

Social Behavior and the Brain: An Introduction to Social Neuroscience

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Week - 05

Lecture – 25

Hello and welcome to the course social behavior in the brain and introduction to social neuroscience I am doctor Ark Varma from the department of cognitive science at iit kanpur this is the final lecture of week five where we are trying to understand social outgroups however in this lecture i will take you to a slightly different side we have seen so far that we perceive out groups in a particular way there is a very you know well defined in group bias that we carry, we treat the members of our in group and these in groups can be based on anything for example, share gender or any other source of identity. So, we favor members of our in group and we do not favor or sometimes actively discriminate against members of a given out group. We talked about an extreme kind of out group as well the dehumanized you know group and we talked about that it is interesting that not only cognitively or mentally, but even neurally the dehumanized target groups are actually treated very differently than you know the members of the in group or other kinds of social out groups. Now when this kind of an extreme prejudice comes up and when this kind of an extreme prejudice you know comes into play it arises out of disgust or is it arises out of you know any number of you know semantic information, past experiences, oral evaluation and so on, if that happens then you most certainly need to evaluate you know and regulate your own behavior. We have talked about this in the past as well when we were looking at Amodeo studies, when you are looking at controlled and automatic processing of prejudice, we have said this that you know nobody really wants to be for example or wants to be seen as a prejudiced or a discriminatory individual, but that happens. So, in order to you know avoid this people would need to regulate their behavior.

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Organizations Tasks

Lecture 25

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Implicit biases a lot of times are always there you know they they are there and they come to the fore as soon as you start interacting with the member of an out group, but for the most part you will try to regulate that for the most part you will try to suppress that and give the socially more acceptable acceptable form of response. So, in this lecture we are going to talk about both of these aspects we are going to talk about regulation and we are also going to talk in some detail about evaluative processing. What is evaluative processing? Evaluative processing is basically the study of attitudes or the processes by which people determine whether objects in their environment are good or bad, you like them or you do not like them, they are trustworthy or untrustworthy, they are approachable or should be avoided and this has been a central theme in social psychology from the 1950s onwards. So, there is a lot of literature from Allport when he talks about impression formation, when he talks about you know attitudes and so on.

So, it has always been a very pertinent question as to how do we decide about objects and agents in this social world, whether we like them, not like them, we go with them, we do not How do we do it? What are the basis? What are the mechanisms that make us like something or not like something? And what are the mechanisms that tell us that oh if you like something this is how you behave or if you do not like something this is how you behave. Another thing is that researchers have actually you know sought to identify a separate components of evaluation and they have tried to distinguish between different types of attitudes. See it is not only positive or negative attitude that we hold towards you know objects and things in life, there are the attitudes can also be multilayered, they can may be arising from different situations, so they can also be multilayered. for example

karts and stotland have outlined the classical view that cognitive effective and behavioral components can actually be combined in different combinations in varying combinations to create different sorts of attitudes so for example about a lot of things in life we have both approach and avoidance tendencies for a lot of things in life we have extremely avoidance tendencies ah for a lot of other things in life we have extremely high approach tendencies We may like something, but that thing is also say for example, we do not like taking medicine, but the medicine is important for our health. We do not like let us say you know eating healthy, but that is important for health.

So, there are so many of these things. you may not like your teacher, you may not like your you know employer, but you still will have a mixed bunch of emotions, you will have a mixed bunch of reactions towards it. So, what basically these people are saying is that cognitive factors, effective responses and behavioral components whether and how will you act in this situation can be combined in different permutations and combinations to basically create or you know germinate different kinds of attitudes. Also we have talked in some detail about the dual processes isn't it, automatic processes and control processes. So, the dual process approach has you know proposed that there is a distinction between automatic or implicit evaluations and controlled or explicit evaluations of attitude objects.

Now these attitude objects can actually be individuals, groups, objects real I mean your bike, your car, those can be ideologies, those can be political figures, you know sports figures, media personalities, anything. how do you evaluate them, what is the tendency or how does automatic or implicit evaluation take place versus how does controlled or explicit evaluation take place. Just to sort of elaborate this again a little bit, automatic evaluations are rapidly generated, they are unintentional and therefore, they reflect the associational history of an attitude object. So, for example, if you have a certain you know opinion about I do not know capital punishment for example, ok. So, if you are going through an automatic evaluation, if on the spur of the moment somebody has asked you about it, then you will basically you know create a very automatic judgment based on the associational history, what have you heard about capital punishment, what does your knowledge say, what has the notion of capital punishment been linked to.

And, for example, so objects that have been paired in the past with negative connotations or consequences, they generate negative automatic evaluations whether and whenever they are re-encountered. So, for example, capital punishment ogia, you know, homosexuality ogia, any of those kind of things, anything that has a past history of being associated with certain kinds of outcomes, negative outcomes for example, or positive outcomes for example, will lead to automatic evaluations based on these prior or past associations, all right. On the other hand, controlled evaluation is basically something that is happening in the current moment. It is happening right here, it is happening right now, it is more slower, it is more deliberate and it basically takes into account several

things. It takes into account for example, situational goals, takes into account social norms, takes into account novel information that may be contextually present there and you basically are able to construct in this mode contextually flexible evaluations for example, you may you know you may be a very good friend with a particular individual, but you do not like how that individual behaves when you are you know in for example, a classroom.

In a classroom people are competitive, they are sometimes trying to tease each other, they are trying to behave in particular manner, gather attention and so on and so forth. So, students obviously you know they are always competing for attention a lot of times especially in schools. So, while you are very good friends with this individual, you generally like the individual, but you do not like the way the individual behaves in particular context. So, what you are doing is you are being able to you know ponder over all of these things in a slower in a more deliberative manner and that is how you are being able to create what is called a contextually flexible evaluation. Now, this automatic versus control distinction is something that is rather old is been there in the social psychological theory for the longest time and it has obviously generated a lot of interest among social psychologists particularly with respect to the study of prejudice you know do is prejudice something that is that happens automatically and involuntarily or if or does prejudice happen as a result of controlled and deliberative processing.

So, this could partly be and there can be many reasons why people you know in prejudice research are dealing with these kinds of models. It could possibly be because measures of automatic evaluations are thought to provide an index of individuals basic implicit attitudes even in the absence of social desirability concerns. So, what is your first feeling when you see a member of let us say the black race? or the Jew or a member of another religion or another caste or another gender what is the first thing that happens. So, this automatic implicit evaluation that happens seems to be the most the first and the most you know stable impression that you will have even in the absence of any social. So, here you are not thinking oh if I that oh I do not like interacting with let us say people of X group, how will I be seen, how will I be perceived, will I be perceived as a fair or a just individual or will I be perceived as a you know racist or a communal kind of an individual.

Now and again remember I keep repeating this, these studies that we are describing are in the context of North America in the context of whites versus blacks. So, a lot of examples may not make a lot of sense immediately, but it is your job to sort of take that and apply in the current scenario, apply in your immediate society and see how things really work. Now changes for example in North American social norms since several you know the last 100, 200 years have actually now made the explicit expression of prejudicial attitudes largely unacceptable. Now nobody really says oh you know the blacks are just as good as slaves or blatant expressions of dislike for other social groups say for example if a white

American was to say that oh I don't specifically like the Indian immigrants that are sitting that are settling there or I do not like the you know I do not know Mexican you know immigrants or refugees that are there. So, it is it is not considered socially acceptable the society has become relatively more liberalized and people sort of you know do not want to portray themselves as people who are discriminatory and who have these you know prejudiced attitudes towards other groups.

Now again while I was writing this I was thinking that this book has probably been written in around 2011 or so and the social political context of the world is rapidly changing while when this book was written these things were less acceptable relatively less acceptable But, you can see now even though it is still considered incorrect to be racist or prejudice towards other groups or to be communal towards other groups or to be casteist in different situations if you take the example of India, but you will see it is a very interesting phenomena taking place where people are getting more and more comfortable with expressing what their implicit biases are and in that sense it is sort of not as unacceptable or taboo as it was let us say 20 years ago or 10 years ago. Again just a caveat to you know just to try and link it to the current society. On the other hand, so this was about you know implicit attitudes. On the other hand, implicit attitude measures for example, the implicit associations test or the bona fide pipeline or the effect misattribution procedure keep routinely uncovering evidence of negativity towards stigmatized social groups. So, in North America for example, if you go back the social norms have changed to a certain degree that expression of prejudiced prejudicial attitudes is not acceptable anymore.

Yes, people do not go openly say that I am racist or I do not like black people or do not like colored people and so on. However, when you actually put them to test in these implicit attitude measures, these implicit attitude measures keep finding out the, you know, evidence for implicit biases against the different kinds of outgroups, alright. So, this is a very, you know, interesting aspect that has to be looked at. Now, the racial implicit associations test for example, measures the extent to which black faces are preferentially associated with negative stereotypical stimuli relative to the extent to which white faces are preferentially associated with positive stimuli. So, if there is gun violence, if there is drugs case or if there is a violent you know murder or robbery and so on it used to be the tendency that black people would be automatically linked to these kind of crimes and the first and the lay white person would you know immediately come to the conclusion.

So, these are the people who might be involved here you know for example, certain groups are automatically linked to you know religious kind of violence or terrorist violence and so on. So, you automatically assume that oh this is the group that is probably involved in this kind of activity and this happens much more or the conversely what happens is that if a positive thing has happened then this group of people would

have done that. If a positive outcome is there then certainly this group of people might be involved to a certain degree. Now, scores on let us say the racial IIT for example, and other kinds of implicit measures have also been shown to consistently predict subtle and non-verbal types of bias ok. So, there are obviously implicit biases, there are explicit biases, but there are even subtle non-verbal biases which do not sometimes even come up in action.

They suggest that one reason why discrimination still remains a problem despite of the dramatic changes in the social norms in the past obviously is compared to 200 years the social norms are much more liberal, much more accepting now as in all societies I would say. It basically is you know that these implicit biases persist even though explicit expression of biases and prejudicial attitudes is grossly discouraged, but the implicit biases find a way to persist and they are still sort of hanging in there. Interestingly automatic evaluations actually and why are these implicit biases hanging around, why are these implicit biases still affecting the way we are interacting with the world. So, one of the reasons could be that these automatic evaluations or these implicit biases that we may have actually have some kind of survival or evolutionary value. For example, in the organisms which you know if the organisms have the ability to respond rapidly and pre-consciously to stimuli that have been associated with negative outcomes in the past, they will be much more likely to take evasive action, they will be much more likely to maintain their physical integrity in case the environment is dangerous, in case the situation becomes violent or volatile.

So, there is obviously certainly some merit to be holding on to these kind of things although and this is again something that the physiology is basically doing rationally if you if you think then ideally all groups have probably an equal propensity to violence or danger or any of these things that you say the distribution across humanity and these different subgroups might pretty much be the same again just a comment. Now, further neuropsychological research has suggested that perceptual information about a stimulus follows a subcortical route proceeding from the thalamus to the amygdala which on the basis of prior associations generates a motivational inclination to either approach or avoid the stimulus. Basically what we are saying is that there is this you know once the perceptual information is being encoded you know it is happening. you are evaluating that that information goes follows a sub cortical route it goes through the it goes through the thalamus to the amygdala and it is there you sort of get a sense of you know whether you have to be vigilant or not and in that sense whether you want to approach that particular agent or you do not want to approach that particular agent. In response what happens is hypothalamus prepares the body to make rapid physiological response by altering the sympathetic and parasympathetic nervous system activity and basically gives rise to what we know as the flight or fight response.

If you sense danger, if you sense threat and this threat is basically you know something. For example, if I were to take a non-human example as soon as you see the snake you have a basic tendency to run away. You have the basic physiological fear that you are experiencing. It is only later suppose you sort of you know suppose the person that is handling the snake tells you oh you know the poisonous fangs have been removed there is no venom and this snake is I do not know you know somebody some pet kind of snake only then you will be able to probably you know even then be able to interact with that. So, it works in a very similar way with social groups as well if you have a lot of negative information, if you have a lot of baggage about any given social group your first reaction could be to you know to fly it without even taking time to interact and know that group any better.

And remember in previous lectures in this week we have talked about the role of contact and information in reducing or diminishing prejudice and reducing the degree of dehumanization that certain groups may at times you know face from us. Now, despite this advantages of having an automatic system, if an organism is capable only of automatic responses, the organism would be entirely dependent upon the prior association history. The organism will not be able to take new information into account. See just as I was giving you the snake example, a lot of people for example, in different parts of the world are you know adopting these colored boa pythons as pets. So, although there is this evolutionary baggage of that you know you see a snake and you run away, people are adopting snakes as pets as well and it must be taking a lot to overcome the evolutionary tendencies that are present there.

So, new information that oh maybe you know whatever the motivations of those people might be I am certainly not one of them or I will not pretend to understand the reasons why people do that, but the idea is that yes there is some new information that people are you know reacting to and this new information is trying to or is helping them override the implicit automatic evaluation which is coming from the past associational history. So, if an individual only has this automatic response mechanisms then obviously, they will not be able to dynamically interact with the current environment. So, this organism will then become relatively ill-equipped to deal with complex environments and will be unable to plan for future or be any you know flexible at all. So, for humans therefore, conscious reflective processes supported by a well developed prefrontal cortex allows for the construction of what we call more complex evaluations that are responsive to long term goals and social norms both. How do you interact with the person whether you also whether you are inclined to make them your friend, whether you are inclined to join them in some kind of partnership.

Versus what is the social norm, how should you basically behave with members of other out groups. All of these things factor in together and they basically allow you to develop much more robust stable well thought out strategies towards you know meeting with

these other groups or interacting with these other groups. Now, let us talk a little bit about attitudes, evaluations and the iterative processing model that Cunningham and Zelazo has put forward in the year 2007. Now, Packer and colleagues they basically the writers of this chapter have suggested that the automatic and controlled aspects of thought and feeling might not be as strictly dichotomous as has been presented so far. So, they basically say that it is possible that people have in some sense a greater opportunity to process you know a given stimulus when when they are when they are basically have more time for example.

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- 35** Now, Packer and colleagues they basically the writers of this chapter have suggested that the automatic and controlled aspects
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- 32** So, they basically say that it is possible that people have, in some sense, a greater opportunity to process, you know, a given stimulus when they basically have more time, for example.
- 24** Then, a lot of reflective processes will have the time to come online and they will allow for a more complex form of
- 22** the time to come online, and they will allow for a more complex form of evaluation.
- 48** See first glance implicit automatic evaluation happens, but if the picture stays for let us say 2 more seconds, 5
- 47** At first glance, implicit automatic evaluation happens, but if the picture stays for let us say 2 more seconds, 5

Then, a lot of reflective processes will have the time to come online and they will allow for a more complex form of evaluation. See first glance implicit automatic evaluation happens, but if the picture stays for let us say 2 more seconds, 5 more seconds, 15 more seconds, then you have more time to evaluate the picture, then you have more time to sort of form your impression about that picture. So, what will happen in that time? Reflective processes will start kicking in. the reflective processes will basically trigger a more detailed a more elaborate evaluation of the stimuli, all right. So, how do how do how does this really happen? Do we throw away the initial evaluation? Do we generate a new evaluation from scratch? Packer and colleagues say that that is probably not what happens.

What happens is that rather than generating an entirely new evaluation from scratch, the authors suggest that these reflective processes basically start interacting with the already active automatic responses. The responses that were already there they moderate, they

modify those responses and they do it as an iterative process. Let us look at this. The recent iterative processing model by Cunningham and Zelazo proposes that reflective processes reseed the processing stream.

They bring new perspectives to that. They highlight some aspects of information while background some others and in if needed they retrieve additional or new information as well while forming a more stable evaluation of any attitude object. So, what happens is the newly active patterns of representations are then fed into the same automatic system that process the information in the initial stages and this basically helps generate a more nuanced evaluation. So, you see something you have your first impression and then if you have time a lot of times what is happening is this is something that I am sure you should pay attention to is when you are not giving detailed thought when you are not considering when you are not for example, verifying sources when you are not at least you know evaluating whether what is being said is logical or not you will operate by your conditionings you will operate by past associational history and the first judgment will be your main judgment. Remember, the automatic judgments may be wrong, they have obviously a higher tendency to be wrong. For example, nowadays a lot of people just scroll their Instagram reels or they scroll their YouTube shots or other kinds of you know minimal you know short media exposures and they form an impression about something.

Which may be very complex, which may be for example, the issues of immigration, capital punishment, homosexuality all kinds of you know burning a climate change for example, burning issues about the world and what people do is they are basically watching these 10 second or 30 second reels and they are forming their entire impression about these things. What is wrong with this? What is wrong with this is basically the fact that you are not giving yourself time to evaluate and to verify the sources to basically logically analyze the whole argument and then form an impression alright. when there is time, when there is the motivation to put an extra effort, these newly active patterns of representation will modify your initial automatic evaluations and they will generate a more nuanced evaluation, a more nuanced approach to looking at things to looking at the world. Also remember that this evaluation is not just a result of a single process occurring within a single time window or a fixed time window. Some judgments may be approached rapidly, some judgments will remain stable across a larger lifespan whereas others may be continuously altered and updated as new information and new situations are encountered.

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Lecture 25

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00 : 25 : 01 . 414 So, some judgments about some things very frivolous things, so I am in a supermarket I 59

00 : 25 : 14 . 201 want to buy a shirt, I am in an apparel store I want to buy a shirt, I look at that I like it in the first go I buy it if I have enough money and that is the end of things.

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For example, we have seen that impression formation is a very stable phenomena. You form the first impression, you carry it throughout your life, but what also happens probably is that there can be different kinds of decisions whether you like a particular color or not. whether you like a particular food or not, whether you like a particular person or not or a group or not or what are your opinions on topics A, B and C, these are all different questions and they merit different kinds of evaluations for them, all right. So, some judgments about some things very frivolous things, so I am in a supermarket I want to buy a shirt, I am in an apparel store I want to buy a shirt, I look at that I like it in the first go I buy it if I have enough money and that is the end of things. But do I do the same kind of hurried reasoning process with something that has of that is of much more important consequence all right.

So, there can be different kinds of decisions that we take some would be rapid some would basically you know be continuously altered and updated. So, for example, you see the first year then you see the other one oh I like this more than this one oh then I like this more than this one oh in this light this one does not look as bright as I thought it would be. So, some decisions will be continuously altered and they will be updated as new information comes in and in that sense you get a sense of this process being much more nuanced, being much more stable and being as a combination of both automatic and deliberative processing. Also, there is a very interesting take that the authors do they basically try and distinguish different terms the terms for attitude and evaluation lot of people use these terms synonymously the book also probably uses it in some ways. So, they say that the term attitude refers to all pre-existing valence information that a person

may have about a stimulus either from prior learning or because of innate preferences you do not like something you have a bad experience with something you have a you know some background knowledge about something you do not like it so that is your attitude till the point you have interacted with that object once you are interacting with that object what kicks in is evaluation which basically refers to the current state of this evaluative system which is influenced by various aspects number of variables and the aspect also a little bit of the respective attitude.

So, you may start for some things at 0 I have a neutral attitudes towards this object you may start with some things at minus I have a negative attitude towards this object or you may start at positive I have a positive attitude towards this object. So, combination of these attitude and evaluation will actually have you decide how to you know deal with these different kinds of attitude objects. also evaluations reflect the currently determined motivational significance or reward class punishment value of a stimulus. You know how do we evaluate something and the way we evaluate something will decide how we are going to interact with this thing ok. So, the current evaluation of a stimulus is not really reliant solely on just attitude representations ok.

They basically construct evaluations by drawing upon both pre-existing attitudes and then integrating them with new information about the stimulus along with the contextual information and along with your goals. So, the process of evaluation is a multifaceted multivariable process you have your basic information you have your basic a priori attitudes, but you also combine them with contextual information in a given setting and you also combine them with what is the overall goal do you really care about say person x that you want to form a full attitude profile about them or you just are interacting with them very cursory and it does not really matter that much. According to this iterative reprocessing model, these evaluative processes are iterative and the information that they get about a stimulus is continuously fed back through the system. So, there is a loop it seems. With each iteration, the current evaluation can be combined with additional contextual and motivational information to create a new and updated evaluation.

So, it is something that is continuously happening. Also, moving forward as time goes on you have more time you sort of you know can revisit your past attitudes you can revisit your you know and you have more knowledge for example. So, as time goes on and more reflective processes mediated by the prefrontal cortex keep coming online they bring you more information there becomes you know a larger or a greater opportunity for the elaboration on or modulation of earlier evaluation. So, for example, the first impression, then the second impression, third impression, fourth impression, fifth impression, it can and all of these need not be the same. They are each different from each other because each may be you know embedding in itself a newer source of information, newer knowledge of context, newer knowledge of currently your goals.

For example, you know you do not like a person, but that person is put in your team. Now, the first day is obviously the hardest because you absolutely dislike this person, but you have to work with this person collaboratively for the next foreseeable future. Now, the first day obviously it is very difficult, you do not interact, you do not exchange pleasantries or it is just you know random hello and hi. The second day maybe you learn a little bit more about the person, you change your attitude, you change your evaluation, third day, week after that, second week, third week, a month this is how iteratively your evaluations will change and these evaluations basically as a function of more and more you learn about the individual their habits how they are compatible with you or for example, just your goal state oh I really do not want to leave this job and I want to stick with this person to achieve this very big project. So, your goals, your evaluation, the context, how the person is behaving that is giving you new information all the time will all be factored in at different points in time in an iterative and iterative fashion and it will allow us to reprocess the automatic implicit evaluation that we had a priori before interaction with this individual started, alright.

So, this is how the process of forming evaluations becomes rather iterative. Now, since the distinction between relatively automatic and controlled evaluations can be conceptualized as reflecting different points on an iterative continuum again as I said first impression, second impression, third impression and so on. So, this is a continuum here is the shallow end of the continuum whereas, here is the deepest end of this continuum you reach there after any number of iterations. Interestingly, automatic evaluations you know typically arise after relatively fewer iterations obviously in the beginning and are thus on average more dependent upon highly accessible attitude representations things that are floating around in the environment your traditional baggage, cultural baggage, media reports all of those kind of things. Whereas, controlled evaluations arise after additional iterations you know after may be 500 more iterations or what and they reflect the integration of different kinds of attitudes with different kinds of contextual information and goal states which might be changing.

You know first few days you do not care about the person, but then it is made contingent upon both of you by the boss that you know you have to do this together and I will give you also marks on the basis of how well you have collaborated in this project knowing that you do not have you know a very good relationship with each other. So, all of these things again remember social cognition, the power of situation all of these are multifaceted rather heavy you know concepts and the idea here is that all of these things take a large number of sources of information and all of them need to be resolved together at the same time to come across any of these evaluations. So, this is the iterative processing reprocessing model that Cunningham and Zelazo had put forward in the year 2007. You can see you start from the similar, the first thing is you perform an evaluative process, you get some sense of evaluations, but then there is a feedback and then there is

also an interaction of feedback between the evaluative process and attitudes and eventually. So, this is a feedback loop right here, this is a feedback loop right here and behavior actually happens after any number of iterations.

All right i hope it made sense i will talk to you about the same thing in in more detail in the next lecture thank you