

## Interview with Sheila Jasanoff

Interviewer:

So we talked a bit about the questions we'd like to ask you and I think some might be more along the lines of Knowledge/Value and others more directly related to your work in general and so maybe you starting with Knowledge/Value is a good plan, so I guess the first question would be just, we've talked a lot in the last few days about different sites that Knowledge/Value might appear and I just wanted to ask you more directly what your thoughts are on where we might find Knowledge/Value?

SJ:

Well both of those terms are capacious enough that you're going to find them everywhere. So I think the question is more in what ways is one going to find Knowledge/Value, and my particular take on it has been to ask why we value particular kinds of knowledge and devalue or disvalue others -- which I think is less of an economic value question although of course it could shade off into economics. I'm more interested in how societies choose to generate knowledge about particular kinds of things and what they are silent about and where those sorts of questions about knowledge generation or non-generation shade off into other sorts of normative concerns in those societies.

Interviewer:

What sorts of other methodological concerns and priorities come up for you or are at stake for you in the investigation of Knowledge/Value?

SJ:

Well, see you have to understand first of all that I have to fit my work into this frame which is not my starting frame. I do work on knowledge but I think that the connecting frame throughout my work is more what I would call reason, so the kinds of arguments that carry weight (and for me "to carry weight" is not in micro interpersonal relationships so much as in the public sphere). What kinds of arguments come to the public sphere and for whom? And this is related to the general recurrent question of democratic theory: why do we allow the very few to govern the very many? For my particular kind of STS that question easily shades into questions about rule by experts because the very few these days include not only elected officials or other forms of political representatives but increasingly also knowledge representatives. So you know the way that I would talk about my stakes in research is to connect the work genealogically with political theory and democratic theory, in particular with questions about public reason and the nature of reasoning itself, and tying that to questions about political culture because I'm interested in the specificity of answers to questions like what kind of reasoning matters, and what kind of public persuasion carries weight. So the second half of the dyad that this workshop is about, "value," is not something that I think of in such direct terms all the time. Obviously value comes into my kind of work through questions about public values and the fact/value distinction is important to me because it figures in reasoning. Once you've succeeded corralling a statement into the domain of fact you can go about using it in public reasoning in very different ways in Western societies, or post-Enlightenment societies anyway, than if the statement remains in the domain of value. So that's a place where that fact/value distinction is significant for my purposes. Then I'm also interested in how public values are discerned and put into decision making which includes

decisions about science and technology like what science and technology do we choose to fund or propagate. A few minutes ago we were talking about Cuba going into genetic engineering and investing in agricultural biotechnology: so, you know, why does this country value this technology and what are its historical antecedents and how does it play out institutionally? What role do people have in making these decisions? Does it make sense to talk about a public or to talk about public values in the particular kind of state that Cuba is, and so on. Those would be the ways in which I would parse out Knowledge/Value. That of course leads to methodological issues but maybe I've talked long enough and you should get a chance to refine the question a bit more.

Interviewer:

I actually want to follow through on the question of specificity and particularity because this was an interesting line yesterday in the workshop and so I wanted to go into it a bit more with you. You approach the question of the relationship between the universal and the particular of course in your work and in your most recent paper for the workshop. And in the paper you state that particular American understandings of things like objectivity have become embedded in the WTO perhaps inhibiting the adoption of other forms and so I was wondering do you consider this to be one iteration of a mode of circulation where particular national or subnational forms get taken up in international policy spheres? And what might happen to the form itself at that point of absorption? How might it be altered, etc.? And is this all contingent or is there a structural pattern for you in the way that these forms circulate? And I'm happy to refine that question if it wasn't clear but I think these are some of the more interesting lines coming out of our discussion yesterday.

SJ:

So the question of pattern, to take the tail end of your question, I think it's far too early for us to be talking about these things in that direct a way, because I don't think enough research has been done on the modalities or the pathways by which nationally defined, long-established modes of doing reasoning or connecting knowledge and value get picked up and circulate in wider domains. So I think we have to approach this in some sense institution by institution, and these are very different forms anyway. So something like the World Trade Organization, which is a product of treaties, is a different kind of context from, say, the Intergovernmental Panel on Climate Change, which is allegedly producing knowledge on the basis of which policy actors back in the nation-states will then do their work. And that, in turn, is different from, let's say, a European regulatory body or a European information provision body like the European Environment Agency, which is trying to collect and standardize data; or the OECD, for example, which is trying to compile data in ways that other nations will accept. Or Codex, which is trying to establish safety standards for food additives, among other things.

So I think that there's a lot of institutional particularity that we need to look at, and they're operating under different kinds of mandates. Their position in the entire complex translation of science to scientific research to assessment to standard setting to implementation, that is a very complicated picture of very different kinds of institutions. It would be way too premature, and probably also false, to say that there is a US kind of settlement that unproblematically makes its way around the world. I do, of course, have intuitions about certain kinds of things, and these intuitions to some extent go back to ways in which we theorize modernities as they've been

articulated in different places. My old research suggests that a kind of divide between highly situated, individualized, subjective, experiential knowledge on the one hand, and (in a kind of caricatured binary) deracinated, quantified, aggregated, epidemiological, statistical knowledge on the other hand - that that divide has articulated itself differently in the regulatory structures of different places. The more we move along that axis [toward the deracinated], the more we tend to call it modern, though I think on the basis of my own research that if you excavate the ways in which these highly modern institutions actually approach decisions, when push comes to shove, you find many examples of quite situated and subjective and so forth knowledge and reasoning playing out in those contexts.

But that aside, the formal way in which these institutions are supposed to operate differs. The non-“Global North” country that I’ve worked in in any serious way is India, and I think that the line between subjective/objective, fact/value, quantified reasoning as opposed to experiential justification, that those lines are drawn differently in India than they are in America. So I can point to particular institutional moments of formation where I see stylized tendencies being somewhat unproblematically put into institutional design, and institutional design then becomes a very powerful way of keeping that settlement in place.

So take the IPCC, the Intergovernmental Panel on Climate Change, as an example. There’s a lot of literature in STS that says that the idea that scientific knowledge emerges in a kind of vacuum of representation between nature and the observer - politically vacuous because there are no values and it’s simply truth-to-nature - and that objective representation in a linear way makes its way into policy, and that’s where the values come in -- that this is a simplified, simplistic, and generally erroneous view of the links between science and public policy. If you then look at the institutional design of the IPCC, you find that it has three working groups, and these three working groups have been thought of as being somewhat chronologically organized. So there’s Working Group 1, which does the science, and Working Group 2, which does the impacts, and then Working Group 3, which studies the policy options. Well, you couldn’t ask for a more linear design - it has embedded in it a tacit assumption about the way in which knowledge should link up with policy. And it separates even the question of impacts from the question of what policy recommendations should be offered. So, there is a place where the fact that these very boundaries between knowledge production, value creation, and interpretation and implementation, that those boundaries are being drawn differently in different places, seems not to look back reflexively into the institutional design question at all.

Another area of interest to me is the way in which a lot of the public value question has become captured by the term ethics, which implies a certain kind of very formal approach to understanding and analyzing values, and also the rise of a new domain of expertise – ethical expertise. So for sure if you look around the nations of the world, their answer to who should speak for public values is not the same, and the professional development of ethics has taken very different pathways in different countries. China, for instance, in the specific field of bioethics, has clearly adopted a sort of imitative trajectory to some extent, and this is because in order to function in the global economy of pharmaceutical testing and pharmaceutical development you have to buy into an already extant bioethics formation that’s been highly developed elsewhere. I think the situation in India is somewhat different. So these are contested lines and they’re unresolved issues, and so it’s certainly premature to say that particular

formations already have become hegemonic, but one can find tendencies. Those tendencies wouldn't necessarily map one-on-one onto nation states and their stylized ways of talking. They could map onto Western culture versus non-Western, whatever that exactly means. They certainly do map onto conventionalized modes of thinking about the connections between knowledge-making and decision-making that are quite well-established across the countries of Europe and North America and less well-established elsewhere. But for a whole variety of quite Weberian bureaucratic reasons -- such as "I want my crops that I grow in my country to sell in your country, therefore I have to buy into your standards system" -- there is a kind of assimilation or homogenization that's going on about some of these presumptions, quite antithetical to the underlying political debates inside those very settlements.

Interviewer:

I want to go to another level of generality a bit, because I was very interested in the statement you made yesterday, which is that you would like to resurrect difference. I would love for you to talk a bit more about what this resurrection means for you and what are the stakes that you perceive in resurrecting difference.

SJ:

Well, I think part of the answer to this is historical, and I'll tell you a little anecdote. When I applied for my very first grant from the National Science Foundation to look at regulatory differences between three European countries -- France, Germany, Britain and the United States -- in chemical regulation, all of my political scientist friends said that this was essentially a null research design, because all these countries had chemical production as a major industrial activity, all these countries were similar in their scientific and technological development, all these countries were economically advanced, and they all had liberal economic structures, and, moreover, human bodies behave in the same relationship to chemicals regardless where these bodies are situated, so there would be no regulatory differences to be found. Well, this was contradicted the moment I set foot in my first research site - something so far away and different as London - and it turned out (in language that I didn't as yet have any recourse to, because I was trained as a perfectly ordinary lawyer) that they had no place for the ontology of the "carcinogen" in their chemical regulatory system. The way they put it was, we don't understand the American concern about carcinogens, it's because Americans are just so fearful of cancer - we don't think it makes sense to regulate on the axis of carcinogenicity.

Well, that of course played out into all kinds of secondary and tertiary ramifications that were incredibly interesting, because it affects what kinds of sciences actually take root, how holistic or reductionist the models will be by which you model the toxicity of a chemical, who has power to speak. So for instance, if you're worried about environmental carcinogens then you're delegating a lot of power to ordinary citizens who feel they live in toxic neighborhoods. But if you don't, and are concerned about, say, workplace health and safety generally, then it feeds more into the classic British structure of political bargaining in which labor and employers were in a somewhat routinely, but quite sharply, adversarial relationship. So the question about class consciousness in relation to what was worth fighting for depended in part on which kinds of toxicity we privileged. All of this, of course, I didn't see or understand at the moment that we first landed there and learned that they don't regulate carcinogens. It was a wakeup call. But once you start pulling at any initial thread of difference it's like rewinding the thread of the labyrinth, you

recreate the labyrinth, and you find out that there are many labyrinths, and yours is not the only one, and it's by no means a straightforward route. And I think that that's incredibly important to understand. It's important whether you're interested in making regulatory policy, which always involves a degree of reductionism and flattening of territory, but whose territory are you flattening in what ways? It also relates to subjectivity. If I'm sitting in Maze 1 as opposed to Maze 2, the things I'm going to be amazed by will be different. It's flattening subjectivity, along with the territory of governmental power, of state power, to say, oh look, it's all the same. And some people may have better solutions than other people, so of course I believe in reflexivity as a methodological move. And the way to, in a sense, cast our own spotlight back upon ourselves is to look at difference and start asking why, whence does it originate in a historical sense, and what are the consequences of having *these* differences and not other differences.

Interviewer:

My method question has, in my head, turned into a historical one I think as well, and it kind of refers back to what you were saying before. I guess I'm interested in international organizations and recognizing that a lot of the time their founding can be traced back to the post-World War II period, which was a particular political and historical moment, and that in the founding of any of these institutions certain knowledge practices and regulatory practices were kind of embedded. I'm not suggesting that those have been static in any way, but I'm interested in seeing how you see certain global or geopolitical hierarchies of nation-states playing out in whose regulatory practices become naturalized as the dominant or the normal ones. So it seems like it's also a democratic question in a way, a question of participation, because you do have to buy into a kind of normative paradigm of knowledge production, you have to buy into the idea that we're all going to be an international organization in order to participate and have a voice in that organization. So I'm wondering how you see that playing out – how as an ethnographer or doing social study of science how one can investigate that. And then the kind of political question is how one can push back against it and denaturalize and expose the normativity of certain dominant regulatory practices.

SJ:

So again to begin with the end, denaturalization is actually a lot easier than you think, because so much stuff is naturalized that whenever you say anything against conventional wisdom, people open their eyes and say, oh, really? So just beginning to look already denaturalizes – like the example I gave before of going to London and discovering that they didn't think the category carcinogen was important. Before that for three years I'd been a law student at Harvard, and for two years after that I was working at an environmental law firm in America, and I took it completely for granted that environmental carcinogens were a serious subject of concern. Every single major federal regulatory agency, some twenty in order of magnitude, were all concerned with carcinogens: they were developing a policy on carcinogens, there was this inter-agency focus on carcinogens. And then you go to another country and it's not that way at all. So the denaturalizing I don't think is a methodologically difficult move if you start from anywhere and just ask the question how are they doing it.

The question about international organizations - I think that's one of the fascinating topics of the here and now. And it's not at all self-evident whose ways of thinking are coming into being. Of course, there's a set of international organizations that come out of the Bretton Woods era and

out of the strictly international as opposed to global framing of issues, and I think that there one can discern a set of tendencies. And one can look at the UN, but even the UN's own agencies of course come from somewhat different eras and have somewhat different life histories. And I'd be quite interested, by the way, in looking at agencies that are located in different parts of the world and see to what extent they're in correspondence with the local knowledge cultures, because you know it's going to be affected and refracted in their hiring practices to some extent, and so on and so forth. But if you take, say, the European Union as another complex international organization, I think you would find a tug-of-war between two systems of legitimacy and knowledge cultures, one rooted in continental civil law traditions and one rooted in Anglo-American common law traditions, that are differently sorted out in different ways. So, in my paper I talked about our attempts to get through to the WTO with an *amicus* brief, and one of the things that I had actually never self-consciously thought about was, in an international adjudicatory body, what is the status of the *amicus* brief? But with the WTO you have to think about it, and in fact they explicitly said on their website that we have no formal rule for an *amicus* brief. The WTO represents an amalgam of multiple legal cultures, and the *amicus* brief is very much a particularly American (with some residual British support) formation, whereas the WTO is more in an inquisitorial system where the judge is supposed to know who the experts are. The idea of befriending the court with advice and knowledge advice that the judge would not have got from elsewhere suggests a different role for the judge. Whereas if it's the American judiciary forced to listen to parties who have mapped out the territory in an adversarial way, then of course the argument is easy to make that, with these polarized adversaries who have failed to give the court certain kinds of neutral advice, the courts would benefit from a more neutral perspective. So there is a case where it's not at all obvious that a particular legal culture had been enacted, but rather that it is an interesting hybrid. And of course it changes over time as well. So

I think that it's a fascinating territory in which the questions that interest me or would interest me are what are the particular kinds of hybridities being created in these international organizations? Are there ways in which all these hybridities overlook certain kinds of what we were yesterday calling deep structures? Is it possible, for example, that although there's a good deal of fighting about form, there is an underlying embedded set of presumptions that go back to one of the things I was talking about before, the binary (too stark but nevertheless real) between statistical knowledge on the one hand (evidence-based in that sense), and experiential and subjective knowledge on the other hand. It could be that whether you have an inquisitorial system or an adversarial system, experiential knowledge is getting short-changed in both, it's just happening by different routes. So those would be the kinds of deeper structures to excavate, and for that one would really need to look at case-specific controversies and winnings and losings and so on.

So in my own work, the place where I've worked this out with colleagues' help is the edited volume *States of Knowledge*, where I have my own long synthetic chapter on co-production and what it means to an STS scholar. But if you look at the individual chapters in that volume, a lot of them are talking about the coming-together of diverse cultures of knowledge and regulatory power. One of them, for instance, is a case study of the European Environment Agency by Brian Wynne and Claire Waterton. What they argue there is that two quite different ways of thinking about uncertainty, and what it means for the European legal concept of subsidiarity, were being worked out at the European Environment Agency at a particular moment in time. So I think that those moments of contestation are incredibly important. And it goes to the critique point, because

if you lose the points at which you can denaturalize, before something becomes so embedded in ongoing practices and routines that afterwards you can't go back and unpack it, then it is harder to find entry points for critique. And really to me that's the strong methodological justification for looking at those moments that I say are important in the co-production volume and in my chapter. So I talk about moments of emergence – those are terribly important historically, because that's where the roots of naturalization get laid down. Moments of controversy, because that's where the stakes have risen to a high enough degree of salience that people actually feel it important to challenge an existing or imagined order. Moments of reconfiguration which sometimes happen -- reform and reconfiguration from inside of an agency or a structure itself. Even the most solid-seeming structural formations do go through these periods of crisis. So we have a constitution, which we claim in the US has a continuous history since the founding -- yet it's astonishing when I talk about that to my classes at Harvard and say, how many of you could have voted under this constitution whose continuity we take for granted, they haven't thought about that. So one can also go to moments of rupture. I am quite fascinated by the idea of the constitutional crisis in Britain, for instance. It's something that they talk about a lot. I've never done a systematic quantitative study of how often British newspapers raise the term constitutional crisis, but the whole idea of a constitutional crisis in a state with no written constitution is very interesting. What are they reconstituting at those moments? So I think that even in very stable, embedded, ongoing institutional situations one can go look at those moments of rupture. It's partly why I'm interested in disasters, because those are moments at which you have to pick yourself up and re-reason your way back into normality.

Interviewer:

Clearly in the anecdotes you provide in your paper and also in the rest of your work, you have priorities about the types of spaces in which you like to intervene and the audiences to which you direct your work, and we were hoping you could talk some more about those choices and what the value that you see in those types of interventions is.

SJ:

Again, it's a big question. So, as far as the choice of spaces is concerned, a lot of it is dictated by happenstance. I am trained as a lawyer, there aren't that many STS scholars writ large - you will be one of them - but there aren't that many who actually have a JD. It's actually astonishing how disempowered people feel to work on law and legal materials if they don't have a JD. I was thinking about this recently, because I've been working on a project on evidence with someone trained in history of science (who actually wrote a history of regulation), but nevertheless just technical things -- like how do you find the cases that are related to this particular case you're interested in, how do you Shepardize -- these are not things that are immediately accessible to everybody.

Then I found law an incredibly compelling, rewarding research site. I didn't go into it thinking about the whys and wherefores, but if you're interested in authority, if democracy is a concern, then science and law have a lot of very similar attributes. They're fairly closed communities, and one can think of them as, to some extent, autopoietic systems in Niklas Luhmann's terms. They professionalize, they discipline, they want truth, they have their own hierarchies in which the supreme declaratory authority is built and asserts itself in certain kinds of ways. So the interactivity between those two, to me, is a very important site of study, especially if one has

interests in critiquing the dominant order. I don't think dominant orders come about just because we found the natural truth and then everything followed. I think it's through interaction between law and science and then, of course, other things like capital as well. So for me it's a sort of straightforward thing to intervene via the law – I count myself in a way blessed that I started out this career with a ready-made set of tools and sites that I could have access to, and they're important anyway, as well.

So I've talked about why the law, and in a sense why my concern with particular topical areas like environment or science policy or biotech: those have just grown up somewhat organically. I worked as an environmental lawyer, so was interested in that area from the start, but again it turns out to be, from the standpoint of thinking about politics, an incredibly rich arena, because all of those significant democratic experiments of the last thirty years have coalesced around the environment. So, how do we relate knowledge to action? Social movements, what do they mean? What does the international or global order look like? A lot of the issues that we worry about these days had a kind of startup in the environmental arena. And I find genetics similarly interesting, because it's a fundamental re-representation of the entities around which we have organized basic aspects of our legal systems.

Interviewer:

You have law and science, and there are so many different spaces in which you could intervene on those topics. So, for example, why the WTO versus another kind of intervention? Why is that important to you?

SJ:

I don't actually think that intervention is limited to the kind of thing we did with the WTO, which was a very concrete attempt to insert oneself into a process of power. I think all of my writing is a continuous intervention, and I actually fight the notion that you are only intervening when you become "an activist." I think that you can be an activist by choosing to write about certain kinds of things and altering the way people think - in fact I think that's a foundational activism. So why have I chosen to intervene in such a conventional everyday sense? Sometimes it's because of a sense almost of outrage at the misuse of certain kinds of bodies of scholarship, selfishly, ones to which I've contributed. So one time that I intervened in that narrower sense was when the Office of Management and Budget was trying to alter the peer review guidelines for the entire federal government, and I was called up by a fairly high-placed official who said that my book, *The Fifth Branch*, was providing the foundation for this rewrite of the rules. And this just... Although I grant that reading is an open-ended exercise and people will read me in whatever ways they feel like, this struck me as outside the bounds of allowable misreading. Anyway, that's a different kind of intervention.

I consider my work in a sense an ongoing intervention in the world at many different levels, and this goes directly to your question about audiences. First of all, I am trying to carve out a space in universities for an ongoing critical discussion of science and technology, a self-reflective critical discourse on science and technology. This means building a new discipline, and it's immensely difficult work. It's not easy to clear that space, because it's already occupied by disciplines, they see themselves as contiguous, and they continuously reproduce themselves. So part of my interventionist strategy is to write to and for those people who I hope will help me

create those spaces, free up those spaces, in that particular way. Part of my audience is in other fields that don't take what I consider to be fairly core STS insights on board, like say law. So if you look at where my articles appear and how they appear, they appear across a wide variety of types of journals and publishing contexts, and that reflects an explicit desire to talk back to disciplines. And I also write for scientists, because they've been part of my audience and actually part of my cheerleading crowd. In my attempts to build this field I think the most consistent support I've had is from science and engineering, not from the social sciences and not from the humanities, partly because the science and engineering people don't see it as a zero sum game or at least it's not taking anything material away from them. So they're happy to have more of the social sciences looking at them, to some degree. But it's not only a cynical thing; there is often real appreciation among scientists for STS. So I write for those audiences, and I write the occasional solicited op-ed type piece for a more general audience as well, but I have my hands full fighting the disciplinary battle.