

**INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI**

**NPTEL**

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

**Science, Technology and Society**

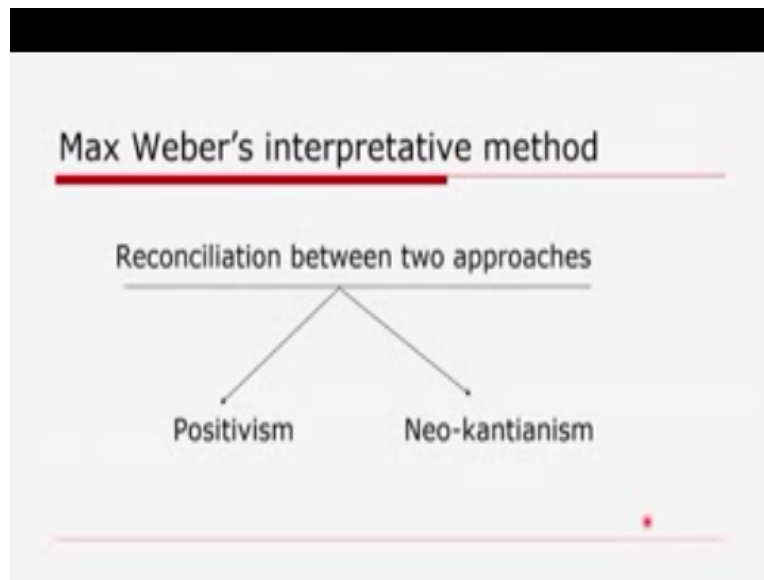
**By**

**Dr. Sambit Mallick**

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

Yes we have already discussed.

(Refer Slide Time: 00:33)



I mean whether the method we were contributed heavily to the development of substantive sociological theory and to the big base of methodology okay, weathers methodological writing are usually characterized as effecting are conciliation between positivism and or rather between positivist and new contain position what is this positivism as we have already discussed we have discussed in the methods of science the very minutes of positivism that the science is distinct from all areas of human activity or creativity because it possesses a method unique to it that there is only one method common to all Sciences irrespective of their subject matter that is methodological managing.

That the method of science is the method of induction that is inductive is that the hallmark of science lies in the fact that all scientific statements are systematically verifiable that is systematic verifiability that must be a dichotomy between fact and value I mean facts do not have facts their value neutral whereas values do not have factual content okay ,we have we have discussed many minutes of positivism and how positivism emerged as an intellectual activity through the through different stages in the law of development of society propounded by Augusta comes that the transition which has taken place in the form of theological stage to metaphysical stage to positivistic or scientific step okay.

And then this is one part I mean supremacy science is over other side other areas of frequency when we come to Newton energy things differ okay contents Act wrote critic to pure reason I mean it was a substantive argument against the cognitive authority of what demarcation between it was a challenge to the demarcation between times and non- sense it was challenging challenges it was a challenge to the autonomy of science to the cognitive authority of okay what you cannot tell what is what Newton reflects on is that our world our knowledge of the world our image of the world is a constructed.

Our knowledge of the world our image of the world each parcel it is relative and perhaps for this reason the way we try to conceptualize the existing world is subject to selection and interpretation that is why fact and value letter now what is your fact may not be fact later on or what is your value may not remain at the level of value after a period of death okay.

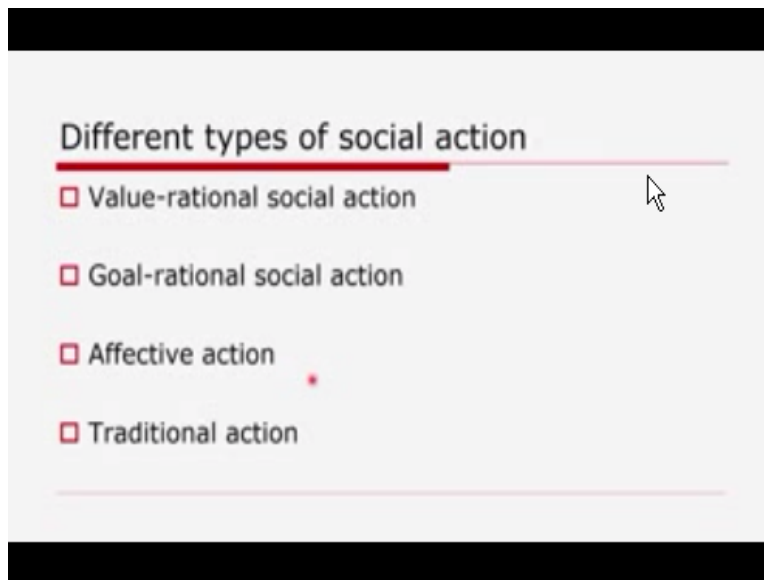
Then if our knowledge of the world if our image of the world a just a constructed one is relatively possible it is not a universal phenomenon which is subject to collection and interpretation from the multi furriers and multi piece a multi faceted data systems that we have okay ,vapor tries to situate his methodological writings within social sciences as expecting a reconciliation between positivism on the one hand and New Kantianism on the earth whoever tries to locate his methodology not simply a just matter of fact the demarcation between science and non science.

But also as a matter of fact how science is limited in its budget how we must go beyond such linear model of okay that is what okay though Weber's positions were not of course entirely consistent throughout his life it is possible to say that in general he rejected the view attributable

to some new content do not record that the cultural sciences are exclusively concerned with the uniqueness of their objects of study and that the category.

Of causality is in applicable in them okay the way positive is try to look at causality explanation attributing of causal effect relationship okay perhaps it is it perhaps it cannot be attributable to cultural factors next what there must be a difference between Natural Sciences and cultural ties look for with wibble was committed to the wide spread neo-Kantian insistence on the methodological peculiarities of the cultural center then for Weber these peculiarities centered around two related concepts.

(Refer Slide Time: 06:43)



Namely value relevance and interpretive understanding one is value relevance and the other interpretive understanding there they should not be treated in isolation they are mutually influenced and any attempt to study them separately would be misleading okay ,as positivist argued that no there is no place of value in science is fact-based okay new content suggests that our knowledge of science our knowledge of the world social world okay in as it is a constructed one it also involves certain values as well as fact and those values and fact they subject to interpreted we came to select certain facts we tend to select certain values okay in what I mean the cultural sciences differ from the natural.

In the distinctive role of valuation in the formation of concepts and in the distinctive type of knowledge involving that is what if Weber's methodological and theoretical writings are a

reconciliation between positively German no contingent then a third area of Weberian methodological or a third area of methodological differences was thought by Weber to be the uses use of idealization in the cultural change okay that is why it is very important to know these that that one is positive is the other neo-Kantian e.g. within New Keynesian we are trying to be such value relevant interpretive understanding of social action and ideologies.

In the okay then Weber's famous definition of interpretive sociology encapsulate most of certain points most of the points like sociology in the sense in which this highly ambiguous word is used herein a science which attempts the interpretive understanding of social action in order thereby to arrive at a causal explanation of its course and effect then first sociology designs in the positivistic schema okay but that must move on move forward okay which attempts the interpretive understanding of social action which attempts the interpretive understanding of social action.

I mean it goes to the new Kantian school of thought what does it aim to do you know it aims to provide a causal explanation of its course and effect that is why when Weber tried to look at sociology okay, first of all sociology is fine which attempts the interpretive understanding of social action in order thereby to arrive at a causal explanation of its course and effects and exposition of Weber's methodological positions can usefully proceed with an analysis of each of the concepts and contrast involved in the definition.

Okay first the concept of social action the characterization of sociology in terms of the understanding and explanation of social action involves two important contrast before getting into this but what is the social Excel that we want to study okay one traditional so select traditional so selection for Weber refers to the habits and customs that we generally are in gardening okay if we look at tradition also selection okay traditional social action includes habits and customs what in your habit a habit is something that a human being has been that an individual has been doing it for a longtime usually a habit is something.

That an individual gets accustomed to okay habits and customs that we see they may have certain meanings but for whether they are unreflective in nature customs if I say ritual practices which may be very unreflective in nature okay, for Weber traditional social action which is very much contingent upon habits and customs okay.

They I mean they are unreflective in nature and hence many things secondly effective or emotive social action if you look at effective social action is based on emotions for Weber if effective so selection is based on emotion then it becomes meaningless it becomes unrestricted in nature then he discussed value resin also select okay, it must have a it must involve certain values which are higher or odd norms okay, they are reflective in nature and hence meaning there it involves meaningful so delicate but the most important social action which Weber described that is gold resin also selection goal-oriented so selection or false forgive so selection or instrumental methylation.

Okay it is read that that this such so selection is oriented towards attaining certain objectives attaining certain goals and so on okay then when we when we discuss this these four types of social actions envisaged by waivers of that the characterization of sociology in terms of the understanding and explanation of social action if I say that explanation is a part of positivistic such process then understanding in part of neo-Kantian okay then the such characterization if I if I say positivism change to arrive at explanation.

A new container Jim tends to arrive at understanding of the selection then if they involve two important contrast first Weber is distinguishing the paradigmatic objects of sociological knowledge for him what I mean what are those paradigmatic objects of sociological knowledge I mean I mean individual social actions they are meanings and causes from the individual social entities namely state institutions classes collective consciousness or whatever whose existence is supposed in much arising.

And also everyday thinking about social realistic weather does not actually deny the existence of such entities but argues that for interoperating sociology they must be treated as so only the resultant and modes of organization of the particular acts of individual persons Weber's position here would now be divided as methodological individualists involving the claim that insofar as collectivities may be said to have characteristics independent of the individuals which make them up those characteristics are to be explained in terms of individual actors.

And that axis okay then what is the methodological if I say methodological individualists position let us let us go one by one I mean one paradigmatic objects of sociological knowledge namely individuals or selections they are meanings and projects what are super individual social entities if individual social actions their meanings and causes they constitute paradigmatic

objects of sociological knowledge then state institutions classes collective consciousness etcetera they constitutes super individual social entities okay and Weber try to mediate the team okay and the way Weber does not actually deny the existence of such entities.

But argues that for interpretive interpretation sociology they must be treated as only the resultant and modes of organization of the particular castoff individual persons whether position here would now be regarded as next logical individualist involving the claim that insofar as collectivities maybe said to have characteristics independent of the individuals which make them up those characteristics are to be explained in terms of individual actors and subsequent access then what is this methodological individualists for you methodological individualism refers to physical positions holding.

That adequate sociological accounts necessarily involve reference to one person I mean individual second their interpretations' mean those individuals interpretations of their circumstances thirdly and the reasons and motives for the for the actions magnetic then methodological individualism refers to politicalpositions holding that adequate sociological accounts must make reference to individual their interpretations of their circumstances.

And the causes and motives for the actions Dietetic Webber says that such action by no means necessarily follows from the sharing of a common class situation okay then water classes common class situation if I if when Webber suggested okay when Webber suggested common classify for suppose for month classes were classes are manifestations of economic differences for Weber class is based on life chances and causal component okay.

And such interpretations involved mean involve or refers to a variety of forms of sociology united by an emphasis on the net sociologists to God or understand or interpret actors meanings such interpreting sociology can legitimately interpret course of action in terms of concepts such as the state classes class consciousness and so on without commitment to any of the entities more over interpretive understanding refers to a method that emphasizes.

On the importance of understanding of intentional human action or purging so selection goal rational social action you can see okay I mean instrumental rationality semantically any account agent interpretation Weber considered understanding to be a method of elucidating the motivations for action which did not balloon to sociologists making generalizations from this

data Weber used the term verstehen to denote understanding the German work okay, I mean whether the way Weber considered understanding or first time to be a method of elucidating the motivations for action which did not produce the sociologists making generalizations from this data in some in to whilst.

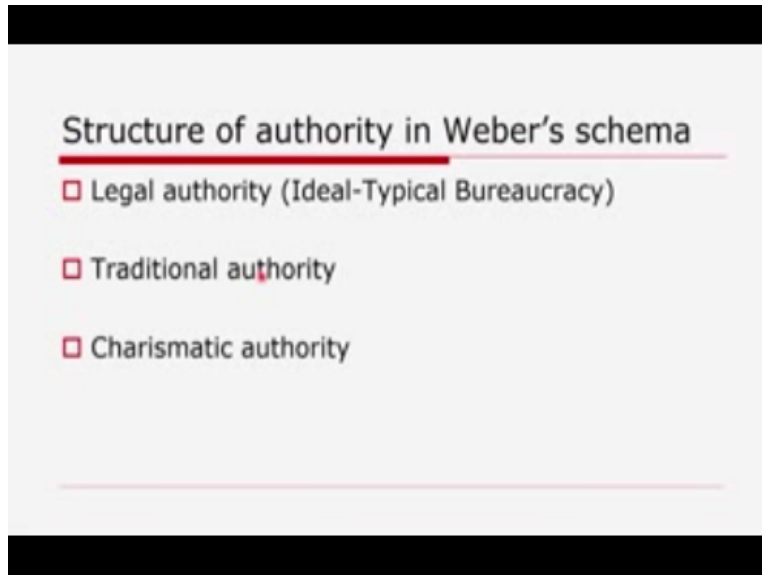
There is a general commitment to empathy and understanding from the actors point of view the research that follows that the research that flows from interpretations so varied has to be difficult to categorize as a school possibly because the meaning of interpretation is itself subject to interpretation for Weber's versatile or understanding is not a method at all but an objective goal death and also if you have to understand it must be an objective or you must have an objective to understand how a social phenomena okay verstehen or a world or understanding verstehen or understanding is not a method at all but an objective or an achievement or a goal it is a distinctive type of knowledge.

Which may be achieved by a variety of methods or by no method at all for Weber the concept of first refers primarily to the spontaneous and immediate recognition of acts and their meanings in everyday life such interpretive understanding of social action if you look at it has two points some interpretation of the textual and linguistic meaning of a cultural product okay, and secondly value interpretation which does not involve evaluation of action or product but involved selective conceptualization of the object in relation to some value be it social value or aesthetic value or cognitive value ok then if I say social value aesthetic value and cognitive value.

Then I am trying to make some selections for Weber collection is based on cultural relevance we have already discussed this value for a sociologist is always an objective study whoever divides interpretive understanding into two parts namely direct understanding or and indirect understand direct understandings alternatively known as observational understanding whereas indirect understanding is alternatively known as explanatory understand direct understanding is based on the interpretive understanding of action.

It involves some method or a strategy that is imaginative identification primarily to be spontaneous and immediate recognition of the act and their meanings in everyday life and this imaginative identification is processed through rule-governed strategy within a third culture it is possible only when both observer and observed fair culture rule governs third culture is based on three things one is relevant secondly acceptability and thirdly led if observer.

And observed do not share culture then observer may give a different meaning or observed should get socialized into the culture that the observer wants to study then if I say rule governed shared culture but what is culture whether defines culture as the totality of real objects to which we attach generally acknowledged values or complexes of many constituted by religion culture in addition consists of all those items produced by human beings for the schema of valuing okay. (Refer Slide Time: 25:05)



(Refer Slide Time: 25:05)



## Merton's structural-functional model

- Functions: observed consequences which make for the adoption or adjustment of a given system (for **positive** consequences)
- Dysfunction: — || — one social fact can have **negative** consequences for another social fact
- Nonfunctions: consequences that are **irrelevant** to the system under consideration

If you look at such interpretive understanding of social action these are these culture because we do not interpret a particular phenomenon independent of our cultural pattern okay, culture is very important when we make interpretation that is like understanding comprises imaginative identification that we have already discussed that imaginative identification pride in is primarily spontaneous and immediate recognition of the acts and their meanings in everyday life okay such imaginative identification is a useful tool but it is not an essential condition for meaningful social action.

And recognition of the rational connection between means and end okay such index or explanatory understanding of social action involved to explain is one explanation must be adequate at the level of meaning secondly explanation must be adequate at the level of statistical generalization generally if I say explanation must be adequate at the level of meaning okay then it follows from the new content school of thought if I say explanation must be adequate at the level of statistical generalization then it flows from the positivistic school okay that is why much I mean Weber said indirect or explained to the understanding.

Involves two things one explanation must be adequate at the level of meaning secondly explanation must be adequate at the level of statistical generalize okay then see to what extent explanation must be adequate such adequacy is based on generalizations and generalizations are based on experience there is probability that a particular action always occurs in the same way if motives are the antecedent then so selection will be the consequence Weber defines motives as a

complex subjective meaning not objective motives are all motives are always subjective because your motive may be different from my motives right okay motives are always subject Weber defines motive as a complex of meaning.

Which tinge to the actors herself or himself or to the observer as an adequate ground for the conduct in question multiple motives can lead to similar or same kind of social action infact that are obviously today if we look at there are there are many models of explanations suppose earlier that kind said mono causal model that is simply called single effect model but for Weber it is the multiple causes single effect model okay.

But now we seeing the 21st century that it is always about multiple causes multiple effects model okay but for Weber it was always multiple causes single effects model I mean multiple motives can lead to a similar or same kind of social action I mean the however the central dimensions of Weber are that economic religion I mean economic religious and power relations or crucial sociological explanation Weber made three types of economic phenomena economic phenomena it is very important in methodology when we methodology in social sciences now to discuss Weber.

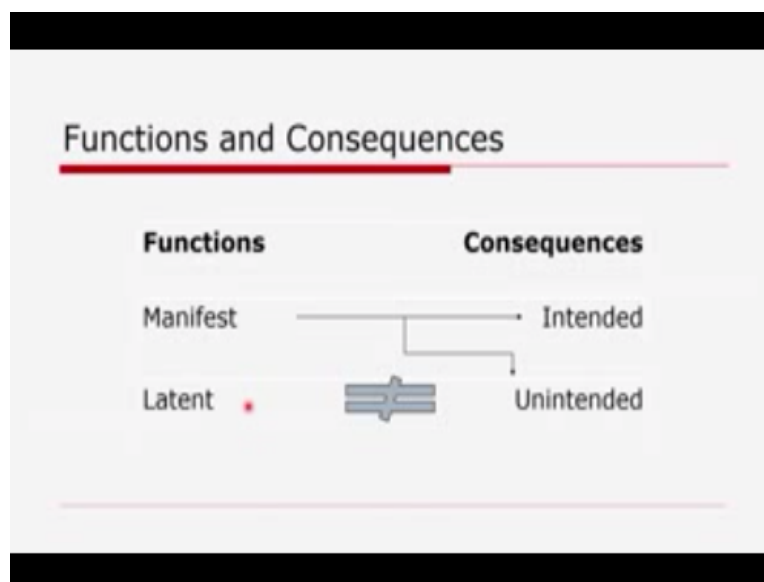
I mean economic religious and power relations are crucial sociological explanations when we say he made three types of economic phenomena mean one means economic phenomena second-rate in economically reviled phenomena and thirdly economically conditioned phenomena if I say is when whoever said economic phenomena I mean he referred to institutions now deliberately created and used for economic gain suppose market economically relevant phenomenon I mean those legal and religious phenomenon which are not primarily economic but has consequences which are economic in nature in certain circumstances economically conditioned phenomena.

When we say I mean these are stratification and the state are not directly in the economic phenomena but they are affected in some way by economic phenomena I mean the state also is directed by the market directed by various certificate Tory system left I for Weber economy and religion cannot be separated in our day to day life and so for this he was not referring to such relationship independent of the structure of quality economy and culture okay and the kind of authority that we have the structure of authority invalid in that is the traditional Authority

rational-legal authority and charismatic Authority okay he was trying to look at the structure of bureaucracy to examine the structure of authority.

Okay traditional Authority when Weber referred to all religious institutions but when he referred to a rational-legal authority she was referring to the state okay the kind of present-day bureaucracy that we have any charismatic authority that he was referring to may be authority you knowing fact Robert Baer state now alternatively use that our leadership in the place of charismatic Authority lectern if you look at charismatic authority maybe Gandhi maybe Mandela Nelson Mandela and so on but Martin Luther King Meany but the kind of rational-legal authority which is operational it is a it is an ideal typical bureaucratic set up okay let Weber was referring to if we if we look at Merton's structure I mean from this what follows Martin structural functional model okay, then Myrtle structural functional model.

(Refer Slide Time: 32:15)



And then we will discuss the kind of manifest and latent functions that that is which are very much seen in the context of Myrtle let functions are observed consequences which make for the adaption or adjustments of a given system for positive consequences well Merton was referring to dysfunction okay, one social fact can have negative consequences for another social fact when Martin was trying to refer to non-functions.

I mean he was trying to refer to consequences that are irrelevant to the system under consideration okay then Martin Ian structural functional model okay involves three types one is function second dysfunction third non formal functions are those observed consequences which make for the adapt still nor adjustments of a given system or positive consequences dysfunction that is one social fact which can have negative consequences for another social fact and non constant refers to the consequences which are irrelevant to the system under consideration that is why when we look at the kind of functions and consequences okay now for merchants or I mean Martin always referred to many such functions.

And latent functions manifest functions are those where we see both subjective dispositions and objective consequences coincide whereas in the context of latent functions of subjective dispositions and objective consequences do not coincide okay in the context of Hopi Tribe we Martin looked at this in the context of many culturally mediated symbols we can discuss these things then what have we discussed so far we have discussed among the metal factor in science.

(Refer Slide Time: 34:39)

**In the realm of intellectual property of science,  
illegitimate expropriation of the property accounts  
for:**

- **Scientists can use other's work and need not to acknowledge that work as it is communally accessible**
- Scientists cannot use other's work if they are not acknowledging that work even it is communally accessible
- Scientists can use other's work and need to acknowledge that work irrespective of its open accessibility
- None of the above account for illegitimate expropriation

And in this part of inequalities in science then Weber in interpretive method okay different types of social accent structure of authority in a variant schema which influenced structure of latent structural functional model okay and the and he also must Martin reflected on manifesting latent functions in Everett okay button also discuss the theories of middle-range and so on but this is not a part of this course structure it is important to understand manifest and latent functions of Merton in a specific culture.

Cultural context in specific cultural circumstances of things okay and then from here onward if we say that the kind of instrumental rationality okay the kind of value rational social accent the kind of authority that we have okay in terms of rational-legal authority traditional Authority or charismatic Authority or the kind of social action non-structural functional model that we have functions this concerns non functions and then in terms of manifest and latent functions I mean in manifest functions we have intended or anticipated consequences of social action in Latin sources we have only intended or unanticipated so the consequences of social okay, from here onward what kind of intended and unintended consequences of social action that we have so far as the relationship between technology and politics is concerned this is very important.

**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

Swapan Debnath