

Introduction to Logic
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Lecture - 9

Information Fallacies: Fallacies of Relevance and Fallacies of Weak Induction

Welcome back. In the last lecture, we discuss various kinds of informal fallacies; informal fallacies which arises out of fallacy of relevance. If the premises are not relevant to the conclusion, then these kinds of the fallacies arise and informal fallacies can only with detected by analyzing the content of the argument. So, whereas, formal fallacies which we have we studied earlier. So, these those fallacies is which can be detected only by the form of the argumentation. So, formal fallacies is usually arises in the case of detective arguments, whereas in formal fallacies is might arise in the case of, other kinds of argument that we use in day today discos; mostly inductive kind of arguments.

So, in the last class, we studied different kinds of informal fallacies, which come under the category of fallacies of relevance. And you should note that, these not final kind of classification, this classification is only we are using it for all convenience, to classify this fallacies in some kind of group. We are grouping into some kind of thing and all. So, under informal fallacies, we are studying fallacies of relevance, under which we studied different kinds of fallacies such as fallacies, appealing to force fallacies by invoking pity in the mind the reader or listener or fallacies such has kind of fallacies, fallacies of accident and missing the point kind of fallacy etcetera and all. So, today we will be studying 2 more fallacies, which are under the category of fallacies relevance. They are redherring and argument.

(Refer Slide Time: 01:58)

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 26 / 69

Redherring

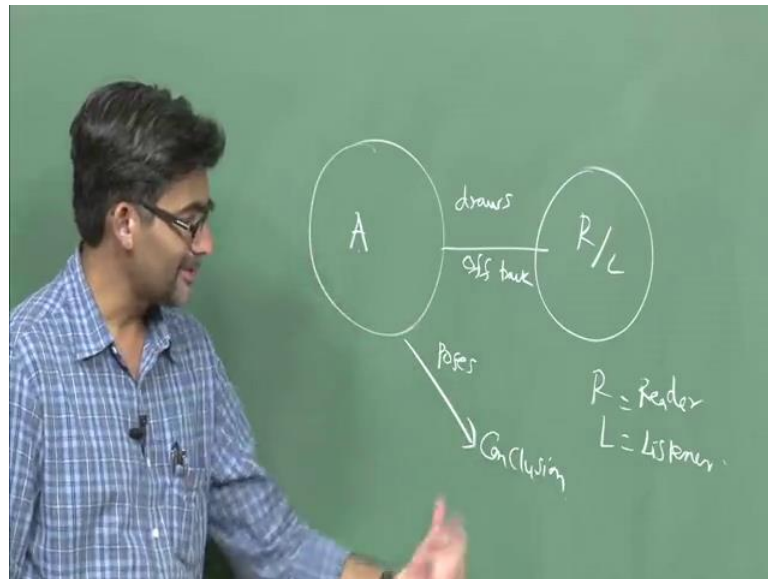
- 1 Premises: Something relevant to the topic at hand is described.
- 2 Conclusion: A distracting but often unnoticed change of subject occurs.

Example

There is a good deal of talk these days about the need to eliminate pesticides from our fruit and vegetables. But many of these foods are essential to our health. Carrots are an excellent source of vitamin A, broccoli is rich in iron, and oranges and grape fruits are high in vitamin C

So, these 2 are extremely important kind of fallacies. Usually, we find these kinds of fallacies in day today argumentation etcetera. So, in all the fallacies is that we have discuss, we have an arguer and we have reader or listener, some time it is may be in opponent or sometimes is different arguer. So, an arguer present some kind of ... Today will discuss 2 important kind of fallacies; they are redherring and straw man fallacies. So, what is a redherring kind of fallacy?

(Refer Slide Time: 02:36)



So, in the redherring kind of fallacy here is arguer A. So, here is reader or listener. R stands for reader; reader in sense that, you will be reading somebody arguments and all, when all are listener, you would listening to somebody's arguments and all. So, A the arguer draws off track the reader or listener and he poses some kind of conclusion and all. So, this is what he wants to persuade the readers and listener to accept. So, what he does here is; he draws off track reader or listener and he poses some kind of conclusion and all.

So, what he does here is; changes the subject matter of the argument. May be that subject matter might be of interest to the reader or listener. So, we will show lot of interest to that subject matter. So, he knows that reader and listener is interested in such kind of subject matter. So, A easily draws of reader or listener and poses some kind of conclusion and all. So, he start with some particular kind of thing, but it changes is the subject matter and it conclusion will based on whatever it change it and all, whatever the subject matter which here change it due course.

So, the one of the important things you should note is; note here it this that, the reader or listener may not in a position point out that, you know A is drawing off track the argument and all. So, reader or listener may not be position to notice it. So, we, A

cleverly draws off track the reader or listener, and then we will pose some kind of conclusion. In that case, it is called has redherring kind of argument.

(Refer Slide Time: 01:58)

A. V. Ravindhankar Sarma (IITK) Fallacies May 24, 2013 26 / 60

Redherring

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There is a good deal of talk these days about the need to eliminate pesticides from our fruit and vegetables. But many of these foods are essential to our health. Carrots are an excellent source of vitamin A, broccoli is rich in iron, and oranges and grape fruits are high in vitamin C

So, in the redherring kind of arguments, the structure of arguments will be like this. You are premises will be something like; something relevant with topic it had is described. Then, he changes the subject matter of that particular kind of thing and then in the conclusion what happens is a distracting, but often unnoticed change of subject occurs, that is thing which is achieves in the premises. And different kind of conclusion follows it.

Let us considered 1 simple example, to see where the off tract the reader of the listener. So, here is an example. There is a good deal of talk these days about the need to eliminate pesticide from our fruits, from our fruit and vegetables. So, is talking something relevant to the topic, the topic at hand is the pesticides. So, now, he is draws off track the reader or listener in this way. Now, he goes on and talks about these particular kind of thing. But many of these foods, are essential to our health; carrots are an excellent source of vitamin A, broccoli is rich in iron and oranges and grapes etcetera, fruits which are high vitamin C and all. He started with; there are subject matter pesticides, that is eliminating and all. Then, he changes the subject matter to the

importance of vitamin C in the diet etcetera and all.

So, this although it seems to be the case that, he is talking about the fruits, but he is talking about the something else, but you change the subject matter from to ... There is a subtle change in the subject matter and all. So, then he has to the conclusion here is that, we somehow he wants establish that we need eliminate the pesticides from our fruits and vegetables. But he is saying that, we know that should not be the case and all.

So, by invoking some kind of these fruits consequence etcetera and all, what kind of vitamins are present in that particular kind of fruit etcetera, is focusing on some other topic, and any poses some kind of conclusion and all. Actually what the arguer is trying to show here is this that, we need not have to eliminate pesticides from fruits and vegetables and all. So, why in what way what sense, he is arguing? He is arguing that, all these things consist of vitamin etcetera and all. So, that is why, we should not eliminate pesticides from our fruits and vegetables.

So, the subject matter has been changed from pesticides to the importance of vitamins in the fruits etcetera and all. So, with that, he poses some kind of conclusion, whatever he wants to convince the reader or listener and all. In that case, is the arguer A is said to be have committed, the fallacies which is called has redherring fallacy. This red herring fallacy, as I mean notice name in a sense that, usually some kind of hunting dogs; there usually trained to follow some kind of scent. So, whenever I mean if it is a good hunting dog and all, it will be able to chase the scent, and then so till not be off track and all also, it will be able to chase the scent particular in sense etcetera.

So, this redherring has come from that particular kind of idea and all. So, here the reader in general, off tracks reader and listener and poses some kind of conclusion and all. Hence he seems to be committing this particular kind of fallacy.

(Refer Slide Time: 08:24)

Strawman

A straw man fallacy occurs when the arguer attacks a misrepresentation of the opponent's view. The idea is to describe something that sounds like the opponent's view but is easier to knock down and then to refute.

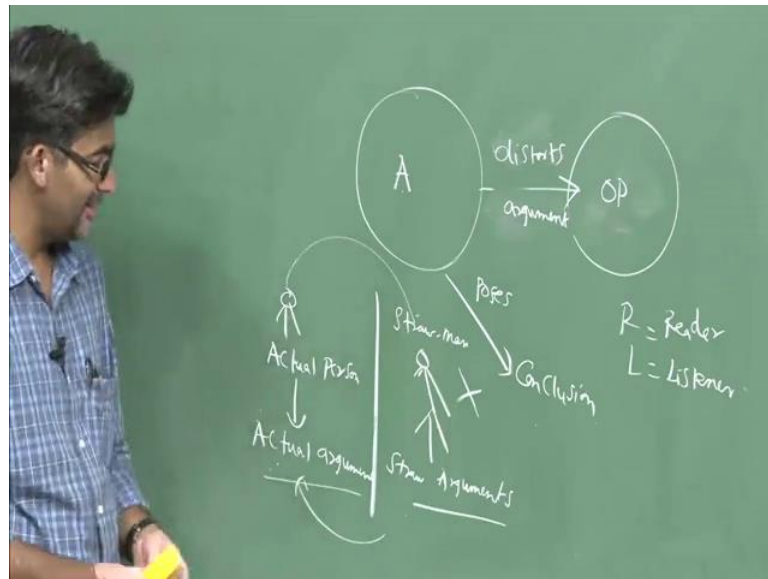
Premise: A misrepresentation of the view is false.
Conclusion: The view is false.

Straw man consists of making your own position appear strong by making the opposing position appear weaker than it actually is.

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 28 / 69

And other kind of fallacy which you commonly see is that, it is called has a strawman argument. In the strawman argument, you have an arguer and you have an opponent. And then what the arguer does is; the arguer attacks the misrepresentation of the opponent's view and all. So, the idea here is to describe something, that sound like you know opponent's view, but it is easier to knock down and then to refute and all. So, usually this is strawman arguments will have this particular kind of structure; premise will be like this that a misrepresentation of the view, is usually false. He shows that it false and all and the conclusion is that actually that view is false you know.

(Refer Slide Time: 09:21)



So, in this case what happens is; this thing instead of A drawing off track the reader or listener, instead of reader or listener you have an opponent. Opponent may be your enemy or may be something else, it mean whom you do not like and all. So, what he does here is; instead of changing the subject matter settle here, or minimally etcetera and all, here what he does is it distorts the original argument and all. So, he knows that, it opponent are argument cannot be, suppose if you take opponents argument actual argument into consideration, there is no wave in which can we can conclude, you can come up with some kind misrepresentation then you cannot show that, the opponent's argument are false are unshod.

So, what it does is; he distorts the opponent's arguments and then poses some kind of conclusion. In that process, A is set to be comity this strawman kind of fallacies. So, how this name has coming to existence? So, this is what the actual man is, let us say actual person something like that. And then this is what is; strawman etcetera, which is trying to construct. So, actual man person will be having the actual arguments, which the arguer knows that, very difficult to attack an all.

So, this is the actual argument presented by the opponent, but what he does is corresponding to the actual man, he constructs say strawman. And then this strawman or

straw person corresponding to some kind of straw kind of argument, these are not actual argument and all. So, now what is does here is; strawman it destroyed the straw man in the sense that, is destroying straw mans argument in all. So, that means, is the argument of its strawman, other than the actual person. Actual person, we know that he cannot it argument all.

So, what he does it the distorts the argument by constructing some kind of straw person an attaches some kind of straw arguments to him. And then he this is straw person any things that actually he has attack the actual argument. But what he has done, arguer as done is he this started the argument and then you has given some kind of misrepresentation. What the actual misrepresentation of actual argument, are the actual arguer might be something else; here in this case opponent all.

So, in straw things at is the argument of A an actual person, but actually that is not in the case. So, he knock down strawman, and then he knock down only the misrepresentation of what, we see in the actual argument of an opponent's arguments. So, if that have happens then this is called has some kind of straw man kind of argument. Actually is working down the strawman there, then the actual person corresponding in to; actual person is corresponding to actual argument. Strawman is having strawman argument all, straw argument you can say.

(Refer Slide Time: 08:24)

Strawman

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Conclusion: The view is false.

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A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 28 / 69

So, the structure of this argument has this particular kind of thing. A misrepresentation of the view is shown that, in already this started the argument in all. And then you come of this some kind of misrepresentation of an argument. See could come of this some kind of misrepresentation of opponent's of argument, then he can clearly show that is false in of. But actual the arguer is not, argument question is not presenting this particular kind of argument in all. It is the opponent who has misrepresented the view of an actual argument, actual argue whatever actual arguer is trying to say. So, since distorted the argument, and then shows that it is misrepresentation, it is consisting to be misrepresentation; obviously, we can show that, if distort argument in thus and misrepresented, then that view may be turn over to be false.

So, strawman consist of making, of you are own position of appear strong, by making the opposing opponent's position appear weaker than actually it is. So, an opponent has presented some kind of argument in all. So, that may be very strong in of an all, in which the arguer is not able to attack. So, what he does know; he misrepresents is original argument all, and then it distorts the argument and he comes off with different kind of argument which is called has misrepresentation of an actual argument.

So, the intention of an arguer is this that, he wants to make the opponent's position we

correct, you can only do it by distorting the argument. We have to here that, the arguer is trying to change the subject matter of an argument, like in the of redherring; is not drawing of tract the arguer reader or listener in all, where you change the subject matter very shortly in all, which know the reader or listener are may not able to identify the particular kind of change in all, change in the subject matter. But, here arguer clear distorts the argument opponent's. So, if that happened, whatever expend here, if the arguer distorts the argument opponent's and puts its position in such a wave that, is arguments are very weak then; obviously, we can attack an opponent argument in all. If that is the case, A is set committed this particular kind of fallacies, which is called has straw man fallacies.

(Refer Slide Time: 15:30)

Example

- 1 Mr. Goldberg has argued against prayer in the public schools. Obviously Mr. Goldberg advocates atheism. But atheism is what they used to have in Russia. Atheism leads to the suppression of all religions and the replacement of God by an omnipotent state. Is that what we want for this country? I hardly think so. Clearly Mr. Goldberg's argument is nonsense.
- 2 We desperately need a nationalized health care program. Those who oppose it think that the private sector will take care of the needs of the poor. But this has not been the case in the past and will not be in the future.

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 29 / 69

So, some example might help us understanding this concept in better wave. So, an arguer is argue in this wave Mr. Goldberg whatever is considering in this argument, is usually consider an opponent's of an argue. So, he is arguing is arguer is arguing like this; Mr. Goldberg has argued against prayer in the public schools. So, that is what is that actual thing, which Goldberg is trying to say may be is argued for against public schools to maintenance to some secularism all kinds of thing. May be might be very strong argument etc and all. It is very difficult to finds flows with some particular kind of argument.

So, now, the arguer is saying here; now Goldberg is opponent for this arguer and all. So, know the arguer is goes on says that, Mr. Goldberg advocates position in which it do not believe the existence of God. But, atheism is what the used to have in the Russia, in the path; atheism leads to the suppression of all religion and the replacement of God by an omnipotent state. So, we distorting the actual argument; is the argument against prayer in the public schools for some reasons. He might had of these provided these kind of reasons in all. One can be in atheist, but he can argued for against atheism, still argue against the prayer in all. If some secular value etcetera and all, we can still argue for arguments against the prayer in all public schools.

So, we go on says that, is it what we want for this country etc and all, I hardly think; so clearly Mr. Goldberg arguments is nonsense. So, ultimately is; want the shows that Mr. Goldberg arguments is nonsense, but if you takes Goldberg actual argument is consideration, he may not be able to do that particular kind of thing. Now, is distorted the argument then is bringing in the entire irrelevant factor such as, atheism is and what happen in Russia all these things. And then atheism leads to the suppression of all religions etcetera and all linear to the case. Or replacement of God by an omnipotent of state mass was pointing out. All these things relevant to actually Goldberg is actually argument.

So, here what happened was is that, Goldberg who is consisting opponent of an arguer. Yes, put in position of such way that, in argument looks very weak can all. So, he distorted the argument, and then he destroy the distorted the argument in all. So, ultimately show that, Goldberg argument is nonsense. If, it is actual argument, you cannot say that particular kind of thing. So, we change, he distort the argument according to convenience, then he shows that, whatever follows from the distorted arguments in. So, that it is obviously false in all. He construct in very nice wave; in clever wave, in which in obviously, it will look like weak argument in all.

So, that is what is does; distorted the argument and then any conclusion based on the distorted argument in all. So, in that case, the arguer is seem to perceived the reader or listener any posses this particular kind of conclusion. Then, the opponent should be in position say that, the arguer distorted the argument in all. So, one should be clever in off

to identify, whether the arguers the arguers intentional. Is it tray to destroy distorted the argument or it trying change the subject matter as in the case of redherring a fence.

So, there are other examples, we take in to consideration. Suppose, if an arguer is arguing in this wave for example, we desperately of argues like; desperately need a nationalized health care program, at look well and good an all. Those who oppose it, think that there many people who sense to opposing at that movement for example. So, know is attacking the opponent's, whose area is opposing this particular kind of nationalized health care program. So, know those who oppose it, think that the private sector will take care of the need of poor, but this has not been the case in the past and will not be in the future etcetera. That may not be directly relevant to the need for an nationalized health care program. Again it sense to be distorting the argument and then talking about something else.

So, if he, if an any arguer distort the argument of an opponent's, then arguer committed this particular kind of fallacies, which is called has fallacies of relevance and it is called has strawman kind of fallacies. So, in simple terms, what actually is doing is actual person is corresponding to some kind of actual arguments, straw person construct another strawman, which is the imaginary kind of thing, which is things at easily we can knock down the straw person an all. And then he attribute some kind of argument the straw person any knock down the straw and anything that is actually destroy the original argument.

Original argument can stand as it is, but what he has knockdown is the straw person and corresponding the distorted the kind of the argument in all, some that some kind of conclusion fallows from there. So, this is what is consider to be strawman kind of argument, sometimes these arguments may also be very persuasive. And sometime, may not be any fallacies involved in these particular kinds of examples. Suppose, if 1 argues at imprecision view that, nothing should be believed in and can directly observed. So, now, one can see, hear, taste, smell touch protons electron quarks etcetera. You can see the effects of some things.

(Refer Slide Time: 21:46)

Persuasive Example

Empiricism is the view that nothing should be believed in unless it can be directly observed. Now, no one can see, hear, taste, smell, or touch protons, electrons, or quarks. So, while empiricists pretend to be advocates of science, their views in fact rule out the most advanced physical science of our times.

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 30 / 69

So, while empiricists pretend to advocate of science, their view in fact, rule out the most advanced physical science of our time. Most of the advanced physical science of our time involves, the empiricism protons, electrons etcetera an all, which we you can see effect of this thing, but you cannot directly see the things in all. So, that is seems to be good and well crafted kind argument, for this particular kind of view.

So, now, what is the different between strawman and redherring kind of fallacies. Both of the fallacies of relevance, so the premises are irrelevant to the conclusion because, in the 1 case in the case of redherring, the arguer changes the subject matter, whereas case of strawman, the arguer distorts the argument. There is different between in change of subject matter and totally distorting argument.

(Refer Slide Time: 22:47)



So, in the case of argument, the first thing which we to note is; is the arguer distorts the opponent's argument. So, how it does it; he construct the straw man and he knocks down the strawman straw person and say that actually in knock down the original argument, which it attaché the original argument arguer argument. In the case of redherring, the arguer is the changes the topic or subject matter. So, he knows that, the reader or listener is interested or about some kind of sub subject matter in all. And we knows, when to change the subject matter and argument. So, it slightly changes in the subject matter and then any poses conclusion based on changed kind of subject matter an all. So, in that case it is called has redherring.

So, in the case of strawman, opponent's position is miss characterized or misrepresented in such wave that, it is easier to represent and dismiss. If he has represented if as correctly represented, very difficult to argue against is position and all. So, you knows that, he had misrepresent position is some were other. So, he construed strawman and corresponding to that straw argument all, which is which imagine to the actual argument, but actually that is are the case. So, in the case of redherring, a distraction is introduction in to the discourse, in order to lead an opponent or audience, away from the issue at hand.

So, he clearly knows when to introduced distraction in all. So, in that case in arguer may not be the position notice the changing the subject matter in all. So, he cleverly does it, when to change it, when to change the subject matter etcetera all, arguer is smart if up to know the particular kind of thing. So, distraction is introduced into the discourse, in order to lead an opponent or audience away from the issue at hand. So, it is what happened in the redherring. Third 1; in the straw man, the arguer attribute a position to someone, that actually did not take in to consideration. He is not having the particular kind of you, is not response for that particular kind of argument in all.

But, he misrepresents then he attribute some kind of position, which is actually not accepted by that actual arguers, actual arguer arguments, which you not find in the actual arguer arguments. So, in the case red herring, usually what append ignoring the actual subject matter an all. So, is abstract form the original topic and then most some other topic, which is closely relevant to the initial topic in. So, ignorance is what is considering important here. In the case of strawman, the fourth point is that, it always involves 2 arguers. So, that is for distort an argument, we need have you are opponent's all, in argued in opponent and then you will distorting you are opponent's for this an all.

So, at list 2 arguers are important in the case of strawman. But, in the case of red herring, 1 arguer who is arguing particular kind of thing, if sufficient in all these drawing of tract reader or listener, who may not be involve in the particular kind of argument in all. So, he may not be directly involved in that particular kind of thing. So, 1 arguer is in off for this particular kind of fallacies; in the case of red herring. So, other for example, of you find it in the text book for example, you are the reader or listener, you are not directly engaged in the argument in all. But in the case strawman, 2 people are actually inward in the argument. One is usually the arguer, who was to misrepresentation opponent' position and other one is opponent is also another kind of argument. Let us say in the case of ad hominem argument also, 2 arguer also important all because ad hominal argument is always directed towards another arguer.

So, it is in response to what others argue, even will be responding to A to arguments. So, this is one of the important different between straw man and red herring. All though look like that, change of subject matter is same has distracting the argument, but it actually it

not the case. So, the fifth 1 is that, in the strawman it tries to justify the rejection of a position by an attack on different and usually a weaker kind of position in all. So, actual person has actual argument, which is strong argument for example. Then he changes are misrepresent in such way that, that will look wary weak kind of argument; he changes the distorted argument in all, he look like premises may be weak in of to support the conclusion in all then we totally distorted argument in all. And then any we shows the conclusion is false in all, conclusion does not follow from the premises.

So, fallacies one of the important definition fallacies is it, 1 does not follow from something, that is the 1 the phrase that is used. So, in the case of redherring fallacies, what happen is that, it tries to justify the conclusion, irrelevant to the issues attack because, we know change subject matter of the sentence, subject matter of the argument an all. So, that is totally different an all, from that conclusion actually he could do it from the actual subject matter and all then problem here. It level change the subject matter in drops the off tract the reader or listener and then is posing some kind of conclusion then all. So, that let to this redherring kind of fallacies, is some of the important difference between strawman and redherring.

So, usually in the case of redherring argument, arguer ignores opponents arguments, if there any such kind of conclusion, which is presently this argument and settle subtly change in subject matter, it not change subject matter complete, you know very changes very subtly. In the case of strawman, he distorts opponent's argument and concludes by knocking down the distorted argument. So, present some distorted argument, distorted the argument shall I just like knocking down the. So, this is what happens in the case of straw man argument. So, there are some examples, which we can take in to consideration little bit later, but these examples will considerate little bit later.

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Examples

- 1 All the really hot new thinkers are using principles from sociobiology. It's the new wave in ethics. So, you should accept the principles of sociobiology.
- 2 Professor Kapoor, this paper merits at least a "B." I stayed up all night working on it. And if I don't get a "B," I will be put on academic probation.
- 3 Smoking cigarettes can harm one's health. So, it is s best to avoid smoking, assuming one wants to be healthy.

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 33 / 69

For example, so far you have studied about various kinds of fallacies. Let us considered at list some 3 examples in and we see what kind of fallacies it is, any somewhat of fallacies of relevance of fallacies, may be formal fallacies etcetera and all. Let us consider first example; all the really hot new thinkers are using principles from sociobiology, it is a new wave in ethics. So, you should accept the principles of sociobiology. So, this fallacies sin to be like in fallacies by appealing to people, it is also called has band kind of argument. 99 people does something when then you do not want to be singular from the particular kind of thing, he also start believing that particular kind of thing.

Since, it is a popular new wave, does not mean that, you should accept the principle of sociobiology all. Even if 99 of people accept it, but still you can critically exterminated then he can considered. So, the weak point, then you will, at you can accept the principle of sociobiology in all. So, this is appeal to people kind of fallacies. So, it like cannot 99 of peoples jumps to the well. Now considered the second argument; Prof. Kapoor this paper merits at least B, this what the student is argue with a professor conclusion. I stayed up all night working on it and if I do not get B, then I will be put on academic probation and my great still suffer and so on and so forth, will happen my entire family, with depend on me I am poor, I am coming from the poor family all this since, we know

we tried to say.

So, ultimately the conclusion is that, stay for merits at least; that means, I should get at least B. So, getting B is depended on so many other factors. It is all not, what the arguer is trying do here is; he in works mind of Prof. Kapoor and then is posing this particular kind of conclusion. The conclusion is that, you should get B here. So, this is clearly argument from pti. Third 1 smoking cigarettes can harm 1's health. So, it is best to avoid smoking assuming 1 want to be healthy. So, it seems that, there since to be any particular kind of fallacies because, smoking causes harm 1's health. So, it seems to be no fallacies, in that particular kind of argument, these no mistake in the argument.

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The slide is titled "Inductive Arguments" in red text. It contains two numbered bullet points: 1. Inductive arguments are defined as arguments that are intended to be *strong* rather than *valid*. 2. Inductive arguments can only be Strong or Weak and are defeasible. Below the bullet points are two green boxes. The first is titled "Example (Deductive Argument)" and contains the text: "All crows are black. Therefore, If there is a crow on top of Charminar, then it is black." The second is titled "Example (Inductive Argument:)" and contains the text: "All crows that we have observed so far are black. Probably, all crows are black." At the bottom of the slide, there is a footer with the text: "A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 35 / 69".

So, this example we considered little bit later. Now, we will move on to inductive arguments. Inductive arguments can also be fallacies. So, what are the arguments, when inductive arguments are fallacies and it is called has fallacies of weak induction. So, far you have studied fallacies of relevant, were the premises are irrelevant the conclusion in most of the case. In this case, what happens here is premises are not sufficient in of to provide evidence to believe the conclusion to be true and all. They are usually consider has weak argument are automatically consider to be fallacies kind of argument.

So, all the inductive argument can be fallacies in all. So, inductive argument are define as arguments that are intended to be usually strong or weak can all, but inductive argument can never be valued or in valued. If use this concept; validity or in validity are if attribute validity or in validity induct you are arguments, yes some mistake which will be is mistake. We already talk about strength of the inductive argument. So, these are some of the example which already discussed in greater detail.

A deductive argument is like this all crows are black. So, if there is a crow on top of the Charminar, then it as to be black in all. All crows are black, it is kind of generalization without any except, if you believe that particular kind of thing to be true, then if I find some other kind of crow on the top of the Charminar, then it has to be black crow. It cannot be weight an all provided, you take in to consideration; all crows are black is absolutely true at all. There is no exception for that particular kind of thing, but actually in day today discuss is not the case. Better best things to represent this argument is most of the crows are black.

So, inductive argument is that, in all crows that we have observed so far are black, it is based on you are observation etcetera. And then based on your observation, he moving beyond whatever you are observed and you are predicting that, probably all crows are black in color. So, the conclusion always goes beyond what is stated in the premises, conclusion need not have to fallow necessarily from the premises. And then that is always some kind of new information and these argument are all defeasable kind of arguments. That means, addition of new information, lead to withdrawal of you are conclusion at you are derived earlier. So, these are some of the inductive argument.

(Refer Slide Time: 34:56)

Inductive Generalizations

- 1 I have lots of friends. Most of them think that I would make a great president of Gymkhana IITK. So most IITK students would probably agree with it.
- 2 A mess worker in the hostel stole my bicycle, so most of the mess workers are thieves.

Questions

- 1 Are the premises acceptable?
- 2 Is the sample too small?
- 3 Is the sample biased?
- 4 Are the results affected by other sources of bias?

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 36 / 69

Basically you will find inductive generalize. For example, if you say I have lots of friends, most of them think that I would make a great president of gymkhana IITK, so most IITK student would probably agree with it. So, me not with the case that, most of the IITK student would probably agree with this particular kind of thing. Just because we are lots of friends does not mean that, has some kind of President of gymkhana of IITK are suffuse make this kind of all the time suffuse a mess worker in the hostel stole my bicycle in all.

So, I will come to some kind of swiping generalization, I will say that all mess workers are thieves in all. So, it is a kind of some kind of swiping generalization in all. So, when the generalization are not used in proper sense; if use some kind of swiping generalization, then that is consider to be mistake in the argumentation and all. So, when we talk about slippery, inductive generalization, then we will discuss all this things in greater, it ill inductive generalization can be also be fallacies in all.

So, some questions we need to ask this particular kind of thing that is, are the premises acceptable, is the sample too small, is the sample biased in all, are there in the argument are the result affected by other source of bias, all those thing need to asked, to come up with some kind of good inductive generalization, otherwise it will lead to some kind of

fallacies.

(Refer Slide Time: 36:25)

Hume's Skeptical Argument

Our inductive generalizations seem to rest on the assumption that unobserved cases will follow the patterns that we discovered in observed cases. That is, our inductive generalizations seem to presuppose that nature operates uniformly.

The way things are observed to behave here and now are accurate indicators of how things behave anywhere and at any time. But by what right can we assume that nature is uniform? .

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 37 / 69

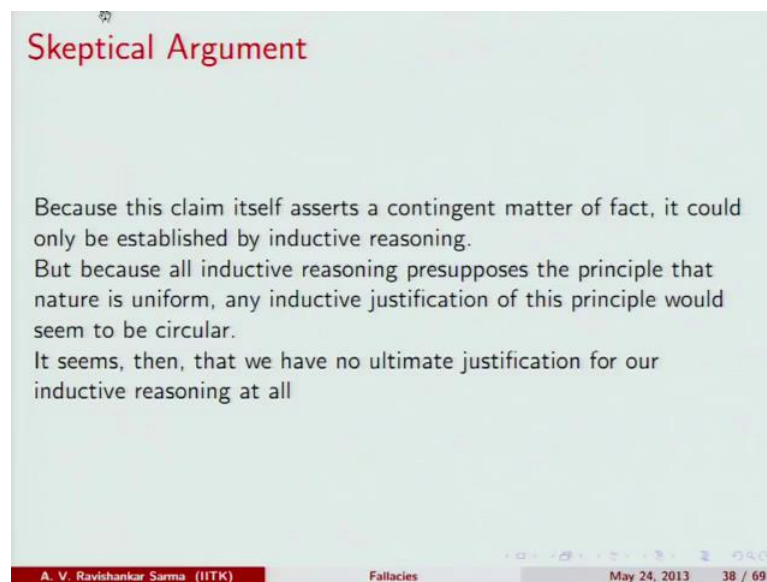
So, why this I am talking more about this inductive generalization; this is argument presented by famous philosopher Hume David Hume; is argument is called has Hume's skeptical argument, the believing this justification of inductive generalization. So, under what basis an inductive generalization can be justified. An inductive generalization can be like this; for example, if you say metal 1 start expanding upon heating, metal 2 start upon heating and then you will generalized at say that, all metal expand up on heating in all. So, this is some kind of inductive generalization and then gradually some kind of law statement in all. So, now, under what condition this kind of inductive generalization can be justified.

So, Hume has presented skeptical argument. He say that cannot be justified, either by means of principle of logic are means by induction itself or by experience in all. So, he says that, our inductive generalization seem to rest on the assumption that, unobserved case will follows some the patterns that we discovered in so far from the observed cases in all. So, from the observed cases, unobserved kind of things follows in all. Most the crows that we observed so far all black in color. The next crow that you are going to see; which are not there in the premises in all; so that is the unobserved kind of thing.

So, we are predicting that, the next crow we are going to see and all, so going to be black can all. So, from here moving from observed to unobserved kind of cases in all. So, that is, our inductive generalization seems to suppose that nature operates uniformly in all. So, what is the guarantee that; this will lead to the next 1 and all. The crow is also going to be black in all, 99 percent the case is tells that, is going to be black in all. Usually that we are going to see is also going to be black in color.

So, how do you know that, that is going to the case in all, in the next case also that is going to true, then we are relying on the principle of uniformity of nature. In wards does not behave in a random wave in all, he behaves in the in a uniform wave etcetera on. So, because of that; obviously, the next, but you see also turn out be black in color. So, the way things are observed to behave here and now are accurate, indicators of how things behave anywhere and at any time. But what right can be assuming that, nature is uniform. How do we know that, universe is governed by the principal of uniformity of nature.

(Refer Slide Time: 39:20)



Skeptical Argument

Because this claim itself asserts a contingent matter of fact, it could only be established by inductive reasoning.
But because all inductive reasoning presupposes the principle that nature is uniform, any inductive justification of this principle would seem to be circular.
It seems, then, that we have no ultimate justification for our inductive reasoning at all

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 38 / 69

So, he goes on says that, because this claim itself asserts a contingent of fact, it could only by established by inductive reasoning. So, the idea is very simple that is, under what basis you can say that sun raises in the east tomorrow at all. So, it all the time that, you

we time of got of bad, you solve sun raises the east or under what basis we justify that, the unobserved case that is about tomorrows things, under what condition it is going to raise in the east only.

So, we are saying that since universe behave in certain wave and there in it behaved in certain order, orderly wave; yesterday may be deal for yesterday etcetera an all. Involves all behaves in the same wave, may be day offer tomorrow also. So, under what basis you can justifies this particular kind of inductive generalization in all, you are relaying principle uniformity of nature. What is principle uniformity of nature? Again it is some kind of form of induction in an all. So; that means, induction is justified by induction itself; like sun always raises in east, all metal expand up on heating etcetera, then we are relying on principle of uniformity of nature. Universe always behave of certain wave and we do not have any exception etcetera an all and we assume that, universe also behaves in the same wave we tomorrow may be they after tomorrow it also behaves in the same wave etcetera all. That makes this uniformity of nature in all.

So, Hume says that, if induction inductive generalization are justified by principle of uniformity of nature, which itself is some kind of induction, then it lead to some kind of circularity. So, principle of uniformity of nature that is, the claim, itself asserts some contingent matter of fact, it could only be established by some kind of inductive reasoning in all. So; that means, principle of uniformity nature yesterday, principle of uniformity nature worked day for yesterday etcetera, is going to work tomorrow and all the time it works an all that is a kind of inductive argument in all.

But because, all inductive reasoning presuppose is that, the principle of nature uniform; that means, any inductive justification of this principle would always seem to be circular because, we want to justifier asked justified inductive generalization; like all metal expands upon heating or sun always raise east etcetera an all, you are for in beckon principle of uniformity of nature which is self is nothing but kind of inductive kind of argument. So, induction is justified by induction, so at least to some kind of circularity.

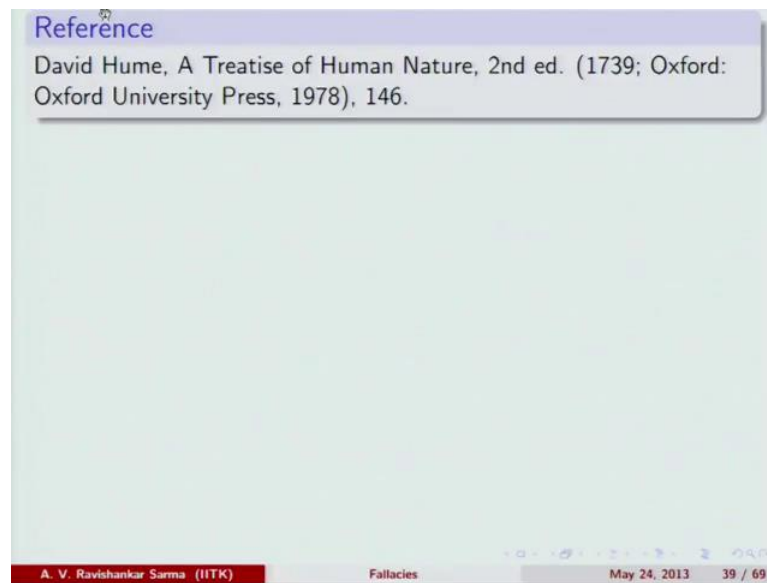
So, it seems then that, we all have no ultimate justification for inductive reasoning at all. So, that is what is the skeptical argument of Hume, even till to date there was no solution

that particular kind of argument, how to justified instructional, but we heavily rely on induction in natural science particular that, whenever scientist is coming of some kind of law statement, what will be making simply some kind of inductive generalization and inductive generalization based on some principle of uniformity nature etcetera an all. He always takes at granted that, principle universe behave in certain wave in order etcetera in all.

Suppose what happen if the universe does not behave in the same order that we are trying to accept an all. So, then there the principle of uniformity of nature not be false and then and inductive generalization rested on principle of uniformity of nature, can be question then all. So, this is the skeptical argument presented by Hume and then ultimately concluded that, inductive generalization cannot be justified in all. If it is justified, it has to be based on either deduction, which cannot be the case because; inductive argument cannot be justified by invoking some kind of deduction. In the case of deduction it obvious that, conclusion necessarily follows form the premises. But clearly in this case, inductive generalization is always be the case that, conclusion goes beyond that is stated in the premises.

So, induction cannot be justified by deduction that is ruled out, but whether, under what condition can be justified in all. So, then you are saying that, principle of uniformity of nature. That is making you to belief that sun always raises in the east is going to true; today, tomorrow or may be after day of tomorrow also or may be all the time you are observed sun, after getting from your bed. So, induction what is the principle of informs that is again, induction only, induction cannot be justified by induction. So, in either case is very seems to a problem. So, that is why Hume's posses some kind of skeptical kind of conclusion. That means; that means, doubtful conclusion that we know; induction cannot be induction generalization cannot be justified an all. So, will look in to this accept, may be grated it later.

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But this is the reference in which, you will find this particular kind of argument David Hume human nature second addition in 146 page he might find this skeptical kind of argument. So, forget about this negative aspect of inductive kind of argument in all. But inductive arguments are useful for us and there inductive generalization are important in coming up in law statement etcetera in all. Scientist require relation in all. So, then once we proposed law statement, they can elevated to some kind of formal etcetera an all.

(Refer Slide Time: 45:21)

Fallacies of Weak Induction:

- 1 Appeal to Unqualified Authority (Argumentum ad Verecundiam)
- 2 Appeal to Ignorance (Argumentum ad Ignorantiam)
- 3 Hasty Generalization (converse of fallacy of Accident)
- 4 False Cause
- 5 Slippery Slope
- 6 Weak Analogy

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 39 / 69

So, I was said beginning that, inductive argument it also be fallacies. When all the weak inductive argument are; obviously, fallacies argument, in the since that, premises all not be sufficient in for there not providing, adequate support to live the conclusion to be true and all. So, all the inductive argument which is spoke about in the basic concept, the lead to this particular kind of fallacies. So, these are some of the important fallacies of weak induction. Number 1: appeal to unqualified authority, the Latin name of that 1 is, Argumentum ad Verecundiam.

The second 1; appeal to ignorance. Because in all these argument, come under the category of inductive arguments. If, the premises are not providing sufficient evidence to believe the conclusion to be true, then it leads to the weak argument. All weak argument are fallacies argument. And then hasty generalization, false cause, slippery slope, weak analogy; all this comes under; there all weak are there are inductive arguments. If there weak in off then there is called has fallacies of weak induction. Fallacies of weak induction arises, especially when your premises are not able provide sufficient evidence, to believe your conclusion to be true. In that case, then it leads to fallacies of weak induction.

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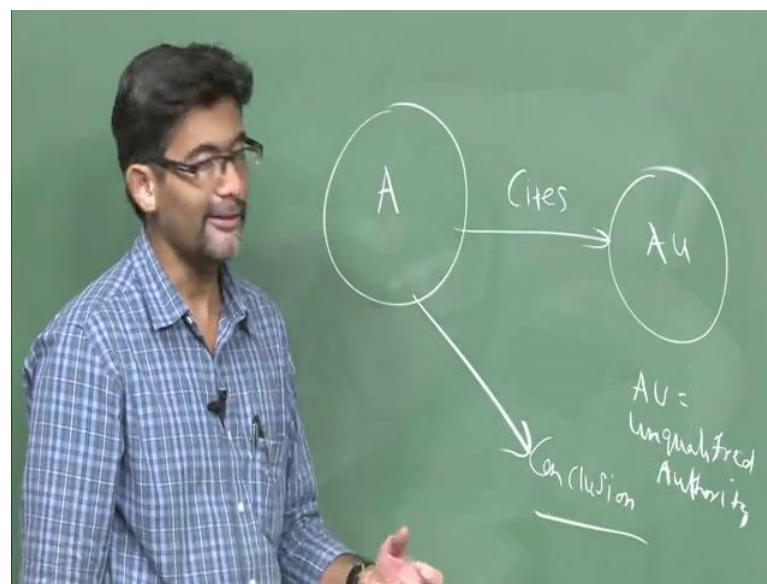
Appeal to Unqualified Authority:

- 1 It is an argument in which the conclusion is based on the judgment of someone who is not actually an authority on the issue at hand.
- 2 an argument which is based on the judgment of a genuine authority on the issue at hand but concerns an issue about which there is disagreement among experts in the field.

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 40 / 69

Let us consider 1 example; the first 1, that is, fallacies of weak induction arises, because of appealing to unqualified authority. So, this arises in this particular way. The Diagram for this one is like this.

(Refer Slide Time: 47:24)



So, what happens here is that, arguer cites some kind of unqualified authority and then

imposes some kind of conclusion. So, this is what happens here. So, you have arguer A. So, what he does is; he cites some kind of unqualified authority. So, means unqualified authority. And then he poses a conclusion; that means, the conclusion is based on for in back on some kind of unqualified authority. If it is based on qualified authority on then that one seems to mistake in the argumentation. So, it is not considered as fallacies of weak induction because, strong argument. So, definitely it is not fallacies of weak induction.

So, now, the question that comes to is; what constitute a qualified authority and what constitute an unqualified authority in all. There are some fields in which, it is very difficult to say that, the person has any authority. It is religion, politics, ethics etcetera, all these values etcetera and all, somebody uses studding about values is very difficult to become an expert in this particular kind of area. So, somebody argues something related to political kind of thing in all, very difficult authority on these particular kind of subject.

So, we can question the authority of a person, especially when he is talking means making some claims about values, judgment, etcetera and all. So, what is considered as appeal to unqualified, that is, argument look like this. It is an argument in which the conclusion is based on the judgment of someone, who is not actually an authority on the issue at hand. So, he defers to unqualified authority and imposes some kind of conclusion. Or it is an argument, which is based on the judgment of a genuine authority on the issue at hand, but concerns an issue about, which there is disagreement among in the field in all, then also it is called as an unqualified authority in all. The problem here is that, although he is referred to some kind of genuine authority in all, but the problem here is that, disagreement among experts in the field. So, then that is also considered to be some kind of unqualified authority.

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Example

- 1 Tom Jones, a respected actor who plays the brilliant cardiologist Dr. John Smith in the film *Emergency*, recommends Drug X for improving the overall health of the heart. Therefore, it would be wise to take Drug X.
- 2 Prof. A. Sen, universally respected economist and the author of *argumentative Indian*, has said that the destruction of tropical rain forests is one of the ten most serious worldwide problems. Thus, it must be the case that this is indeed a very serious problem

A. V. Ravishankar Sarma (IITK) Fallacies May 24, 2013 41 / 69

So, these of the example which we take in to consideration, but we did not answer what constitute qualified authority, what constitute unqualified authority an all. For example, a person who has a who has a expertise in politics etcetera, he may not be able to, he may not be expect is in medicine or what can of drugs I should take etcetera an all. Or a person may be having authority 1 or more feels as well, the person who is good mathematics may be good physic as well as. So, he has defined kind of expectation all, may be more than 1 field an all. And same for example, mathematics all of start claiming that, everyone should take some drugs, pres kind of some drugs etcetera and all then in all usually question is expertise.

So, when somebody poses some kind of conclusion, based on you on though is great mathematics on, but still you now we will be doubtful about his particular kind of arguments in all because, is not having expertise in the medicine in all. So, let us consider simple example and then will and this lecture. So, Tom Jones a respected actor, who plays the brilliant cardiologist, let us say Dr. John Smith in the film emergence, recommends drugs in improving the overall health of the heart.

So, therefore, it would be wise to take this particular kind of drug. I might be a fan of Tom Jones are etcetera an all and I admire him lot etcetera an all, he acted brilliantly as a

cardiology is etcetera all. But other mean that if start prescribing some kind of drugs, then you start believing taking a statement; that means, you used it would wise to take drugs x, then if conclude that, it wise take drugs x, then in the arguer is sitting some kind of unqualified authority. Unqualified authority is since that, is referring to an actor, who is not having any expectation in the medicine and is posing this kind of particular kind of conclusion that, it would why to take drug x.

So, in this lecture, what we see is; we are discussed fallacies of in formal fallacies, especially fallacies in formal fallacies is since that, fallacies of relevant under which he discussed; strawman and redherring argument, we discussed in detailed the distinction between redherring fallacies and strawman argument. On the 1 hand, you have change of the subject matter, is the 1 which you see in the case of strawman argument, where the arguer draws of tract reader or listener of strawman, the argued distorts the argued any misrepresent the original position of an arguments, any imposes some conclusion. He shows that, the arguer argument is very weak in of an, because, misrepresentation out of misrepresentation, he conclude something. And which shows that, is the argument arguer argument we can all.

Then, we to inductive generalization and then we discussed about whether this inductive generalization justified etcetera. And then we are presented Hume's skeptical argument and then be showed that, inductive generalization cannot be justified either by deduction or by induction. If you if you justified based on deduction, then inductive argument cannot be justified by the deduction and inductive argument justified by induction, then at least to some kind of circularity and all.

So, displayed having this problems with inductive generalization, we mood on to some other mistake we commonly make with respect to inductive arguments in all. So, when we make mistake with respective inductive arguments, there called as fallacies of weak induction. So, 1 particular kind of fallacies we discuss that is, fallacies by appealing to unqualified authority. So, when arguer is sitting unqualified authority who is not having expect is then particular area and then posses some particular kind of conclusion and we set to committed this fallacies of unqualified authority.

So, the next lecture will be covering some other interesting and exiting kind of fallacies, which come under the category of fallacies of weak induction. So, they are fallacies which raises out of or it may be kind of slippery slope and some other very interesting kind of fallacies, which will discussing the next lecture. In all this fallacies, one of the most important thing you should note is that, premises are not able to then arguer, especially premises not in of to provide sufficient evidence to belief conclusion, then to be true and then these kind of fallacies arises in all. So, the argument all weak, so that is why, they are called has weak induction an all. So, in the next class, we continue with slippery slope and some other very interesting kind of fallacies; weak analysis etcetera and will study in greater details, in the next class.