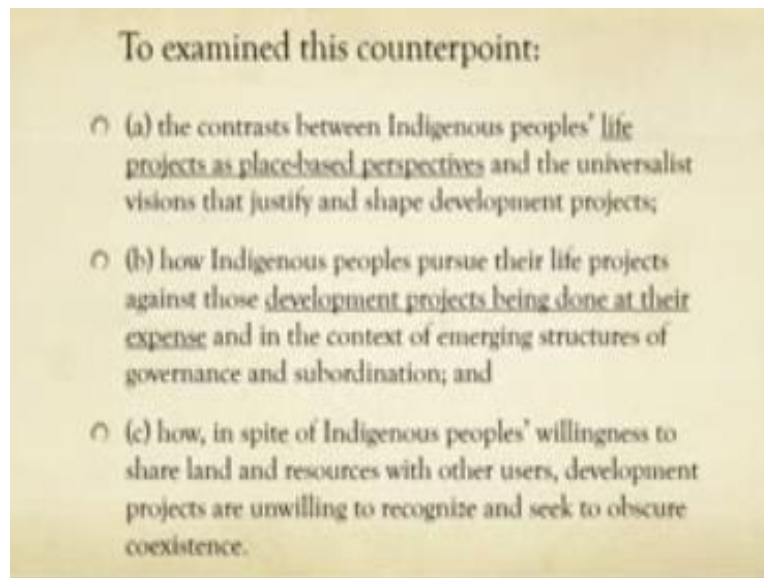
Now this is a quick you know differences between the IK and scientific knowledge, now I would like to you know not really delve into the development process asserts but usually when we talk about the Indians people's in relationship development one thing we should remember is the idea of this life project then what is life project life projects or something which are pretty much important for the infamous people.

Because the deceased local districts are embedded and they also and composed visions of the world that is the future that are distinct from the embodied by projects promoted basket and markets and also live projects in a way divers from developments in their attentions to the uniqueness of people's experience of place and itself and the rejections of reasons that are enough claimed to be universal does this life projects are in a way promisingly densely uniquely woven text of landscape memories expectations and desires.

So as we were talking about indigenous knowledge how they're you know knowledge are being stored in memories and activities, so therefore one it's not alive life project of the indigenous people when somebody is trying to you know even talk or think about or initiate any kind of development, why because they share a significant relationship with their environment on the

land because their histories are embodied in it and also they have is landscape is not something which is from the utilitarian perspective but they do have that you know heads of connection which ultimately becomes a cultural landscape and the memories and expectations and desires.

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So one of the you know some of the concerns which needs to be examined in connection to this counterpoint is the contrast between indigenous peoples life projects as you know it is placed with perspectives and on the other hand the Universalist regions that justify and save shape the development project. Now this sort of counterpoint needs to be understood because normally we you know always talk about and any kind of development programs are seem to be you know effective business people and then their interest livelihoods are being affected.

But one is to look at the kind of how these slice projects of the indigenous peoples are into went operating, now how in indigenous people pursue their life projects how these in indigenous people pursue the life projects against those development projects being done at the expense in the context of these emerging structures of governance and subordination. Now over here we can see the idea of how the kind of development projects which are being initiated and backed by the

state are being pursued against the inverse of the indigenous people that is which is antithetical to their life projects.

Now therefore this have you know prop up the idea of how this idea of governance and subordination is being meted out against the indigenous people and then the question arises why the human is their human rights or rights to access to those resources being you know are affected by the state late development projects. Now how inspire of this in most people's their willingness to share land and resources with other users the question is not that they are greatly reject or you know they do not cooperate or they are not ready you can share their resources.

But the question is despite their willingness to share the development projects are you know on and on the one hand not the unwilling to recognize and seek to obscure coexistence, so there is this denial of this squared distance that is the feeling of this superiority or if not as if you know the development projects led by you know the speeds are doing something or acting against the interests of the indigenous people because this whole idea of accommodations or being in them in this project is something which is being missed.

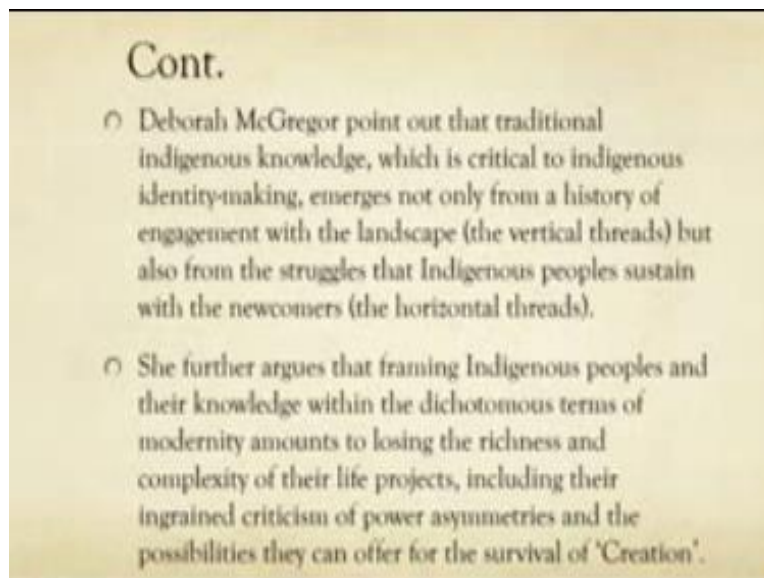
Now therefore despite their willingness because many times of the policy makers and planners or development projects practitioners often blame the indigenous people's for you know not cooperating and then against this idea of development so therefore one needs to look at how these life projects or if not what is the real interest of the you know the indigenous people, the emergence of this modernity as lattices has been marked by a persistent blindness to connections and hybridists not only between nature and society.

But also between the vertical and horizontal effects that make up place, so this idea of you know how nature and society has to be look at or this you know the deep divides between businesses nature and society emerged as a result of this modernity. Now therefore there has been you know a constant persistent blindness to connections between the two perhaps this is because in the face of these relentless attacks through colonization the process of this assimilation development all put together aimed at suppressing the vertical trips setting their sense of place and identity a live

project are in a way devoted in large part to permanently rebuilding and strengthening those vertical effects.

Now this idea of how nature and society in away is being located and then all this process of this colonization assimilation and development all tribes do not aim at suppressing the vertical threats that said their sense of place and identity, now in vertical stripes it is it helps in this people share some kind of you know an idea of how this the connections with nature.

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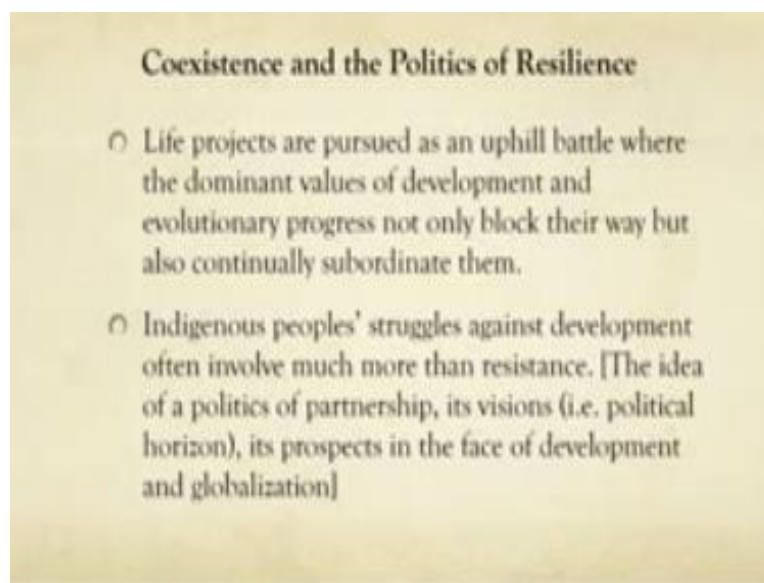
Now another ecologist that is Deborah McGregor point out that with traditional Indians knowledge is critical to the illness people's identity making and also it merges not only from a history of engagement with the landscape that is the vertical threats but also from the struggle that indigenous people sustained with new comers that is as a result of the process of colonization simulations or maybe as a result of those development projects.

Now as Deborah had pointed out that with traditional indigenous knowledge is critical to you know the identity making because these people have you know a history of engagement with the landscape, so when there is a you know a forceful intrusion on into the in a domain of the

indigenous people this history of engagement with landscape or the vertical tribes which they share with the environment or nature in a way yes when disturb and affected.

Now she further argues that is framing the indigenous peoples and their knowledge within the dichotomous storms of modernity in a way amounts to losing the richness and complexity of their life projects, which also include the in green criticisms of power symmetries and the possibilities they can offer for their survival for the survival of creation, what does this creation again? A creation is something how they may be sort of you know here a ballistic of you know relationship with their natural surroundings.

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Now why is that there is a idea of this the point systems and politics of resonance from meaningless people because these life projects are you know in a way pursuit as an obvious cause were the dominant values of this development and evolutionary progress which are pretty much being supported and then based on the you know the wisdom scientific knowledge all this in a way you know not only block the indigenous people's way, but also continuously you know subordinate them.

Now because the based on this evolutionary process as we had discussed in the idea of this the bricoleur and the scientists and then how they are in away being you know subordinated, but as Levi-Strauss has categorically point out that it is only that the way in it they are in a way in or engaged in their own rightful thinking or in their own ways of thinking. So there is nothing called which of the two is much more progressed or maybe, you know advanced, but rather it has that, it operationalized in a different setting. Now this indigenous people struggle against development often involves a resistance. That is the idea of a politics of partners its visions, that is political horizon, its prospects in the face of this development and globalization processes.

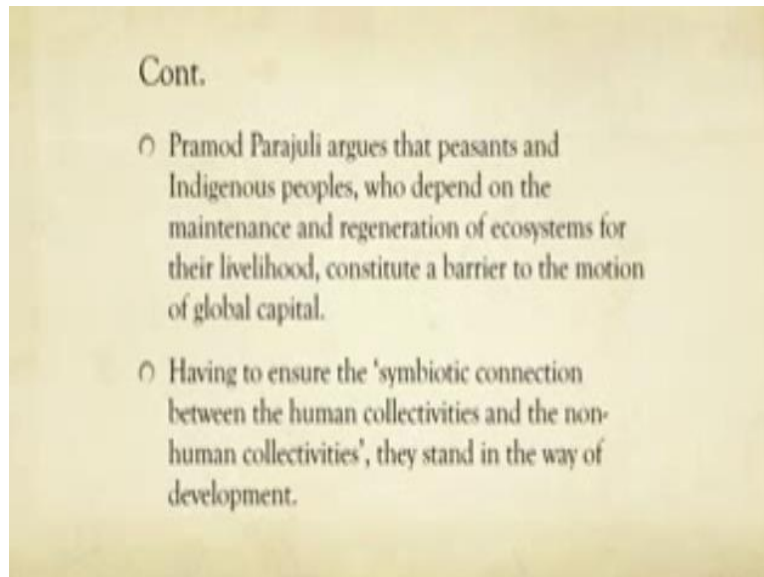
Now globally and then even in the Indian context for that matter yeah, you have been familiar with the you know follow of the news when the decades of protest against the server, server damn that is normal, but now under it which is still very much sparked, and then the dummy victims the devices communities are not you know fully compensated the live products are being affected the life projects are being destroyed and hampered.

But still the specimens of resistance the government in a way of the you know the dominant values of non development which is led by the state are not able to accommodate the needs of those or the plight of those people. So one needs to you know locate or situate this process of development not just as simply saying that the marginalized or the you know Audemars is have nothing better than to, you know come up, and then resist what is supposedly being you know understood or considered to be welfare for the street.

So the idea is as we were saying the devices are not against any kind of sort of development for instance, but maybe the rightful, you know in the domain of those resources are not being recognized. So what they are is to respect their rights on those resources, or maybe on the other hand when one has to you know do a judicious compensation or maybe the, so called RNR policies.

We have occasionally resettlements and policies which are enshrined in the sort of constitutions have to be followed and abide by.

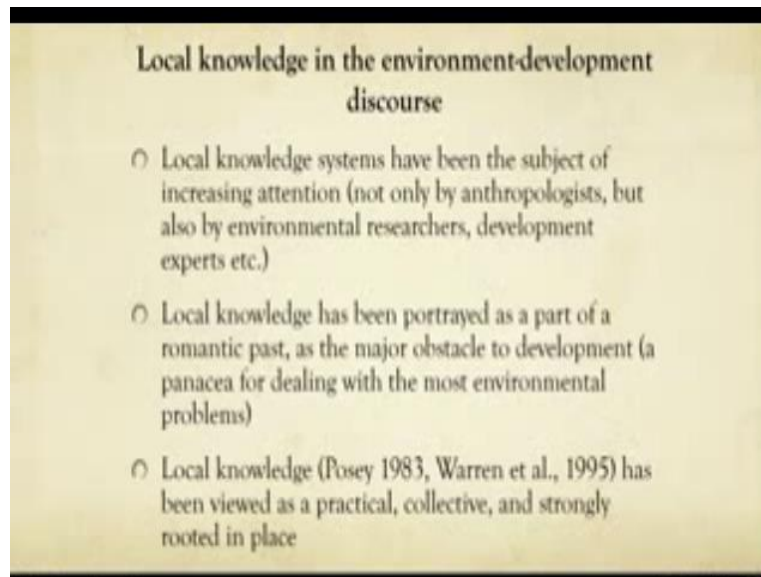
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So as Pramod Parajuli argues that peasants and indigenous people, who depend on the maintenance and regeneration of this ecosystems for their livelihood, constitute a barrier to the motions of a global capital. Now therefore, there are so much connections and there are so much dependence on the ecosystem that which in a way is seem to be you know a barrier to the motion of this global capital which is being guided by accumulations or exploitation of the resource to meet the present requirements.

And then it does not have an official scope of the idea of regeneration of ecosystems it is important for the most people, because since they leave and rely on it, they believe in reproducing it and then regenerating it. Having to ensure the symbiotic connections between the human collectivities and the non-human collectivities, they stand in the way of development.

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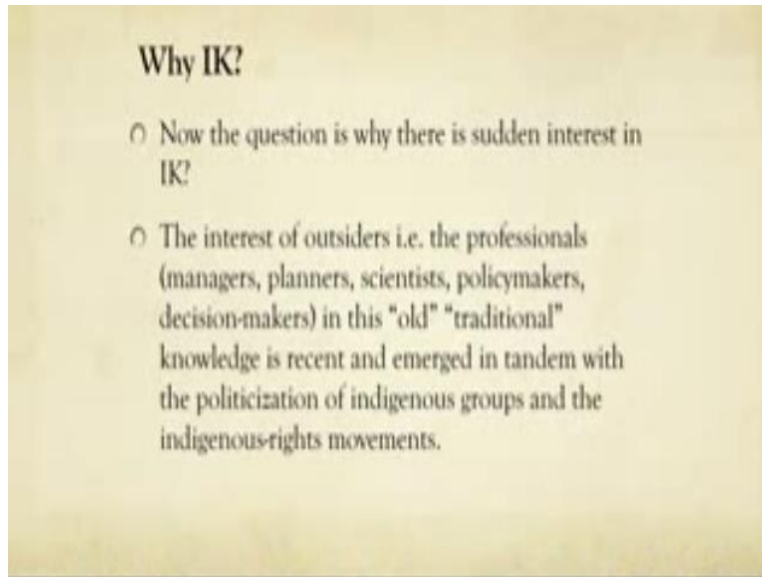


Now the local knowledge in this environmental development discourse also needs to be discussed over here, because this local knowledge system have been this subject of an increasing attention not just confined to them end propagation Posey and Warren says, and development experts. Because local knowledge have been usually portrayed as a part of a romantic past, as a major obstacle to develop.

And because it is not just the live projects or rather the idea of this close connection to ecosystems often times become as a barrier to the development projects. So therefore, this local knowledge which has misrepresented as the romantic past has always been ported as the major obstacle to development which in a way is a punishment for dealing with not the most environmental problems.

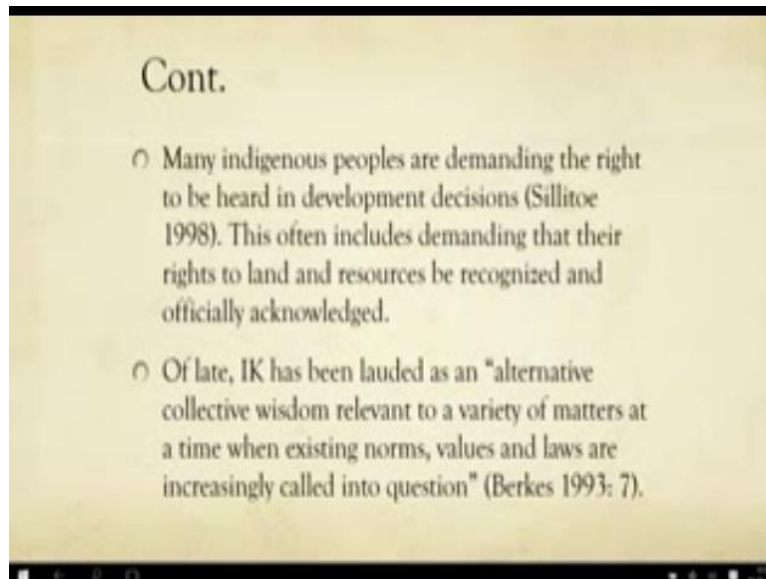
That is according to Posey is local knowledge has been view as practical collectives and strongly rooted in place. So these are partly something which we have already discussed, but as Posey and Warren has try to relocate what non-local knowledge is in the context of the indigenous peoples, and environment development discourse.

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Now the question is my sudden interest in indigenous knowledge, why because the interest of these outsiders that is the professionals that is managers, planners, scientists, policymakers, decision makers, in this so-called old traditional knowledge is reasoned and immersed in tandem with the politicization of individuals groups, and the indigenous rights movement.

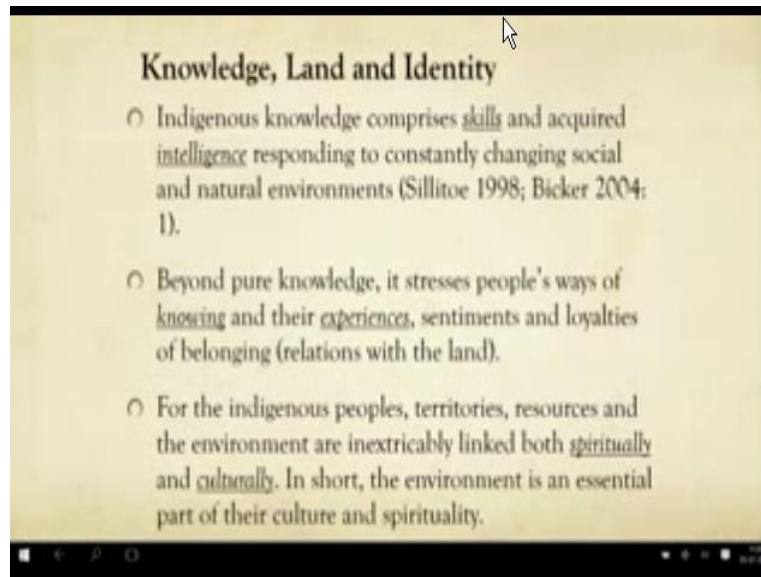
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Now similarly therefore, there is this idea of how knowledge is written and immersed in tendon with the politicization of in the recent decades, many indigenous peoples are today demanding the right to be heard in the development decisions and this often includes demanding their life's to land and resources be recognized and officially acknowledged. And of late indigenous knowledge has been lauded as an alternative collective wisdom relevant to a variety of matters at a time when the existing norms, values and laws are increasingly called into question.

Now therefore, there is an increasing realization that IK which in a way is perhaps seen to be an alternative.

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As a result of the kind of problems which we are encountering that is the environment of political crisis which we are facing. Now as we had also discussed partly how in indigenous knowledge is embedded or the live project which are pretty much embedded in learn and identity. Now how then is this indigenous people pretty much the knowledge being closely related with land and identity.

Because indigenous knowledge comprises the skills and a cure intelligence which is responding to the constantly changing social and natural environments. Now the skills and intelligence in a way also has evolved as a result of the natural environments. So the kind of this adaptable or adaptable mechanism is also something which is to be seen in the context of the illness technology.

Because perhaps they are the ones who are facing the brunt of this climate change the most, and they have been like evolving themselves and trying to adopt with a kind of this changing natural environment. So in the process they tends to develop certain skills and intelligence as a result of these changes. Now this beyond pure knowledge it also stretches people's ways of knowing and their experiences, sentiments and loyalties of belonging that is their relationship it land.

So often time the kind of relationships they share with land is seen from the perspective of subsistence or livelihood, rather it goes behind it and their connections with the land is something which is to be valued in terms of their cultural identity and the loyalties of not just defending, but regenerations of the ecosystem as we are talking about.

Now for the indigenous people the territories, resources, and the environment are inextricably linked both spiritually and culturally, this inextricable relationship in terms of the spiritual and culturally inside the environment is an essential part of their culture and spirituality. Now if the question is if the environment happens to also represent the inter linkages of the spiritual and a cultural aspect.

Then the environment becomes sort of a sacred and then something which is seen as not from the perspective of exploitation, but rather from the ideas of protection right. Now the biodiversity is more seen from the angle of this spiritual and the cultural thing. So therefore, the notion of sense of stewardship or being accustomed emerges.

Now how do we understand is in this knowledge in the local context, this context is consider out of this physical facts that is nests in a way talks about the social interactions among people in the surroundings, they perceive as they are old and spiritual belief. And in other words, in this knowledge is a human life experience in a particular social culture setting of the survival of a community.

For example indigenous people have for centuries maintained a very unique relationship with an environment that it in terms of protection of the environment essential for their food sovereignty and food security. Now therefore, from the Western modernist perspective many of these indigenous people's are seem to be living below poverty or maybe they are leading that sort of not sufficient enough to have their eatable if not from the accumulation of well so and so forth.

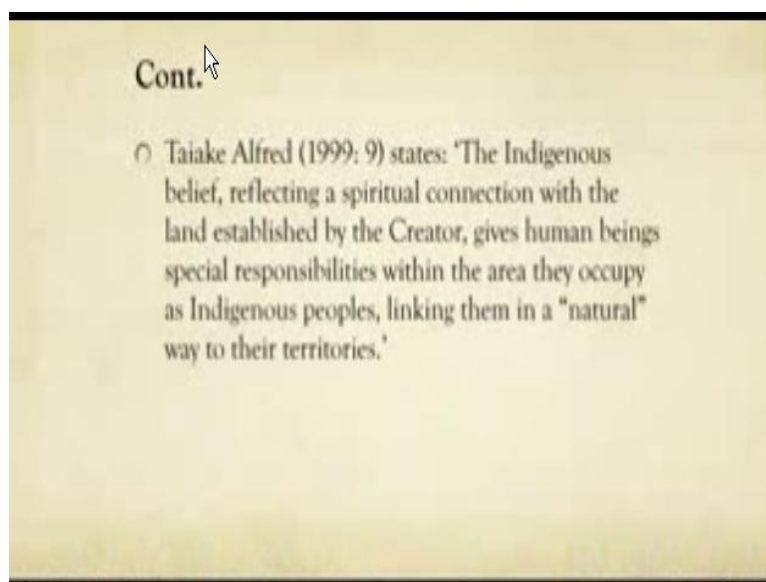
But if you look or observed closely since the indigenous people's economics is mostly guided by subsistence they do not have the arts to accumulate if not and get in storing or and get in cropping system where you have surplus or abundance. They produce things which are adequate

for their family and grabbing in a way guided by this idea of egalitarianism. So therefore, this idea of accumulation of well so and so forth, is rather something which is not foreign parcels of the economic knowledge.

So therefore, as long as they protect the environment the sovereignty of the food is pretty much being secured and they need not worry about other things. So therefore, this the Western notions of knowledge or economics is something which is different in the context of the indigenous people. Now one kind of relationship between this knowledge and land, as we said knowledge is inseparable from the land according to the study of regular debtskey the timeline is not restricted to the physical environment on day.

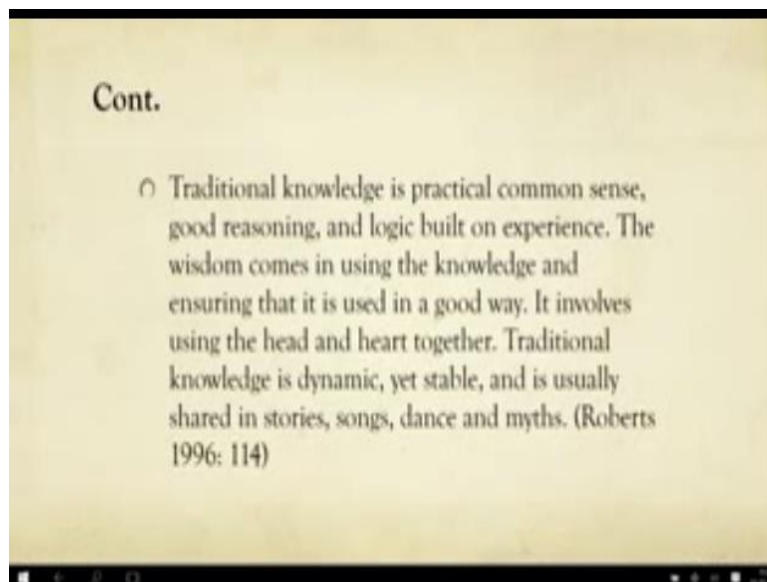
It has a much more though their meaning used by the indigenous people to refer to the physical, biological and spiritual environment which is fused together. And the closest time to fit equivalent of the land taken without its spiritual component is the ecosystem. Now therefore, one can look at or locate the kind of relationship which the indigenous people share, not I mean their relationship with the land. And then how this knowledge is being premised in that particular environment.

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Now Alfred also states that the indigenous belief, usually which is reflecting our spiritual connection with the land established by the creator, gives human beings special responsibilities within the area and they occupy as indigenous peoples, linking them in a natural way to their territories. So therefore, the sort of spiritual connection is being seen even in the works of Alfred, where in how these beliefs are being reflected in terms of their spiritual connections between the two.

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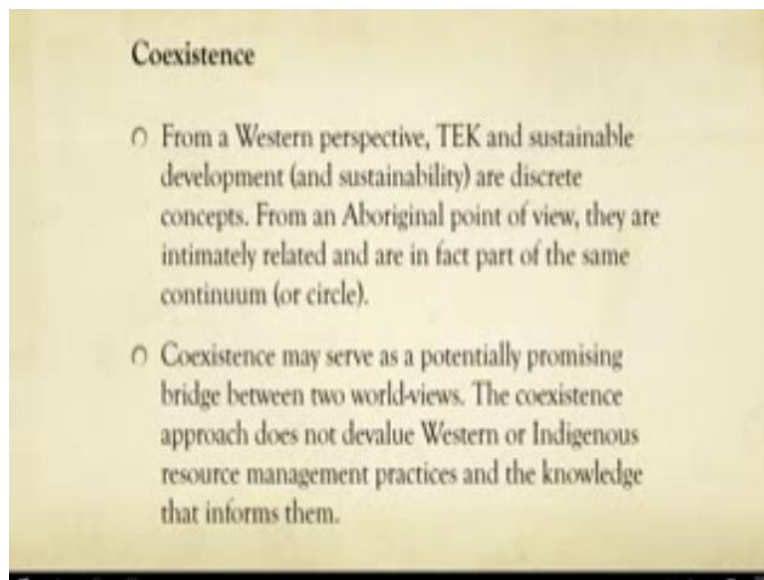
Now traditional knowledge against is more as based on the practical combination with reasoning and logic which are built on experience and which we have already seen in the brief explanation which given by a Levy Roberts works on rifled on the scientist. The wisdom usually comes in using knowledge and ensuring that it is used in a good way.

So knowledge or wisdom is something not used to harm the other beings, so rather it has to be used in a good way that is for the prosperity or if not the maintaining some certain kind of a balance. So it involves using the head and the heart together, so most often times the idea of using arms is to across violence or rather than being used as a defense. So humans have the tendency of using arms in a more offensive way rather than in a more defensive way.

So therefore, we are often times being guided by the head that is that the psyche of dominations if not harming others, and then not by eating both the head and the heart. The heart in a way is pretty much related with the deep connections with fears between not just between human and humans, but also the humans and non humans of being caring, nurturing, being emotional that sort of bonding in a way is being created.

So therefore, traditional knowledge is not simply a common sense based on good reasoning and logic build on experience. But it also strongly talks about the idea of leading the head and the heart together. Now therefore, this traditional knowledge is dynamic yet stable and is usually shared in stories, songs, dance and myths.

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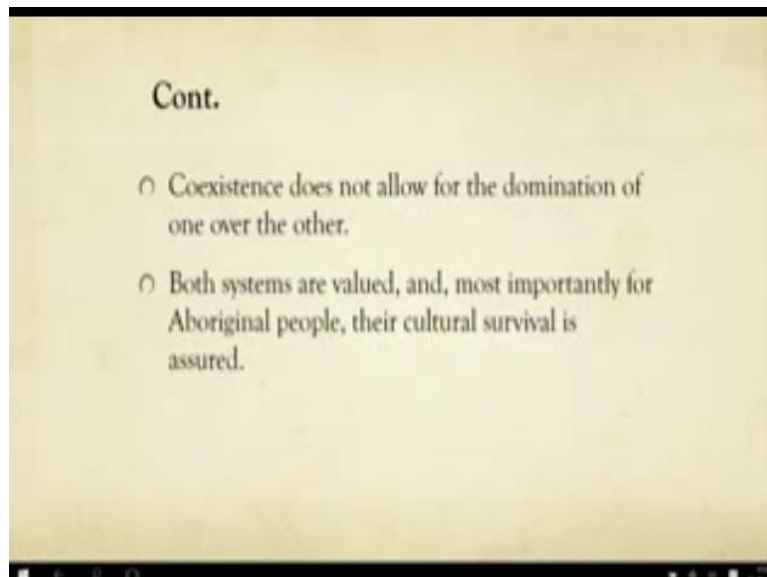


So this is what robots has in a way tries to talk about in the traditional ecological knowledge. Now why is this coexistence again important, as we were talking about the differences between the TEK and wisdom science from OST science perspective this traditional ecological knowledge and sustainable development or sustainability are discrete concepts.

Whereas from an Aboriginal or the indigenous peoples perspective they are intimately related and are in fact part of the same continuum or server. So in a way it is not something which is thin as a linear concept, but those are seen to be circle and then with the cyclical. So there is a chain of connections which exist between them.

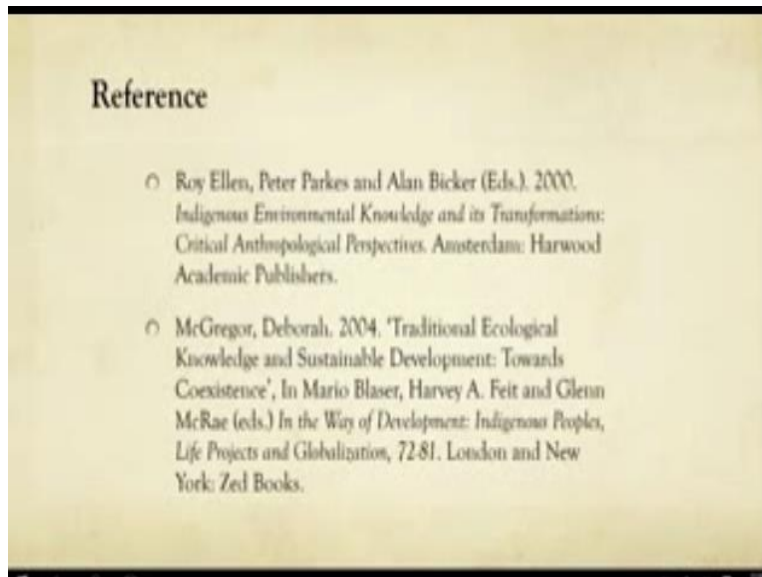
Now coexistence in a way may serve potentially promising bridge between the two world views that is the coexistence occurs, does not devalue Western or indigenous resource managers practices and the knowledge that informs them.

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Rather this coexistence between this knowledge and western science are you know to be bring in together that is it can have this idea or the coexistence, because coexistence does not allow for the domination of one over the other. So therefore, will there be a possibility of acquired distance between the western science or indigenous knowledge, because both systems are valued and most importantly for Aboriginal people their cultural survival is assumed.

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Now I have been frankly in sec you know few different teams by trying to club together within the indigenous knowledge and traditional ecological knowledge. What we should understand is how this knowledge system is perceive or to be located in the, so called development discourse. And then how the indigenous people life projects is differently to be seen. And is there any possibility of a coexistence between the two, because coexistence normally talks about there is no binary and then there is no idea of dominance of one over the other.

So there has to be sort of n equals here in terms of this idea of understanding the resources, and I am sure we have also tries to make sense of what indigenous knowledge and traditional ecological knowledge by the work of mainly Levi-Strauss and also others like Deborah Mac Rover and then a Sealand musician and others. So you can have a much more wide understanding by looking at the, by going through this readings and party we have discusses the relationship between this knowledge and natural resource management.

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