HPS200 - Lecture 7
Monday, October 30, 2017

Exam Format (40%) (2hr exam)
- Short answer questions
- Test your knowledge of lecture content
- Know the main arguments in the course
- Responsible for everything in readings

Topics for today
Sarewitz on experts
Douglas on experts

Sarewitz on Experts

Role of experts?
- An expert's role is to function as the go between scientific community and society at large
- Core topic of the course: science on one hand, society on the other hand, arrows in both directions; experts fit at those boundaries
- Role connected to negotiating issue relating to non-epistemic values (inductive risks)?

Slide 1
- Last chapter required for Sarewitz reading
- Expresses a skeptical role for that the value of science might have for society
- To motivate the role of experts, he explains the fictional exchange between science and Dr. Noitall that captures many aspects of public perception of scientific experts
- SCIENCE. [It] is our job to tell people when 2 + 2 = 4.
- DR. NOITALL. That's exactly where your views are wrong. A recent poll shows that 50% of the people think 2 + 2 = 5, and almost every network agrees with them. Those people have rights, they believe sincerely that 2 + 2 = 5, and you take no account of their wishes and desires. Simply imposing 2 + 2 = 4 on them is not democracy.
    - Sounds very silly
    - Look at news
    - You can see such argumentation
    - At this level of engagement with the nature of the problem
- SCIENCE. But there is really no serious disagreement on the question... We can't take seriously people who make emotional rather than scientific arguments.

Slide 2
- DR. NOITALL. That reflects a condescending attitude toward those who did not have the privilege of having an advanced education. Prominent political groups have already supported enactment of legislation, even if it is scientifically inaccurate, as long as the public wants it .... There are two truths in this world: one of the laboratory, and the other of the media. What people perceive as the truth is truer in a democracy than some grubby little experiment in a laboratory notebook. A stubborn insistence on the facts instead of people's perception of the facts makes you look heartless and disdainful.
- Think about today:
    - How science should engage with society at large given that there are some instances where science provides 'facts'
    - Reaction to it comes is the one is as described by Dr. Know-It-All

Slide 3

- Video (watch this)
- Cases where when offered facts (coming from either science or policy makers), political commentators can retort those statements
- "That's fine but doesn't reflect how I feel about this issue"
- Facts themselves ends up getting dismissed as irrelevant because doesn't have anything do with how people feel about the issue

Slide 4

- Sarewitz points out:
- POLITICS <---> SCIENCE
- Two class of engagement that occur at the interface
- Governmental science advisors
    - History of the rise of the advisors in the last 60 years (fallout from WWII)
    - Bush proposal on how science should get conducted going forward
    - People trained in science (people with PhD's and publication record), go on to accept positions in the government, telling them about the content of their science and how best to make policies given the content for scientific knowledge they have on offer
- NGOs issue studies for politicians
    - Non-governmental organizations that politicians will contract out of studies
    - Figure out ways to try to communicate the delicate, sensitive details about scientific studies to politicians
- Scientific information can come from either within or external to the government

Slide 5

- Sarewitz proposes:
- How is the data provided by science advisors used by politicians in the policy making process?

Slide 6

- Is there any political decision which has been resolved completely on the basis of scientific knowledge?
    - Negatively answered
    - An instance of where political decision resolved by scientific matter of fact?
        - "There is of no such example," Sarewitz says along those lines
        - He is right – said the prof
- Political concerns and public opinion do seem to outweigh the input of scientific experts.
    - Sarewitz said this once again
    - Look at the way issues get debated, the way the nature of decision unfolds when policy makers attempt to generate judgement about what to do, what kinds of policies to enact
        - What happens is…
        - The issues that are salient in terms of how they form their decision are issues based on what kind of political support they have, what the nature of constituencies is, what the beliefs of constituents are (people who voted them into office) – those beliefs may not agree with available scientific facts on the matter in question
    - So, political concerns about getting re-elected and what the public opinions/concerns on the matter is more important for generating outcome of discussion than anything to do with what the scientific experts have to offer in the matter

Slide 7

- The myth of authoritativeness: scientific information provides an objective basis for resolving political disputes
    - This, he claims, is a myth
    - This position is actually a strong position
    - You may find surprising – may have grounds for disagreement
    - There is in fact, the state of matter of facts pinned down by science (subject to certainties of course), which provided good grounds for making political decisions on what actions to take for human-generated climate change that is in fact occurring
    - Sarewitz claims that such reasoning is based on a myth that scientific info gives us any objective basis for resolving political disputes

Slide 8

- The myth of authoritativeness: the authoritative voice of science would be translated into wise policy responses by the government if only politicians took actions consistent with the advice and information provided by scientists.
    - More precise definition than previous definitions
    - The way he is stating this is more subtle
    - Not that there is no objective basis for since resolving political disputes
    - But…
    - The way in which science provide info to politicians and how they then decide to use that info
    - In the claim in the first characterization of myth, it kind of has a tinge on the total skepticism of the value of science…
    - In the second characterization he gives about the myth:
        - It's more about the connection between sci knowledge on one hand and the way that it is deployed by politicians on the other hand
        - Not about the skepticism of science at all

Slide 9

- This relies on two assumptions:
- 1) That the intrinsic value of scientific information must, of its own weight, improve the ability of governments to make effective policy decisions
    - Science info on its own should improve the ability of governments to make good political decisions
    - What you think "good" is
- 2) That there is such a thing as authoritative scientific information which, once recognized by politicians, can be applied to the major policy challenges facing governments today
    - There is this univocal notion of what the scientific facts are that can be employed for making policy-type decisions

Slide 10

- THE POLICY MODEL (running in the background)
- (1) The government is faced with a difficult political problem that contains a significant technical element.
    - Climate change as an example of this sort of problem
    - So, the government has a political problem which has a significant technical element to understand how different kinds of interventions into our production of CO_2 might or not affect the global surface temperature
- (2) Congress and the appropriate federal agencies call on the technical experts inside and outside the government for advice.

    - Science advisors working within the government or governmental organizations that get solicited to produce reports on a given scientific issue
- (3) The experts transmit information to the government. If more information is needed, then the government supports additional research.
    - Experts have to make a decision about which parts of info and uncertainties they should actually give to the policy makers.
    - Back and forth instances b/w scientists and members of the government on figuring out how to generate policies
    - Examples:
    - IPCC report on climate change
        - A lot of info about climate change came from here
    - Superconducting Supercollider
        - Testimonies trying to motivate funding
- (4) The appropriate laws or decisions are made to resolve the problems.

Slide 11

- S: Steps 1-3 seem to work with a reasonable degree of success. Questions do get asked, expert advice is solicited and heard, additional research is conducted.
    - No doubt about how the first three things go on
    - Government gets people to come and talk about relevant issues
- OBSERVATION that S makes:
    - The model seems to break down at step 4, as the information provided by scientists often fails to translate into decisive political action.
        - Problem
        - Even though the government tries to bring people to tell them relevant facts are… to tell them that 2+2=4 but somehow that doesn't prevent them in many instances from taking action which reflect that 2+2=5
        - Why might that be?
        - They go through the trouble of bringing in people to tell them what the actual facts are and what the state of the knowledge about the given issue is
        - Despite that, they take decisions that don't reflect that knowledge

Slide 12

- Why?

Slide 13

- S: One explanation for this failure was offered by Dr. Noitall:
- "What people perceive as the truth is truer in a democracy than some grubby little experiment in a laboratory notebook." That is, politicians routinely ignore the truth of 2 + 2 = 4 in favor of a more politically acceptable perception, such as 2 + 2 = 5, and so the policy response is doomed to failure.
    - People's perceptions, whether or not it reflects scientific matters of facts on the issue, is truer on this view in a democracy than an experiment

Slide 14

- S: Another version is that many alleged "experts" are in fact charlatans in the Dr. Noitall mold.
    - Reason why scientific info doesn't settle political question adequately is because there are different classes of scientific experts argue…
    - They vie for credibility with politicians…

- Overall, politicians and the voting public are alleged to be too scientifically illiterate, or too intellectually corrupt, to distinguish between the real experts and the fakes.
- Public is scientifically illiterate?
    - Have you heard of this complaint?
    - Can't sort out between what is real and fake?
    - Perhaps the reason why scientific expert advice to politicians isn't resulting in conclusive actions that reflect the best info about a problem
    - Too many voices in the room – some of which are reporting things that are not the case

Slide 15

- S: A more benign view-and perhaps the one most commonly held by scientists-is that the problem is merely one of public education
    - If the public were made more scientifically literate…
- S: According to this view, a scientifically literate public will elect equally literate public officials, and the consequence will be effective collaboration among policy makers, scientists, and other experts to ensure the creation of wise policies based on authoritative scientific information.

Slide 16

- Sarewitz: These all misdiagnose the problem. The real problem is that "In fact, scientific information and expertise are often intrinsically unsuitable for arbitrating or resolving political controversies in a democratic society."
    - Kind of information on offer when generating scientific info, is the wrong kind of info to resolve political controversy, according to Sarewitz

Slide 17

- Sarewitz argues that the reason for this is due to the very nature of political controversy.
    - Sounds like he is saying that scientists are doing something wrong in investigating the world…
    - Nope
    - He is saying that there is a mismatch between the nature of info obtained by scientific inquiry and the uses to which that info is being deployed when used in the context of policy advising
    - The reason why sci info isn't translated into wise policy decisions is <u>because</u> it is the wrong kind of info to resolve a political controversy <u>because</u> of what political controversy actually is
- S: One useful description suggests that politics "is the process by which the irrational biases of society are brought out into the open .. . . [It] is the transition between one unchallenged consensus and the next. It begins in conflict and ends in a solution. But the solution is not the 'rationally best' solution, but the emotionally satisfactory one."
    - This is a characterization of nature of political controversy
    - If you think political controversy always unfold in this way, then you can motivate the idea in the background, what Sarewitz is saying
- Political controversy is…?

Slide 18

- The existence of political conflict is a virtual presupposition of scientific controversy. And, in the absence of scientific consensus, there will always be legitimate scientific experts available to support the opposing sides in any conflict.
    - There is a funny thing that happens when scientists get pressed into a public-political type role
    - Pushed from purely scientific domain and step out from publishing in journals and training grad students into a NGO role or policy advisor
    - Funny transition…

- The way that controversy gets deployed, in favor of decision making, is different
- Scientists in the context of doing just science, that is a process where people disagree with each other all the time
- You had data supporting the conclusion – there won't be immediate universal agreement that the data you have generated supports the conclusion
- There is a negotiation that you have to do with the rest of the scientific community
- Getting published in a peer review journal is a sign that you have convinced people
- But, in many cases where paper get published, there still remains dispute that something provides conclusive grounds
- Scientific enterprise is not without internal dispute (what are the matters of fact, how well does the evidence explain the conclusions?)
- Scientists step out of their role as a scientist and into a role of a policy advisor?
- In order for them to effectively engage with politicians – not helpful to present internal conflict
- If you want to convince policy advisors that sci facts on the ground are of the nature of things like 2+2=4 → you don't to say 'yeah, 2+2=4 – we think we have good reasons – but one guy was arguing about it so there's some dispute'
- In order to advocate scientific knowledge **affectively** to contribute positively to policy decision – you would want a unified front – want to present a case for sci knowledge as being a firmly established consensus (that everyone in the sci community agreed on)
- In a situation where science becomes a matter of policy debate?
    - These are instances where typically science is not adequately settled
    - There is still a significant amounts of controversy about whether or not the evidence that is available actually supports the conclusion
    - For example: climate change issue
    - There is need for info about what will happen from climate scientists
    - Also, there are a number of parties that are skeptical about the content of knowledge we get from climate change
    - At the level of policy advising, scientific community doesn't come off as a unified front – but rather, where there are scientific arguments about (legitimate)
    - Scientific questions about some aspects of climate change issues

- S: The capacity of scientific expertise to contribute to dispute resolution is therefore negated, and claims to authoritativeness must collapse, as political adversaries call upon highly credentialed and well-respected experts to bolster conflicting political positions. It is mutually assured self-destruction
    - In places, where you absolutely need sci info to resolve political debates?
    - S: Circumstances of political dispute are set up in a way such that the way policy makers are drawn in to the problem is one in which there becomes a question of legitimacy of one or the other of the advisors (?)

Slide 19

- Scientific consensus requires virtual unanimity among acknowledged experts in order to avoid the self-negating process of dueling scientific experts.
- In the case of highly complex and comprehensive social issues, scientific consensus over policy-relevant questions is rarely achieved on a time scale even of a decade or two... Political action, in contrast, must often be taken more rapidly, both to forestall uncertain but conceivable consequences and to meet the responsibilities of representative democracy.
- Does smoking case cancer?
    - Straightforward biological answer – now, well established
    - It took a long time to develop that basic, medical knowledge to be reflected in policy decisions
    - Took a long time because there were competing experts that dispute another's 'experthood'

- Employed by tobacco companies – to advocate for sci findings that contributed to their own case – seen in context of climate change (oil and gas companies) too
- Companies hire scientists to come in to state that smoking doesn't cancer or humans don't cause climate change
- Issue: take a long time… for scientists to come to an accepted consensus
- Political action moves at a rapid rate
- People get elected every few years; policies change over time
- Can't wait - need to make decision right know

Slide 20

- S: Whereas the myth of authoritative science suggests that scientific input can provide a rational basis for forging political consensus by separating "fact" (2+2=4) from "perception" (2+2=5) (if only politicians and voters were educated enough to tell the difference), in practice the converse is generally the case: political controversy seems uniformly to inflame and **deepen** scientific controversy.
  - Correct in terms of the climate change debate
  - Skepticism – there's all kinds of reasons to be skeptical about some of the projections about climate change that get made by climate change modellers because of uncertainties
  - That kind of skepticism is what normally gets reported
  - You make a climate model
  - You get told that have enough relevant information to generate that conclusion
  - You are told they can't publish your paper or you have to change things up
  - Those kind of disputes and obstacles to scientific consensus gets worse and worse when wrapped up in political controversy

Slide 21

- There are several reasons why this must be so. One is that the information needed by politicians to resolve major conflicts is precisely the type of information that scientists are least likely to deliver authoritatively: prediction of the future.
  - Think of examples where scientific knowledge getting generated and very little of that knowledge consists of info about (given scientific matters of facts at this given moment) what the world is gonna be like – 10 min from now let alone 10 years from now
  - Climate change question
  - Hard problem
  - That is the kind of info that policy makers need to know in order to make an informed decision about climate change
  - Feedback loops mitigating reuptake of CO2 is not so important to policy advisors; they want to know if ocean temp is going to end up harming and killing sea-life
  - Need info to make decision
  - That is the exact kind of thing that scientist struggle to generate though

Slide 22

- Another reason why the myth is wrong: political debate significantly raises the stakes on being scientifically "right."
- If a field of research makes the transition from an academic issue (fighting about what should or should not get published) to one that is politically "hot" (object of political controversy), then scientific uncertainties suddenly take on political significance, the incentives to air scientific disagreements publicly are greatly amplified, new research may be undertaken that reveals new uncertainties or questions, and scrutiny of scientific results by both professionals and laypersons increases.

    - Once an area of research becomes politically fraught, it creates incentives for people to do research that draws out new uncertainties in the established findings
    - Creates an environment where there are fights against the development against scientific consensus

Slide 23

- Final reason Sarewitz offers: Scientists themselves may have a political, intellectual, or economic stake in the outcome of a political controversy, and they may therefore interpret their scientific information in a way that favors their own predisposition.

Slide 24

- Authoritative scientific advice is least likely to be available when it is most needed. Scientific experts do not speak with a unified voice when issues are scientifically and politically controversial.
    - Unfortunate
    - When issues are scientifically and politically controversial, the experts don't speak with unified voice
    - Only kinds context in which sci experts are able to give advice that resolves an issue is when there aren't any political dispute at hand
    - No political dispute at hand?
        - No real need for advisors to be drawn out into this controversy
- Societal problems cannot be placed in storage while scientists grapple for a better understanding of underlying technical issues. Scientific insight into the origins of a problem does not automatically translate into wise guidance for political or social action aimed at addressing the problem.
- Excessive dependence on scientific advice therefore may impede the democratic resolution of societal problems.

Slide 25

- What does this argument say about the case of climate change?
- Relying on sci knowledge on climate change may impede democratic resolution of the problem?
- Suggestion; maybe we shouldn't listen to sci advisors about the issue of climate change
- What is wrong with this view?
- S: Approach problem from moral or ethical standpoint… approach people that say here are the kinds of basic issues at hand (some of which will be scientific) but pose the problem as if you were making an ethical choice rather than making a choice about scientific matters of facts
- Craig the TA said: it is not possible for science to resolve issues on any given matter of competing interests → making one particular decision may effect a collection of people positively and negatively
- As a result, this adversarial nature of political process is inevitable
- Too radical to say that science is always going to impede the democratic resolution of society…
    - Sarewitz is usually careful when he says things though
- There has to have some way that science plays a role…
- How do we bring sci info back in, in a way to respond to the nature of arguments that Sarewitz makes

Slide 26

- In the end, the most authoritative component of political debate is not science but the matrix of cultural values that guides society in its struggle to advance. The scientific information that politicians use to aid their decision making is explicitly chosen and interpreted-with the help of scientific experts-to support action that is consistent with those values. In this way, technical data can become a surrogate for values, and the real terms of debate may be concealed or confused.
    - S talks about values, which is a first

- S realizes that the issue here is: the connection between values and role that technical data plays in informing those values

Douglas on Experts

Slide 1

- How should scientists decide which of their knowledge claims to make publicly?
  - Different framing about the myth of authoritativeness than by Sarewitz
  - Some knowledge may be dangerous
  - What should you do with that info?
  - Conceal it? Without that info from reporting it publically?
  - What about where human activities being dangerous (producing climate change)?
  - What consequences does the scientists have?

Slide 2

- We desire scientific expertise because we want predictively reliable accounts of the world on which to base our decisions, that is, accounts such that if we act on that basis, we are likely to get the predicted results of our actions.
  - The reason why we need policy makers/advisors and consult with NGO's to generate reports about things like climate change
  - Want reliable accounts of the world to base our decisions
  - If we act on that basis, we are to get the predicted results of our actions
  - S has to be crazy of getting rid of info that scientists have on offer (much more predictably reliable – statistically tested)
  - More reliable than the whims of particular individuals
  - Way too quick to contemplate throwing that information…
  - So, why would Sarewitz want this?
  - We know there are certainties associated with sci knowledge and as a result if we believe what scientific authorities say, there is no complete assurance that what they say will be nborne out in reality because of certainties
  - But listening to them, is still a good bet

Slide 3

- Despite this lack of complete assurance, listening to and following expert advice is generally a good bet. And so expert pronouncements carry with them a certain weight, the weight of epistemic authority.
  - D: Given that scientists have this kind of reliability that is not present in everyone's pronouncement of the world (they have this reliability over and above of ordinary citizens); they have a certain authority when they pronounce something
  - Related to kind of authority discussed by Sarewitz

Slide 4

- Expert bodies like the International Panel on Climate Change (IPCC) and the National Academy of Sciences are essential to understanding the complex issue of how our climate works and how we might be changing it
- Without advice from these expert bodies (without epistemic weight and the epistemic authority of experts), we would be forced to grapple with the complex data sets of temperature records, tree ring records, ice core samplings, sun intensity measurements, and so on, ourselves.
- What would Sarewitz say about this?

    - If we aren't going to rely on experts to resolve the problem, we are going to have to think about available data ourselves to make decisions
    - S: what we need to do in this instance is to present the problem in its moral detail
        - Treat these as explicitly moral questions
    - At the end of the day, in order to motivate people to take action, they need to make a decision on how they feel about for example, the conditions of other populations (where they don't live)
    - Think of this problem as moral and ethical questions…
    - There is that dimension of the problem that is obviously right
    - Prof is not convinced that S says enough about how it is that science is functioning in the background in those kinds of negotiations
    - Not just that we want moral/ethical debate on the hypothetical scenarios in which global change may unfold and just treat them all as equally possible
    - Scenarios you would have to consider when you are framing moral or ethical debate would include scenarios that we have good sci grounds for thinking we shouldn't be considering because they aren't going to happen
        - Avg. surface temperature of earth is going to increase 1000 degrees tomorrow morning
        - Good sci grounds to think that
    - If you aren't going to conditionalize on sci knowledge at all, you are going to come up with a debate that is strange – obvious, there has to be some amount of info from scientists that we need in order to have moral and ethical debate in a responsible way
- D: A way to figure out a proper role for sci info to enter these questions – which responds to the kinds of problems that S points out but enables us to say sensible things, things that reflect the scientific matters of facts in a way that constraints the ethical discussion so that is based more or less on scenarios that haven't been ruled out

Slide 5

- Douglas main point: we need experts to help us navigate uncertainties.

Slide 6

- The expert must formulate what is to be said, and this decision always involves some assessment of which uncertainties surrounding a claim are insignificant, which are potentially significant but acceptable, and which are not acceptable.
    - Might be surprising to what she said earlier in her non-epistemic paper
    - Uncertainties are critical juncture where these questions about values enter into our discussion
    - Special role for experts → responding to entrance of uncertainties and responding to them with values in a responsible way

Slide 7

- How should experts make the needed judgments? What should be considered?
    - Which uncertainties should be ignored or responded to
    - Which aren't insignificant
- One answer to this question is that experts should consider solely the norms of their discipline for acceptable work.
    - Scientists should just do what scientists do and maximize producing the extent of good science and get work published in the best journals
    - Standard to impose on how to incorporate uncertainties
    - Two reason to reject…

Slide 8

- Two reasons for rejecting this position:
- First, it fails to take into account the responsibilities experts carry because of the epistemic authority of their pronouncements.
    - Experts have epistemic authority because people think them as more reliable that ordinary citizens
    - D: in virtue of having this epistemic authority, scientists acquire responsibilities – to societies at large
    - If scientist wants to speak on a matter of consequence to society at large – they have the responsibility to do so in a way that reflects no just what it is to be a good scientist but to report results in a way that accounts for potential harm and benefits of generating the knowledge they are reporting
- Second, the concerns over any move away from the purity of expertise either are not the serious objections they appear to be or can be met with an alternative set of norms for experts.
    - What we are going to get on offer here are alternative set of norms
        - One which departs form the idea that scientists should act as the best kind of scientist they can be - but which responds to the kinds of objections about the nature of political controversy that S offers

Slide 9

- To not consider readily foreseeable consequences of our actions is to be reckless or negligent, and to fail to act in a responsible manner.
    - Forget about science for the moment
    - Just think about an ordinary citizen on the street
    - Perhaps you encounter somebody that wasn't thinking about the foreseeable consequences of their actions, we would say they are being reckless and negligent…
    - Example?
        - Texting and driving; readily foreseeable consequences – expectation that engaging this makes you negligent
    - D: Reflecting about foreseeable consequences doesn't stop when you walk into a scientific lab
        - If they don't do that – they are negligible
        - Situations are more complication in such environments

Slide 10

- Actions that require such reflection include the making of empirical claims. Consider the claim that there is a fire in a building.
- One does not make such a claim, shouting "Fire!," unless one is reasonably sure there is such a fire, because of the attendant risks of getting it wrong - people are often hurt in attempting to escape from the building.
    - Have to think about the empirical info about the situation before you make a proposition
    - People can hurt themselves by escaping the building too quickly
- Alternatively, one should not wait too long before making the claim. A judicious weighing of the evidence is needed, a weighing that includes considering the risks of making the wrong claim.
    - Balance the evidence
    - Does that smell like fire we need to run from? Or something burnt in the kitchen?
    - Need to do that calculation; need to make that decision about whether or not we have empirical grounds for deciding to yell fire are strong enough to warrant possible consequences doing so incorrectly

Slide 11

- Douglas: scientists have a responsibility to consider the ethical and political consequences of their pronouncements.
    - Scientists are making empirical kinds of claims (more elaborate)
    - They have a duty, for the same reasons for the person texting and driving has a duty and responsibility, to consider what the foreseeable consequences of pronouncing on a particular issue in a particular way

Slide 12

- Sarewitz: this leads immediately to the politicization of experts.
    - This is an objection S makes
    - Once experts get drawn into this consideration of political and ethical outputs of their research, they get politicised and produces dynamics that S spent time explaining

Slide 13

- D: Is there some way to distinguish appropriate and inappropriate consideration of values in this deliberation?
- S's case: if scientists do this kinds of deliberation (try to calculate foreseeable consequences of action in terms of reporting issues), what we get is: politicized scientists and disagreement and info from science that is not helpful in generating new good policies

Slide 14

- D: The indirect role for values: values should only be used to weigh the importance of uncertainty, by considering the consequences of error. They can be used to determine what counts as sufficient evidence for adopting a conclusion.
    - There can be different roles that values play in that the deliberative proceed that scientists enters into - she refers to the indirect role
        - Values are being used appropriately to the extent that they are used to determine what counts as sufficient evidence for adopting conclusions
        - ^ Specific kind of role that values can play
- This role is in contrast to a more direct role for values, namely that values could be taken as reasons in themselves to accept or reject an empirical claim. It is this direct role for values that raises the double specter of self-deception among experts and the politicization of expertise.

Let's go more into what is going on here…

- In the indirect role: we have values being used to determine what counts as sufficient evidence for a conclusion, whether or not we have enough info to decide that hypothesis is confirmed or disconfirmed
- In the direct role: moral and political role of values are being used in a way directly to determine whether or not you should accept or reject an empirical claim
    - Dr. Noitall → No, it's not the case that 2 + 2 = 4 but where it equals 5 because of my feeling about the situation
    - His feelings of the situation of 2 + 2 = 5 are values (his values)
    - In the direct role, the values are speaking on whether you should accept/reject a hypothesis
    - D: if you restrict the role for values to this indirect role, you rule out cases such as sayings like:
        - 2 + 2 = 5
    - Restricting to the indirect role eliminates this problem
    - That's good → you don't want people saying 2 + 2 = 5 because that makes them happier
    - What are real examples of this?

- Could you work for tobacco companies and advocate for a conclusion that there is no conclusive evidence that smoking causes cancer, without appealing to direct role for values?
- D: Where scientists are doing that and saying smoking doesn't cause cancer is wrong
    - They are advocating for that particular view, accepting/rejecting hypotheses because of their values
    - Allowing values to function in this setting
    - They are getting money from it
    - What is beneficial to the company that pays them
    - D: you can rule these situations out because that role that values that are being allowed to play is the direct role
    - It's not that the scientists are using *their* values to determine what counts as an acceptable level of evidence for the hypothesis but allowing values to function in the direct role

A student asked: "If I were to say smoking is beneficial to me and if that was taken away from me, it would be a huge consequence. Would that not skew how much I weigh that possibility?"

- Prof said it shouldn't, according to this proposal
- If you let that affect the extent to which you believe that smoking causes cancers, you are allowing values to function in the setting
- If you like for something to be true, any instance where you are tempted by that reasoning, you are tempted to let values function in this direct role – which is not a good role to let values play in science
- The only way you should let values affect content of sci claims is when deciding whether **we have enough info** to accept or reject a conclusion
- What value judgements you make are your own
- What we are discussing is when can info from a debate enter a scientific discussion in a way that is legitimate – trying to police the boundary of when influences of value like that is legitimate
- When can a claim like that (which you may or may not think is valid) be deployed in the context of determining what science should say about particular issue

Slide 15

- In other words, values should not be construed as providing epistemic support for a claim. *Values* are not the same kind of thing as *evidence*, and thus should not provide warrant for a claim.
    - Values on their own never give you reasons to believe that a claim is true or false
    - That can never be the claim
    - "If you just want something to be true, it will become true"
        - A lot of this thinking in the world
        - D: that is an invalid form of reason
        - Has nothing to do with what is the actual case
- Providing warrant or epistemic support is what is meant here by a direct role for values in empirical reasoning.
    - You can't say: "I deny the hypothesis that humans are causing climate change, on the grounds that I support the oil and gas industries and that overregulation will hurt my profits"

Slide 16

- Douglas: we can and do have legitimate motives for shifting the level of what counts as sufficient warrant for an empirical claim.

- D: there is a legitimate indirect role for that
- When we should shout fire – there is a legitimate role for values to play
- Role for values to play: in determining how certain we need to be before we come to a conclusion
- Do a calculation and a balance of the consequences of shouting fire
- We are allowed to take into our account our values:
    - I would not like to cause stampede that results in harm
- I can use that value judgement; I am allowed to use values to set the boundary of how certain I need to be before I make a decision
- Whether or not, my desire for you all not to get hurt has to varying on the question or not if there is actually a fire… category mistake
- My desire for you not to get hurt has nothing to do with the fact that there is fire
- Has to do with how certain I want to be before I make a pronouncement that there is a fire

Slide 17

- Even as we exclude values as reasons (from functioning in the direct role) for accepting or rejecting an empirical claim, we can and should embrace values as guidance in what counts as sufficient warrant (the indirect role).
- Values do not act as reasons in themselves in the indirect role, but rather as determinants of the strength of evidence we should require for a particular claim.
    - That is a prescription for determining whether or not the role that values play in a particular context is a legitimate role for them to be performed

Slide 18

- Is this an adequate resolution to the problem?
    - Think about the case of climate change
        - How is the distinction between direct and indirect role for values going to impact the debate of climate change
        - What does the prescription say that the scientists are allowed to not allowed to take under consideration when they make pronouncements about climate change?
    - Direct appeal to values
        - For example, Stephen's op-ed
        - Accusation that many climate scientists allow for direct role of values in their reporting of climate data
        - Allowed for the fact that they are committed to a particular view to influence the nature of the claims they make to the public
        - Climate change skeptics also allow for direct roles of values to play when given the state of uncertainties they allow for the fact that they don't want consequence so climate change mitigation policies influencing their corporate interest to colour the way that they characterize the evidence
        - Both ruled out by Douglas