

Sociology of Science
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Lecture - 01
Sociology: Anthony Giddens- Part I

Dear students, today is the first lecture of this course on science technology and society since the course involves 3 important components science, technology and society. We need to spend some time trying to understand each of these components. Society to understand what is society you need to understand what is sociology. As such this is a science technology society or otherwise known as sociology of science is a sub branch of sociology, since many of you may not be familiar with the basic idea of what is sociology, I in this lecture intend to begin by explaining the basics of sociology what is sociology what is sociological perspective how do we make sense of the social world that we live in. I will try to explain all these things very briefly in couple of lectures then we will move on to different dimensions of relationship of science technology and society.

Now, when we think of a subject like sociology the first thing that comes to our mind is study of society study of human social relationships, but society human social relationships the, but broader abstract ideas. We cannot see society we cannot see social relationships, but we can always see the concrete manifestation of this society in in different parts of our life in different domains of our life. For instance, we can take classroom as an example because we are this is a course with online lectures, but there can also be a sociological analysis of a virtual classroom.

So, let us take an example of any classroom and see how we can apply sociology to it. Now if you look at a classroom every classroom has a designated space the students come to the class at a particular time as per the schedule the teacher come to the class and teach there some chairs tables there is a blackboard there is a projector. So, all these things that in any this is a physical structure of a classroom, right?

Now, let us look at how people from different discipline would approach the classroom from their disciplinary perspective. So, if you look at if you take the example of a photographer. A photographer would be interested in the classroom in what sense, the photographer would be interested in the arrangement of light and shadow right photographer would be interested in

looking at how colourful the clothes the students are wearing would be interested in looking at the different poses assumed by us when you are listening to the lecture by the professor that would be of interest of photographer in the classroom.

Now, if you look at an architect, how would an architect understand the same classroom an architect would look at the classroom in terms of spatial dimensions, space the notion of space is crucial to an architect's understanding of a classroom, look at how the what is the arrangement of desk in relation to the entire space of the classroom the design of the classroom. The very positioning of different objects in the classroom whether it serves the purpose of a classroom or not that would be an interest of an architect let us take an example of a physician a doctor what would be his or her interest. A doctor or a physician would be interested in in your physical health your physical wellbeing in the physical wellbeing of the students of the classroom, right?

What would be the interest of a psychiatrist a mental doctor. The same classroom the perspective changes what they want to study what they look at what they intend to examine this changes from discipline to discipline a mental doctor or a psychiatrist would be interested in your mental health would not be interested in your physical health as much right? A psychologist a psychologist would be interested in knowing the interest level of the students in the classroom, how interested they are listening to the lecture, what is the ability to observe the content of the lecture amongst the students. What is the retentive capacity of the students how much they can retain what has been taught what is the memory, what is the motivation of the students to sit through the class the leadership quality is shown by the students in the classroom stress level. All these things will be of matter of will be of interest to a psychologist

But the psychologist will be interested in the things that I just mentioned like memory perception retentive capacity the common cognitive ability of the students, mental development of the students, of each individual students, but a sociologist looking at the classroom would arrive at 3 observations they are.

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So, if you look at the blackboard. As I told you the sociologists would come up with 3 observations as soon as they enter a classroom they are the Power relationship, the Rules of conduct, the Class characteristics.

Now, what is this power relationship. Every in every classroom there is a power relationship that exists. A power relationship that exists between the teachers and the students, right? And who holds the power in a classroom the teachers. So, it is teacher who has more power than the students in the classroom. Now this power is not illegitimate this is legal power this is legitimate power this is authority. So, legitimate power is authority technically speaking in sociology. When we define authority we define authority as legitimate power how the teacher has legitimate power? The teacher has been given this power bestowed with this power from the institute from the organization from the college from the school wherever the teacher is located to exercise his or her power.

Now, how do the teacher exercise his or her power in the classroom? It is by deciding what is to be taught in the classroom it is a teacher who decides what is to be taught in the classroom not the students. It is a teacher who decides how to teach, teach the subject matter students do not decide that. It is a teacher who is going to evaluate the ability of the students and the classroom regarding if the particular subjects that have been taught it is a teacher who is going to our the final grade is the teacher who is going to our marks to the students the ultimate source of power in any classroom right?

So, it is teacher who decides who is going to speak and when it is a teacher would tells the student to leave the classroom if the student is found disturbing other students or the class in itself right? So, the teacher exercises this power through various means through different ways now is this power absolute this power is not absolute. Teacher does not enjoy absolute power in the classroom the teacher can always be learned can always removed if there is complaints among the students. If the students complain to the headmaster how the headmistress or the principal or the director of the institute of the dinaacademic affairs that that this particular faculty this particular professor or the teacher is not teaching properly, this is not discussing relevant things in the class is being very rude to the students the teacher is misbehaving either with the students and if such complaints are taken into account will be taken cognizance of then probably the teacher would be want or be removed or be told to give an explanation. So, in that way the power of the teacher would also be the chances the power would be curtailed reduced.

But overall if you look at the power relationship in a classroom it is teacher who is powerful and there are different ways in which the teacher exercises this power. Now is it true of any one classroom it is not true of any one classroom it is this power relationship is to be found in

every classroom wherever there is a classroom there will be power relationship, and the power relationship would invariably tilted in favour of the teacher. Whether it is DPS Delhi, whether it is DPS Roorkee, whether it is learner college madras, whether it is Hispania college Hyderabad or it is in a science it is college Delhi or the Stanford university or IIT Roorkee or Cambridge university any school any college any university wherever; whether in India or outside India wherever there is a classroom you will find a power relationship and that power relationship would be in favour of the teacher.

So, from this example of classroom from the first observation we establish the fact that sociologists are interested in generalization. Second the rules of conduct there are certain rules of conduct that are followed in any classroom every classroom; that students would come to the class on time not only the students, but also the teacher would come to the class on time. The class will there will be no disturbance done by the students in the classroom students are supposed to listen to the lecture quietly make notes not make me sense they are not supposed to open their mobile phones and start talking on the phone or start sending SMS. These are the rules of conduct unwritten rules implicit rules that are followed in any classroom. The teacher is supposed to talk about the matters which are relevant to the class to the subject rather than something different all these things are not explicitly told to the students. These are unwritten rules which the students are expected to follow.

Now, this rules of conduct is not confined to any particular classroom as I told you in the case of power relationship where ever there is a classroom you will find certain rules of conduct and this rules of conduct is not specific to any particular classroom or any particular student. The power relationship that exists between the teacher and the student is not the specific property of the teacher and the students wherever there is a classroom there will be a power relationship. If I as a teacher has certain power in the class the next teacher who comes into the class will have the same power over the students.

So, students who attend a class will be subject to power from a particular teacher and also be subject to power when another teacher comes in. So, what I am getting it is the concept of role and status, I am right now occupying the position of a teacher hence I am supposed to act behave like a teacher need to conduct myself as a teacher, that is my role I am right my status is my relative position that is the position of the teacher. Why I use the word relative? That is because at home I am father to my daughter, I am husband to my wife, at sports ground I am team members to my other team members of the cricket team, at office I am colleague.

So, my position changes in different social context and since my position changes my role also changes how I am supposed to act, in office situation is different from how I am supposed to act in home environment right. So, coming back to this example of classroom the teacher whoever comes in my position will have the same power on whoever that replaces the set of students were attending the class, right? So, and this is not a specific property of any particular individual this is a property of the entire group rules of conduct is to be followed by the entire class which includes the teacher as well as the students. Now let us look at the third example class characteristics every class has certain characteristics of its own. It takes place at a designated place it has a certain class size because certain class strengths now all these class characteristics are the students who attend the class have something common amongst them. They may be in a second-year students of Hyderabad university sociology department. They can be the third-year b tech students of IIT Roorkee at lecture hall complex room number 004.

So, these things are common characteristics this class characteristics is common to all the individuals all the students in the classroom the sociologists are interested in common characteristics, group characteristics the trait that appears from the group the trait that emerges from the group the pattern that emerges from the group, we are not interested in individual students, we are interested in common property of the classroom the group property of the classroom the group features which would be found more or less everywhere. In case of example of classroom if we say there is a power relationship we can expect power relationship anywhere in the world irrespective of time and space in past present future, and this is a group pattern these observations about power relationship about rules of conduct or class characteristics these are group patterns. Regularities regularly occurring patterns we can always expect such characteristics to emerge wherever there is a classroom in past present or future right?

So, regularly occurring patterns these patterns would be observed wherever there is a classroom and these patterns. A group patterns of the group as a whole the characteristics are not specific to any particular individual the student in the classroom hence from this example.

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So, from this example of classroom we can establish a fact that sociology is the study of recurrent group patterns, regularly occurring group patterns. Groups can be of any type in

society there can be so many parameters of groups. Class that is the income as a parameter for group upper class middle class lower class or caste in Indian society caste as a parameter of group your religion your languages the linguistic groups there can be regional groups region as a characteristics, that can be ethnicity there can be engineering students of the entire country or all the engineering students, of IITs all the doctors in the country all the doctors who are working in AIMS all the IIPs officers.

So, the group characteristics this group parameter can just vary there can be innumerable possibilities of group formation. Hence, the task of sociologists is that much challenging and bigger to study the group patterns recurring group patterns. So, this is the first example through which I try to explain that sociology is the study of recurring group patterns. Let us take some more examples to understand different aspects of studying sociology.

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Now, let us take the example of suicide. Suicide is supposed to be a solitary act committed by a frustrated depressed individual when nobody is around.

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Then where is sociology in it where is society. It is the first time the study was a study of suicide was done by Emile Durkheim the first professor of sociology. He studied suicide as a social fact for the first time somebody suggested that suicide is not linked to mental illness or suicide is not linked to heredity it is not the result of genetic characteristics. If that were the case Emile Durkheim the French sociologist and academic first academy professor of sociology he said if it argue that suicide is a consequence of heredity. Then suicide rates why the suicide rates are changing from one period to another period in different periods of history there is different rates of suicide. If it is a result of mental illness then both men and women would be committing nearly same rate of suicide.

But the studies is European studies of that time that is late 19th century. It established the fact that men were committing more suicide than women. So, definitely mental illness is not the reason because in Europe of that era most of the women who were in the mental hospital most of the women were in the mental hospital compared to men. So, if that were the case then more women would have been committing suicide, but the study European statistics on existing statistics on suicide suggested that his men were committing more suicide hence he

rejected these theories of mental illness or genetic characteristics, what he did? He looked at he tried to come up with some group patterns and he found 3 important group patterns regarding suicide rate and they are.

Now, if you look at this he came up with 3 distinct group patterns that the single and divorced commit most suicide than the married. The old people come at most aside than the young people. The protestants commit more suicide than Catholics. Now how do we connect all these 3 group patterns and come up with certain uniform law of suicide, can we establish a interrelationship between all these 3 patterns? Durkheim said yes, we can and he said that the all these 3 patterns can be connected can be linked through a common factor that is absence of meaningful social relationship. That is lack of social bonding. It is society which plays on the minds of the individuals when they commit this act solitary act. It is social forces which determine individual behaviour which is the case.

In this example one can understand why a single and divorce would commit more suicide than the young people. The social relationship that is available to them is limited there is social detachment in case of single and divorced. Same is the case with the old people the old people are a detached lot after years of work after retirement they society automatically side lines them. The regular they are not in regular touch with other human beings the children may or may not be in regular touch with them may or may not be staying with them and to act wait they have this feeling of loneliness they have to grapple with health issues they have to grapple with financial constraints all these things can make them lonely, absence of meaningful social they may or may not live with their spouses the spouses may be dead or if they are alive only the husband and wife old couple must be staying alone without children.

So, all these things can be explained through this common factor that is absence of meaningful social relationship or social detachment, but what about the protestants why would they commit most aside in the Catholics, what is how can we bring in this explanation of social detachment in case of protestants, Emile Durkheim says yes we can protestant Protestantism emphasizes upon individual pursuit of god one can reach out to god in his or her home the person does not have to come to the church unlike the Catholics we have to attend the Sunday mass. Catholic religious rituals are much more elaborate that involves the entire group all the other Catholics in the town and the city or in the village they will have to be together when they perform this religious rituals.

But because of the fact that Protestantism emphasizes upon individualism that that regular social interaction is missing in the case of Protestantism. So, that can be one of the reasons. If you pray to god at home you do not come to the church you do not meet people on a regular basis. So, according to Durkheim that can be a reason. The lack of regular social interaction can drive them to loneliness or depression. So, whenever they are depressed they are not around people who would give them suggestion who would counsel them hence that that can lead to further desperation and they may commit suicide, hence is the first time somebody established a sociological reasoning for seemingly psychological act that is committing of suicide.

So, that is another example in which sociology can explain a factor like suicide now if you look at a examples around us. Now in fact, it was been found that that is a late 19th century study in the book on suicide Durkheim came out in 1897. The suicide a love suicide. Now there is some mountain states in US, Alaska and Nevada, Wyoming all the states have very low density of population and this states report more suicides than rest of states of united states. Though sociologists can always explain this by the fact that since there are very less number of people in the mountains where 7 or 8 months of the year you cannot venture out you are mostly confined to your home there are very few people who get to interact with the climate is a very harsh, which stops you from regular social interaction there very few people as such in that region that made me the reason why which drives people to commit suicide.

So, it is a sociological factors such as social relationship or absence of that can have a determining influence on individual behaviour this is how sociologists would argue, right? Now another example that I would give here is that of love marriages now this example given by Anthony Giddens. Anthony Giddens who was considered as one of the top 3 sociologist living sociologist in the world who was a former political adviser to the Tony Blair government and also the former director of the London school of economics he has written a very popular undergraduate book on sociology.

So, this material that I am discussing has drawn from that now there he gives an example of love marriages. We think that love marriages natural it is universal falling in love is a natural universal human experience. So, getting married after in love with somebody is it comes naturally it is a universal phenomenon. That is how we tend to believe Anthony Giddens says it was not natural it was not universal, till the late medieval period love marriages were

conspicuous by their absence it is a typical product of industrial revolution. It is a social construct which is only 200 years old or 300 years old.

Now, this is very significant how can you bring in sociological reasoning to explain why love marriages have grown in number in the last 200 300 years. In the span of human history, it was conspicuous by his absence or absolutely no reporting of love marriages only in literature and sent in medieval literature you would find mention of love marriages he would say not in actuality. The reason how I love marriages became universal or common after the industrial revolution financial independence of men and women. Industrial revolution brought human beings individuals from villages to the factory towns. So, they were free from the constraints of the parents, the societal norms, societal rules the religious beliefs.

So, they could decide whom they want to get married this it became their choice. They became financially independent because they were not rooted to their ancestral occupation in the village or in the countryside. They could take up employment of their choice they could be dip independent of their family profession they could earn on their own they could leave on their own they did not have to stay with their parents or the village or the countryside where they were staying.

So, and to add to it the changes in legislation one of the important laws that came into being in Europe is for instance the age of majority. Now once you reach a certain age you can take your own decision regarding not only whom to marry, but what job to take off where to stay this is completely your decision. Independence granted to women which empowered them women could also take up jobs on their own they could be financially independent. Like they could legislation helped them to take their own decisions for all these factors organization moving from the village and countryside to the cities. In terms in search of employment a legislation financial independent of all these things can be explained as possible reasons why love marriages have grown substantially in the last 200 or 300 years. I will giving a more examples in the next lecture regarding sociology to explain what is sociology and how sociological approach tries to understand in the social world around us. We will stop here in the next lecture I will continue the discussion.

Thank you.