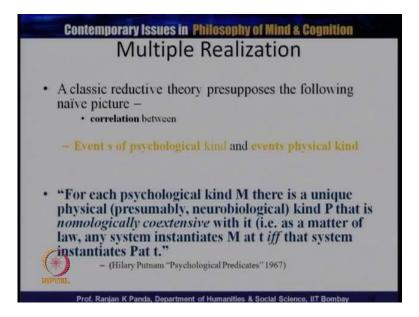
# Contemporary Issues in Philosophy of Mind and Cognition Prof. Rajan K. Panda Prof. Rajakishore Nath Department of Humanities and Social Science

# Indian Institute of Technology, Bombay Lecture No. # 37 Reduction and Realization – II

In the last class, I was discussing about the concept of reduction and realization. I had begun with Searle's analysis of conversion of reduction. Today, I am going to discuss about the concept of realization; particularly, the concept of multiple realization thesis advocated by Kim.

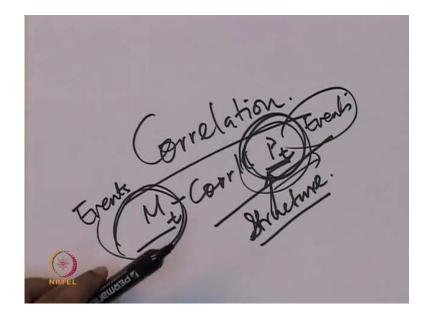
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The multiple realization thesis was introduced by Hilary Putnam in 1967. Hilary Putnam writes that, for each psychological kind of M, there is a unique physical presumably the neurobiological kind P that is nomologically coextensive with it; that is, as a matter of law, any stream of instantiates M at t if and only if that system instantiates P at t. Now, Putnam tries to show that, the realization thesis talks about a kind of a nomological coextension; that is, mental properties or mental predicates are nomologically

coextensive with the physical predicates. Now, this kind of nomological coextension infact, talks about some kind of a correlation thesis.

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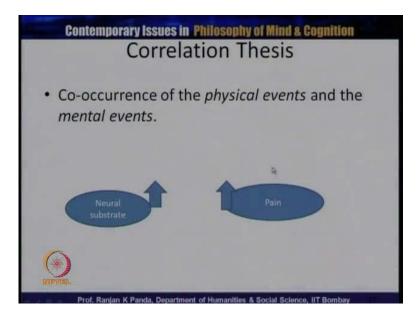
When we talk about correlation, that mental is correlated with the physical. They assume that, the emergence of the mind or the mental at t shows that, the P is simultaneously has emerged. In fact, it is the emergence of P talks about the emergence of M, because as we have discussed that, there are molecular structures. The structures have certain properties and following Searle's thesis of the micro level and the macro level properties. We can very well suggest that, physical properties or neurobiological properties that are that a system is having or the structure of the system are having.

What is more important in Putnam's analysis of realization is that, Putnam emphasizes that, there is a structure and this structure causes certain or produces certain physical properties. So, when the physical properties are produced simultaneously, the mental properties are also produced. So, the events if there are mental events and if there are say physical or neurobiological events, then these events are nomologically coextensive. So, events of psychological kind, the mental kind are coextensive with the events of physical kind. So, that was you know a kind of a thesis, which a Kim is referring to in his paper called the Meta physics of reductionism.

Now, we would like to see that, this kind of correlation thesis is talking about reductive theory. In fact, it presupposes classic reductive theory, which as I said Searle is shocked

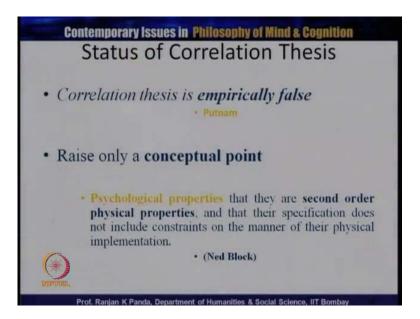
that certain properties like; in this particular case, the mental events are say for example, color or say for example, sound. All these kinds of properties are reducible to certain physical properties, this is what Searle is saying; it is very kind of a shocking evidence that, so much of scientific investigation has taken place and on the contrary, it entails reductionism. So, that is what is shocking for Searle as I discussed in the last class.

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Now, the correlation thesis as I mentioned to you that is, there are say neural substrates. Now, this neural substrate would talk about physical events, the occurrence of physical events and you have another kind of feeling or sensation say, the pain sensation. Now, the fact that, these sensations are nothing but mental events. The coextensive, the nomological coextensive theory such as that, these two events are co-occurring. They are occurring at a particular time, say t. So, they are not occurring one after another. In fact, they co-occur and when we talk about this co-occurrence, then what happens?

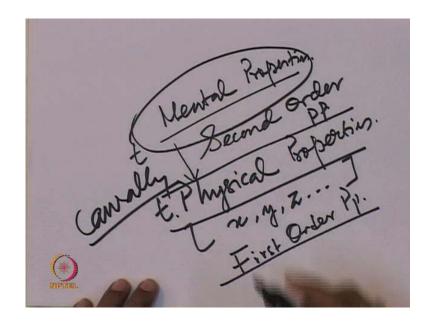
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Now, Kim here proposing that; infact, Kim here modifying this thesis and talks about the status of correlation. Kim critics Putnam's notion of correlation and tries to show that, the correlation thesis according to Putnam, is empirically false. If it is empirically false, then the question is how is it the case that it is empirically false? It is empirically false, because we do not have sear says; we are yet to find out, what exactly the process that causes consciousness; what exactly that neurobiological or neuro physiological processes in the brain, that are causing consciousness.

Now, once we find out that, then probably such a correlation is possible. In fact, a causal correlation is possible, since we do not have exact information. We do not have an evidence of that kind, hence it is empirically false. So, Putnam is suggesting that, the correlation thesis is empirically false, then referring to block. Kim says that, there is a conceptual point that the correlation thesis entails; that is, the psychological properties that they are second order physical properties, and their specification does not include constraints on the manner of their physical implementations.

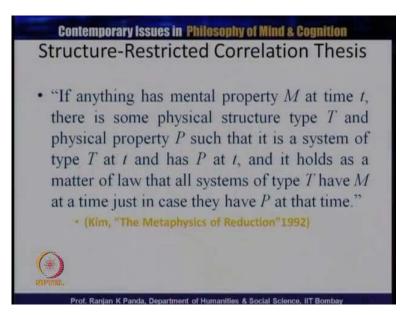
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So, when we talk about; let us say that, there are physical properties say, x y z etcetera are physical properties. When we talk about this physical properties at the time t, then the same time as I said you have all mental properties. Now, these mental properties are co-occurring along with the physical properties. So, he says these mental properties would be considered as second order physical properties. They are second order physical properties. So, there are first order physical properties and there are second order physical properties. So, if we defined in this way like, there are primary qualities and there are secondary qualities.

We remember Barkley suggesting, infact critiquing this distinction of primary qualities and secondary qualities. Primary qualities like extension, which is an essential property of matter is not directly perceivable; is not given to my perception. What is given to my perception is an observer is that, secondary qualities like color, order, shape etcetera. These properties are dependent on the first order physical properties. Now, this dependence infact prepares a ground of realization or implementation that, since M is cooccurring as a kind of secondary second order properties. M can be realized on this first order say, first order physical properties. So, the first order physical properties are the ground on which, the second order physical properties are based; infact are dependent or they can be implemented, when we talk about their realizations.

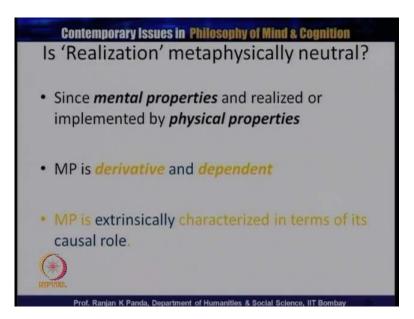
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So hence, there is a thesis was Kim is referring to, a thesis which talks about the structure restricted correlation thesis. You have to talk about a structure and what is given to us is that physical properties, the first order physical properties having a kind of structures; or say for example, a brain having a kind of a structure. There is a neural structure available to us. Now, what does it says? It says a quote, if anything has mental property M at time t, there is some physical structure type T; there is a fact that, T is a kind of a presupposed theoretical term here and the physical property P such that it is a system of type T at t has P at t, and it holds as a matter of law that all systems of type T have M at a time just in case they have P at that time. Got

Now, such a thesis would talk about a kind of structural correlation. Correlation is happening within a particular structure. It is not that mental properties as Searle believes that, they constitute a kind of a typical structure. They constitute a mental life having a dozen of properties; mental features constitute independent structure; that is not the case here. The case is that, they assign structure having two different kinds of properties or holding two different kinds of properties; the first order properties and the second order properties. The first order properties are infact the base properties on which, the second order properties are dependent. This dependence helps in analyzing the concept of realizations that, the mental properties are realized in physical or physiological properties.

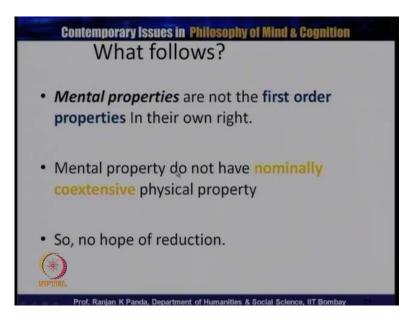
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In what sense, what kind of metaphysical (()) this thesis carries; since mental properties are realized or implemented by physical properties, then mental properties is derivative one; it is dependent. We would call it causally dependent. Let us call it, this is a kind of a causal dependency or we can talk about some kind of casual derivation that; these properties which are emerging in the same time t, are causally derived. Because they are not only correlated; they are co-occurring in the same time. So, then the third point is, which I would like to mention here is that, mental property is extrinsically characterized in terms of its causal role. So, there is nothing intrinsic about mental properties to say that, intentionality is something intrinsic to mental life is nullified here.

If we say that, these mental properties are second order properties and they are dependent on physical properties. So, there will be casually inefficacies. Mental properties can produce certain you know actions. Say for example, as I said there is a fact that, I intend to face the glass of water. Now this, my intention is causing a kind of a movement, a voluntary movement. But then in this case, the intention is being caused by certain neuro physiological or a neuro chemical process; that is happening in the neural structure of the brain. And that is the source of my physical movement, my voluntary movement and that is the ultimate source. Hence, the feeling of this intention or the experience of this mental state is dependent on the physical state.

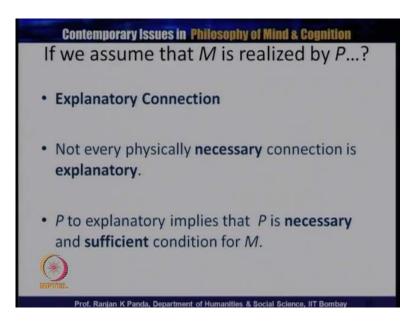
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So, mental property is what follows from this? Mental properties are not the first order properties in their own right. Second, mental properties do not have nominally coextensive physical property. Third, so no hope of reduction. If you say that, this casual relationship is not defined relationship. We have not defined. What kind of link it has? What kind of exact link is there? If that is not defined, then we have no hope for reduction as well. So, we are only talking about, if we limit this then we are only talking about co-relationship or a kind of an emergence theory etc; as **Searle** talks about.

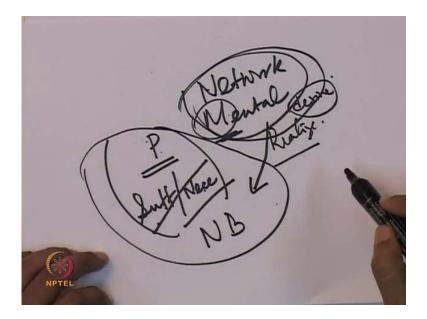
But if we assert, then possibly there is reductionism. So, that is what I would conclude. But then, Kim also further goes to talk about, what is there? What happens to these mental properties? Kim says, now mental properties are explained by these first order physical properties. So therefore, this kind of correlation could be defined as explanatory connection.

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Kim tries to show that, when you talk about physical first order properties; now, these first order properties can explain about the mental properties. Say for example, desire, intention, etcetera; those mental states can be explained. So, there is a there is a kind of a explanatory connection. What happens when we talk about explanatory connection? Not every physically necessary connection is explanatory. P to explanatory implies that P is necessary and sufficient condition for M.

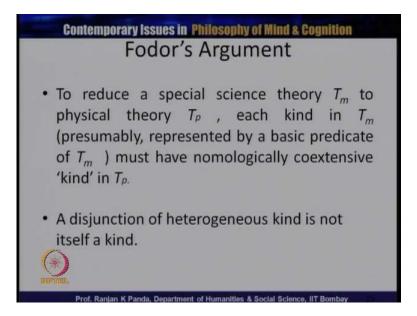
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If P is a kind of a property which can explain M, then P must be casually; not only casually sufficient, but also have some kind of necessary condition (()) necessary condition to talk about M. So, there casually not only casually sufficient, but also provide a kind of necessary condition. Unless that happens, we cannot say that P could explain M. It is sometimes if you remember that, why I talked about nature of intentional states; How when you talk about say mental, the realm of mental what Searle calls, the network of mental states. Now, the networks of mental states have certain casual power to realize the network of mental states has a casual power to talk about realization of particular mental states.

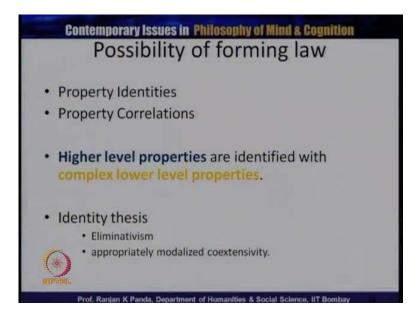
Say for example, the desire to have water. This desire can be realized with reference to the network of other mental states. It is also true that Searle is proposing this hypothesis that; this realization happens in connection with the neurobiological or physical properties that we are talking about. But then, if you say that mental states are necessarily being realized by the network of mental states other mental states or they are to be realized only with reference to the physical state. Because the physical states are the first order physical properties are not only casually sufficient, but also have certain necessary condition to talk about realization of M or the mental properties.

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Kim also brings in Fodor's argument where Fodor says to reduce a special science theory Tm to physical theory say Tp, each kind in Tm presumably represented by a basic predicate called Tm must have nomologically coextensive kind in Tp. So, this is important that, you have to talk about theory and you know there are laws in theories. Fodor is interested to talk about, what kind of mental theory that we are having and what kind of physical theory we have. Now, all these two theories connected with each other. If they are connected, what are the laws connect these two kinds of theories? Or what is the kind of laws which tries to breeze this gap between the two? So, Fodor talks about the possibility of forming laws and what we calls, the possibility of forming breeze laws which I will come back later.

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So, to talk about laws, we need to identify properties. So, what are the basic properties? If M has or M is a property is a mental property, then how to determine or identify that property? And further, we have to talk about its correlation. So, identification and correlation are two important elements, when elements required to talk about you know identification and correlation are two important features to talk about the formation of a scientific law. Then, we also need to see this facts that, how this higher order mental properties are connected to the lower order complex properties?

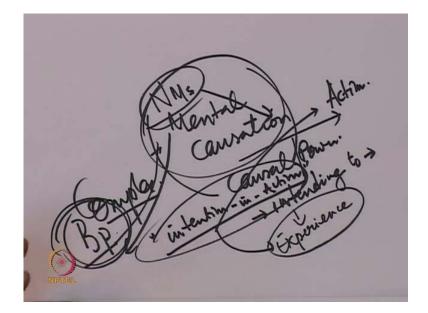
So, you have physical properties and if you say that, these physical first order properties are at the lower level as Searle calls the part of lattice structure; the micro level, then what is happening at this level at a macro level? So, we need to talk about their identity theorems. Now as you know, the identity thesis has two difficulties. At one point, if we

argue in terms of the kind of Neuro philosophy, which church land advocate both (()) advocate, then that kind of thesis Kim says would take us to eliminativism; that they nullify that, mind has any kind of causal power.

They would nullify that; mind has causal power that it would cause some kind of action; that is nullified. Now, once this power is nullified, then it is nothing but an epiphenomenon. So therefore, we need to talk about appropriately modeless. This is the coexistence that mental, the physical is co-occurring with the mental. What kind of relationship they have? Now, if you talk that, then possibly we will talk about for says; we will talk about these laws; a law which will help us to explain these kind of special sciences. So, this is a theory where realization thesis is connected with the identity theory.

Professor Mathes talked about it with reference to the notion of emergence and functionalism and functionalist identity theory. And how this identity theory is committing to reductionism? So, there is one way to look this theory in that particular perspective, but now I would take you back to searle's understanding of this. What kind of response, the Searlein thesis would suggest to us? This is very important, because Searle is not an eliminativist. Though he talks about the fact that, the mind or the mental states are casually efficacies, in order to produce some kind of action; what you call the intentional actions. So, intentional actions are caused by mental states.

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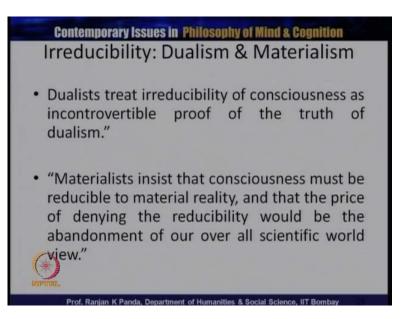


Therefore, Searle talks about say mental causation; that is, casual power which I am talking about. Now, they only cause actions which are intentional in nature; because there is case, where you are intending to perform the action. So, this idea of intending or the notion of intending here refers to experience, which Searle calls intention in action. The intension in action is about a fact that is, the fact of experience where the performer is not only performing an action, but also experiencing it and that is what intention in action talks about. So, you are thinking about it; you are thinking how to go about it and you go about it; that the very fact that you go about it and you are this fact that is happening.

Now is referring to a particular concept called intention in action, where the casual power is infact intentionalised in Searles; because I am experiencing causality here. Whenever I write, when I write I experience this fact that, I am writing. I decide to write I believe that, if I write you will you will understand it better and I intended to write and I am writing now. So, a particular action called writing is an intentional action can be explained with reference to the desire, belief and intention. And there are so many other mental states which are connected. So, Searle talks about mental causation which is typically you know there, to explain how intentional actions are; to explain the nature of intentional actions. But then, Searle also suggest that, this is not the way the mental states are realized.

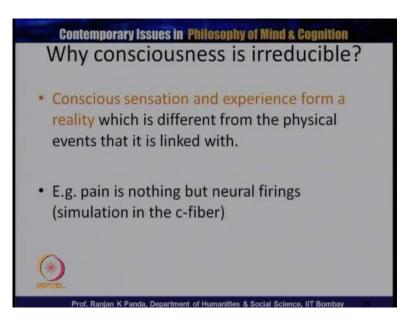
The mental states when they are realized, they are also connected to certain brain processes. So, there is a causal link. Causal link with the network of say, mental states causing certain action or having power to cause action. And there is also kind of causal link to you know the brain processes, which is typically a lower level phenomenon and it is indeed complex phenomena. It is not a simple phenomenon, whether millions and millions of neurons are working and causing consciousness. So, in that case Searle is shocked when we try define that, this casual connection or this dependant relation and tells reductionism. Infact, he defends his naturalist position very clearly and tries to show us that, this kind of position does not handle reductionism and that is what, we are going to study in the next slide.

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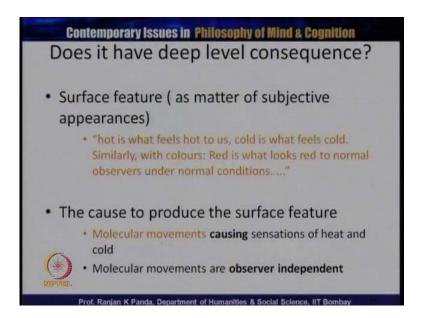
So, the irreducibility thesis that shall argue is with reference to dualism on the one hand and materialism on the other. Dualists treat irreducibility of consciousness as an incontrovertible proof of the truth of dualism. The materialists on the other hand, insist that consciousness must be reducible to the material reality, and that the price of denying the reducibility would be the abandonment of our well scientific world. The moment, we accept materialistic cases; this presupposition that materialism or naturalism in general, holds on to kind of a reductionism. Searle says, that is not true; all naturalists are not reductionists; similarly all dualists are not infact (( )) dualists. So, that is a kind of a position, which Searle would try to take. Now, why consciousness is irreducible?

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Consciousness or conscious sensation and experience form reality, which is different from physical events that it is linked with. So, it is a kind of reality the mental states or the network of mental states which I talk about constitute reality, which is different from say, the physical reality. Now, what kind of reality they constitute?

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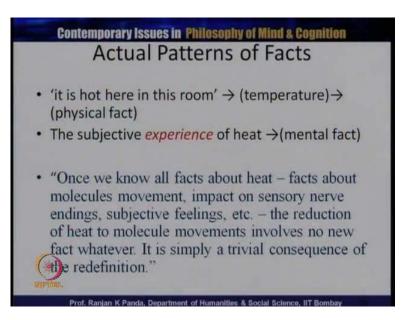
Does it have a deep level consequence? Now we say that, there are surface features where we talk about subjective appearances; hot is what feels hot to us, cold is what feels cold. Similarly, with colors: Red is what looks red to normal observers under normal

conditions. The cause to produce the surface features is nothing but, the molecular movements causing sensations of heat and cold. The molecular movements are observer independent. Now, Searle says in what way, these surface level properties which are generating the sensation like, hot and cold are giving the impression of color are different from the properties which are causing this.

So, Searle says, there are molecular movements happening at a deeper level of the phenomena and these movements cause the surface level properties. Say for example, solidity of this table is caused by particular molecular structure of molecular movements. So, solidity is a macro level properties whereas, molecules and molecular movements are happening at a micro level. The macro level properties are causally sufficient to constitute a reality. In what way they constitute reality? This is very fact that, there they can cause or generate a kind of an impression.

Say for example, feeling of hot or feeling cold an impression which is different from the kind of molecular movements, that is there at state of the lattice structure. So, that is what now Searle is trying to talk about. Now, we would like to see that, what kind of facts are observers independent? And what kind of facts are observer dependent? And that is needs to be clarified. Now, Searle says the kind of molecules or molecular movements happening at the lattice structure or at the micro level are observer independent. Carbon, oxygen and nitrogen all these provide a kind of a soft state. These elements carbon and oxygen, nitrogen are observer independent. Searle says, they are all brute facts.

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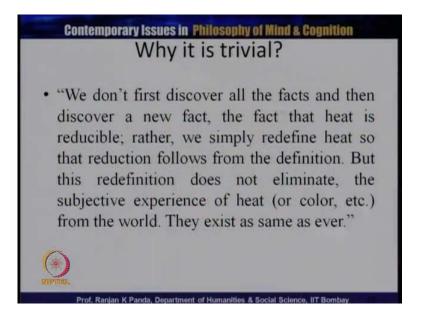


So, the actual patterns of fact, if we talk about; then at one level, we are talking about certain physical facts like temperature to be defined. Another point, I am talking about this fact that, it is hot here in this room. So, at another point you have experiencing this heat. So, the experience of this particular fact is, experience of heat is experience which talks about mental facts. So, this is a kind of fact which is mental; experience itself is something mental; something you do with the mental life of this biological entity.

So, but the temperature can be defined in physical terms. So, there are physical facts and there are mental facts. Now, Searle says a quote is, once we know all facts about heat - facts about the molecule movements, impact on sensory nerve endings, subjective feelings, etcetera. The reduction of heat to molecule movements involves no new fact whatever. It is simply a trivial consequence of the redefinition. The very fact that, if I try to see that temperature is reduced in the sense defined in terms of certain physical properties, because they are dependent on these physical properties.

Physical properties are generating heat and that is why, this feeling of hot or feeling of cold and that is why one experiences things. According to Searle, the movement I try to deny or nullify this fact that, experience per Searle or experience of these particular phenomena is dependent on certain physical things. I jump to a kind of a reductionistic position and Searle says, that need to be restricted and that is how, it sounds trivial.

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He writes, we do not first discover all the facts and then discover a new fact, the fact that heat is reducible; rather, we simply redefine heat; So that, reduction follows from the definition. But this redefinition does not eliminate the subjective experience of heat or color from the world. They exist as same as ever. Say for example, that one day we will find out, as Searle believes that, we will find out what exactly the causal link between the brain processes and the mental states meaning thereby this realization condition.

If are causally defined with regard to the brain states, then what will happen? Will it eliminates? this very fact that, somebody is experiencing this? Things like color and sound etcetera? Or we will only have this reductionistic position. Searle says it will be trivial; if we say that, the discovery of a new fact would eliminate this notion of experience from the discourse of philosophy of mind. And that is a kind of triviality as Searle is talking about. That is not the case; experience will not be eliminated from this discourse and can be eliminated, there may be the discovery where we may exactly tell in scientific terms.

This is how the case is, but that could not deny the existence of experience is a kind of a reality; a mental reality. So, Searle further talks about, what is the status of this reality? We have been in philosophy, talk about appearance and reality distinct. Whenever we have discussed about the anthology of consciousness or in general, we have talked about the anthological status of the reality; whether it is about the mental facts or about the

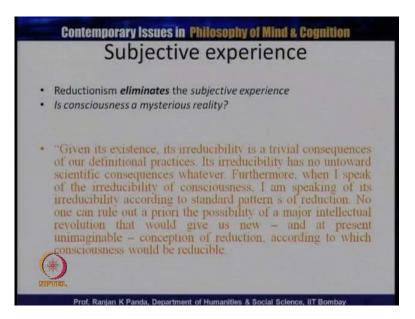
physical facts. We have encountered this epistemic dilemma, further what we see is real or the real is something not given to us. It is something beyond our observation.

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Contemporary Issues in Philosophy of Mind & Cognition Appearance and Reality Consciousness as a surface level reality – Objective reality → molecular brute facts "consciousness the consists in appearances themselves.."

Searle says pertaining to this notion of consciousness. This is consciousness as a surface level of reality is subjective appearance. The subjective reality is nothing but the molecular facts. Consciousness consists in where the appearance is connected; we cannot make the appearance-reality distinction, because appearance is the reality appearance themselves. So, what is important here is that, Searle says consciousness is a surface level phenomenon is an appearance and the appearance itself is reality. There is no reality beyond this. When you talk about the consciousness, we need to talk about the conscious behavior, conscious actions, feelings, experiences etcetera; that is what this appearance is all about. So, there is no appearance-reality distinction. So for as, consciousness is concerned.

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So hence, reductionism eliminates subjectivism or subjective experience and then, he says according to Searle given its existence, its irreducibility is a trivial consequence of our definitional practices. Its irreducibility has no untoward scientific consequences whatever. Furthermore, when I speak of irreducibility of consciousness, I am speaking of its irreducibility according to standard patterns of reduction. No one can rule out rule out a priori, the possibility of a major intellectual revolution that would give us new and at present unimaginable conception of reduction. According to which, consciousness would be reducible. Now, that likes a kind of a Nagelian thesis.

So, one day we will have a complete third person perspective of consciousness. A new scientific apparatus or a new technological innovation will give us the detailed account of how consciousness is being caused by brain processes? That will not eliminate the notion of experience or consciousness from the discourse of philosophic mind. Hence, consciousness is irreducible. Whatever may be the progress, the scientific progress that Searle talks about, will not deny; this is very fact that, there is something called experience. Experiences are subjective are to be viewed from the first person point of view and experiences are not mysterious reality. So with this, I would like to conclude Searle's approach to concept of reduction and realization.