Interview with Troy Duster New York University

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STAR: One of the issues that we invariably face with undergraduates, when we try to extricate race from biology, is the case of sickle-cell anemia. A student will posit, "Well, isn't sickle-cell an obvious indication of race?" How would you approach that question? What examples or analogies would you use to address it?

Dr. Troy Duster: Sickle-cell anemia is known to be a response to malaria. If you have the sickle-cell trait you have some protection against malaria. You find sickle-cell anemia much more common and more likely in places where there have been malarial links and infestations. Okimenos, Greece is one cite where sickle-cell anemia exists in a much higher proportion — one in five people in one particular village in Greece has sickle-cell. That is double the rate of parts of West Africa where there is sickle-cell. Of course, the Greeks are not known to be Black. The first point is that you will find sickle-cell anemia in various parts of the world, it's in the Arabian Peninsula, and it is in certain parts of the Mediterranean and West Africa. Now, because of the slave trade, West Africa was the source where most blacks where brought to the United States. So, the sickle-cell rate [in the U.S.] is about one in twelve — those who are carriers — compared to one in five in Okimenos, Greece. So, when people say, "well sickle cell is obviously a matter of race" that is because they don't understand that sickle-cell is a response to malarial infestation.

Another question that comes up is that which was posed yesterday, "if a particular racial group has a higher rate of "X" than

another racial group, then clearly race is operating." Or, "If the epigamic fold is more common in Asians than in other groups and is clearly coming from genetics, what else can be coming from genetics?" There is a logic to this that you can see people developing: If X then Y, why wouldn't other things come, right? Well, that is deductive, that is axiomatic, but it is not empirical. So, why wouldn't you say that, "Since many Asians in the 1960's were wearing dark clothes—almost no bright colored clothes in China—is that likely to be genetic? If Asians are doing it, if they have the epigamic fold and wear dark clothes, it must be genetic?" The logic is, if it's in the genes, then maybe it will express itself in the form of intelligence, temperament, interactional modes, patterns of clothing and everything that follows. If you begin with this deductive model, it is in the genes. But, of course, the answer is genes are simply instructions (RNA messengers to the cell, to the protein), you have to develop a pathway between the gene and the expression phenotypically. What would lead you to conclude that the genes were going to tell the proteins to do something, which is going to make neurotransmission patterns different? That is an empirical question. You can't do that starting with the expression, phenotypically, the clothing, the IQ, or the crime and theorize back to the gene. Start with the epigamic fold and theorize back to the gene, start with skin color, start with anything. Well then why not IQ? If you have a high IQ must it not be based in the genes? Or you have a high crime rate among a group, must it not be based in the genes? Isn't everything, therefore—if it is phenotypically expressed—back to the genes? The answer is, you have to have a theoretical warrant. You have to have grounds for suggesting that this expression, phenotypically, is going to explained by the genotype.

Now, let's take cancer. A higher rate of prostate cancer in Group A than Group B. You say, "Oh must be that it is biologically genetic." Group B has a higher or lower rate based upon their genes. I say to answer that empirically, is: leave Group A and B, and go outside that group to see whether when that group is in Brazil, South Africa or other countries that still holds. It turns out, it almost never holds. Once you leave the confines of a small empirical

based group — subject to social, political, cultural patterns — then rates of cancer, which you expect to be biological if you have the mindset of the medical model, turn out to be much more complex and environmentally induced.

Look at the breast cancer rates. Japanese women in Japan have lower rates of breast cancer than Japanese women in the U.S. Look at migration patterns — those women who come to Hawaii, then the United States, their cancer rates then correspond to or link up to U.S. breast cancer rates. In Israel, the same thing appears to be the case. Russian Jews have lower breast cancers, if you stay inside of Russia you'll think, "Jews have a low breast cancer rate." You move to Israel, those same Jews in Israel approximate the breast cancer rate of Israel. If you tell that to undergraduates, they start to get the picture that they're making this leap between the expression of breast cancer and genes without understanding all the complex forces and interplay between breast cancer expression and whether or not you're living in the United States. If you come back to sickle-cell, it becomes much more obvious. East Africa has almost no sickle-cell, they're black people too? If sickle-cell is a black disease, how come the East Africans have none and the Greeks in Okimenos have a higher rate than West Africans?

STAR: So, when you talked about taking the behavior and the temperament and the attitude of someone and trying to link it to their genes through race, is that what you see as the biggest threat to society of this kind of reductionist science?

TD: Well, it depends on the arena. If you're talking about, let's just take a volatile topic like violence and crime, and it is the case in the United States the highest rates of murder, of interpersonal violence are in the black community. That's true. Now, you want to reduce violence. People do not want to have violence and you see a group of blacks with higher rates. So, you theorize, well maybe this genetic or the biological basis of violence is really the most important one. All right? Now, that could be a threat to the black community, because what its doing is interpreting crime and violence through the lens of biology. And once you do that, then you are suggesting that there are social, economic, and political forces that are

less important. And, therefore, you don't have to have programs, social interventions, because you are assuming that biology is an inexorable force. People are inclined to violence based on their biology, their genetics, or their parents' neurotransmission…in which case, why would you want to intervene? So, back to Arthur Jensen, same argument about IQ, its what Watson was commenting on. So Jensen writes an article in 1969, saying how much can we boost IQ? Well, we can't because IQ is quote genetic. So, why have these Head Start programs? Why, if they're so convinced they're going to fail, because young, black kids are inclined genetically to have low achievement through, or expressed by IQ scores. So, now the threat is, we're going to reduce intervention socially, politically, and economically because we have a theory that says biology is the real explanation. So, when you get into areas, as I said yesterday, of alcoholism, crime, certain parts of deviance, there's a fight between ways of thinking, a political fight. Do you intervene at the level of individuals or groups? Do you try to do this in terms of social and political programs? Or do you try to say, it's no use to intervene, because these people are inclined towards a fill in the blank. Alcoholism? Why intervene with alcoholism programs, when Native Americans are biologically inclined to be alcoholics? When, if you step back and say, "Wait a minute. Ten or fifteen years ago here are the way things looked."

STAR: And do you think that you could, that someone could, go the opposite direction and say, instead of saying, "Why intervene at all?", they would say, "Let's start doing genetic modifications. . . ."

TD: Well, that's why I said its a double-edged sword. Let's take the homosexual gene. Back in the early 1990's, there were several studies, the most important was by a Dean Hamer, which he suggested there was a genetic basis of homosexuality. Now at this point, this set of findings split the gay community. Some gays said, "What a great finding." And Hamer himself is gay. As was his predecessor. They both concluded that there was something to the biology of homosexuality? Now here comes the social-political context. Because what they were suggesting, "Well, if people

conclude that being gay is biologic or genetic, then they will be less punitive." Therefore, here's the flipside, there's nothing you can do about it. It's the flipside of IQ or violence. There's nothing you can do about it, just let it be. Well, part of the gay community said, "Hey, great finding! Because now we can tell our parents or our friends, it's volitional, it's not will. I can't help it. I'm just gay." Now, sociologically, there's a cosmic naiveté to that position and it has to do with eugenics. Because if they really thought this through, going back to the Third Reich, if the Nazis, or later on Cuba's Castro, who were viscerally anti-gay. That's the two extremes: you have the communists on the one hand and the Nazis on the other, both anti-gay. If they knew they could reduce the gay population by, say with genetic tests or with certain kind of strategies, they were crude back in the Third Reich, in Germany, the extermination programs. Just being "Jewish" wasn't an issue of volition, it was a matter of coming through pathways of culture and in some ways you can talk about this in biologic terms, transmission over 2000 years. The naiveté is, well if people say its biological, they'll accept it. What? Do you not read history? So, the gay community in 90's was cosmically naïve, in that they said, "If we accept this notion of being gay is genetic, it's biological, people will accept us." Again, the answer is, it depends. It certainly was not going to be true in 1931 in Germany. It might be more true in the Castro district of San Francisco in 1995. Whether it was going to be true for your heterosexual parents in Iowa, that's a different question. That's why I said, it cuts both ways. You can't be sure whether or not calling something genetic is going to be a regressive or progressive position. It depends upon the social context. You can't just say, "Oh its a progressive finding" or "Finally, it'll be progressive in it's outcome". You don't know that. Biology isn't going to tell us that. Sociology is.

STAR: Why would scholars within the social sciences be inclined to use texts like the "Bell Curve?" Could you speak to the rationale and the consequences of such decisions by those in the academy?

TD: The critique within the social sciences of the "Bell Curve" has been compelling and fairly, dare I use the term, hegemonic. Most

of social scientists will say that the "Bell Curve" is based upon a series of flawed assumptions. Let me tackle a few of them. The "Bell Curve" was riding the wave of the legitimacy of genetics. There is nothing new in the "Bell Curve" from the 1990s. The book with published in 1994, I believe, but the data are all from the 1920's and 1930s; they are using births and twin studies. As I have pointed out in my critique of the "Bell Curve", there is nothing in the text that talks about evolution in molecular genetics. Not a single study in talks about what happened with the Human Genome Project. You would think by 1994, if there was something about IQ and genetics, there would be some link to the revolution that started in 1954 with Watson and Crick and DNA. Nothing in the "Bell Curve" is about the DNA, and yet it is riding the wave of the halo of DNA. That is the first point.

Second, it is all correlational work. They are correlating IQ with race, which speaks to the argument I was making earlier, now applied to the Bell Curve. You start with the phenotype, IQ, and you then theorize back to the genotype, without any understanding of the process by which IQ develops. There is nothing in between the link between the expression of IQ on a test and the gene. [There is] nothing between performance with respect to violence or crime and the gene. This has do with the conceptual linkage between what you think to be an intelligence frame, that is, IQ and the gene, and people will therefore conclude that some things are genetic and other things are not, not because of the genetics but because of the social meaning of these things. This may sound far fetched, but think of the recent publication in *Political Science Review*, that inclinations toward politics are genetic. For instance being progressive or regressive. Another article was published that claimed inclinations toward religion are genetic. Why would you think someone's inclination toward believing in God was or was not genetic? Well, if you are deeply religious and want to believe that, you are inclined to think that way. Fill in the blanks about what people feel strongly about and you'll have some theoretical warrant within that paradigm for suggesting, "Oh, must be genetic."

STAR: If I'm understanding you correctly, are yo saying the major leap is between linking something like intelligence or IQ to the gene . . .

TD: Yes.

STAR: . . . . and once you make that leap its not hard to leap to something we see as so social, like divorce or marriage, religion, anything to the gene?

TD: Yes, once you make the leap between expression of the phenotype, and it can be anything, I mean you could conjure up things that look ridiculous and say, "Well, its an expression of the phenotype, maybe there's a genotype to it." So, there's a New Yorker cartoon, which said, "They've discovered a gene for looking for the gene." Yeah. Right.

STAR: I was wondering if you could talk if you could talk about your thoughts on whether diseases are passed through generations and how that would be linked, or how people would try to link that to something like race. Specifically . . .

TD: Oh sure.

SI: I was just thinking about alcoholism and Native Americans. People say alcoholism is a disease and it has potential to be passed from parent to child.

TD: Two different kinds of answers. One is . . . some of our recessive disorders are passed through patterns of, well, marriage is one way, but people getting together and having babies. You don't have to married to have that, okay. So, if there are social forces at play, which explain why people are going to mate, like religion, let's say Ashkenazi Jews. Over 2000 years of stadels, ghettos, this group. . . . Well, let me back up a little bit. Off in Northern and Eastern Europe, intermarrying over and over again, because of cultural, religious, and sometime external forces, that group is going to develop certain kinds of recessive disorders, which are going to be much more concentrated. So, Tay-Sachs disease is more common among Ashkenazi Jews than among Gentiles. However, here's

the mistake people make, they say, "Oh, it must be that Jews are inclined to Tay-Sachs." Well, they are. But, only Ashkenazi Jews. Sephardic Jews to the South, do not have Tay-Sachs, if anything, like the degree of Northeastern population of Jews.

Now, back to the sickle cell example. Same thing. Turns out that French-Canadians are at high risk for Tay-Sachs. And people say, "Well, Tay-Sachs is a Jewish disease." No, its not. Its a disease that's a function of the concentration of patterns of reproduction, marriage, offspring and so on. And those are socially framed by endogamy rules. Who's going to be able to marry whom? Well, Beta thallassemia, its called Cooley's anemia in some circles, same thing. High concentration of Beta thallassemia around the Mediterranean. In Sicily, high concentration. Why? People marry each other for centuries concentrating that particular recessive disorder. So, your question now, about passage through genes of diseases. Yes. They are passed through lineages, and part of that is going to be this pattern which is Mundelein, also known as recessive diseases. Here now is where things start to get complicated. Poverty and wayfaring are also passed through generations. In the 1900's, there was a theory that wayfaring was genetically transmitted. Why? Because fathers were wayfarers, grandfathers were wayfarers, and you could go back generations of people whose fathers, whose grandfathers were all seaman. So, people said, I'm not making this up! You can read this in Dan Kevles's book called "In the Name of Eugenics". And he has this account of people who were geneticists who were convinced wayfaring was genetic. Why? Because it passed through families. Let's take carpentry, you can take anything, plumbing. If your father's, father's, father's, father, if they were all plumbers, maybe its genetic. Blacksmithing, you know, you name it. It passes down through the generations. Poverty is also generational. So, your father's impoverished, you were impoverished, your grandfather was impoverished, maybe poverty's in the gene?

In my book, "Backdoor to Eugenics", I use two examples of this. One, is the most famous case of all, the Supreme Court case of Carrie Buck. Carrie Buck was mentally disabled. The assumption was that her grandmother, or her mother was mentally disabled, and she had kids from an illegitimate relationship. So, it was taken

to court, because they had a sterilization program, they wanted to get rid of mentally retarded [people]. It was not that uncommon. We've sterilized over 70,000 people in this country. So they had this in the court case. It went to the Supreme Court, the Supreme Court ruled in Buck v. Bell, somewhere around 1927, a famous case. The Supreme Court ruled, yes, Carrie Buck could and should be sterilized. And the grounds were, this was obviously "genetic." It was running in the family, mental retardation was running in the family. It was clearly biological-slash-genetic. And the famous quote from Oliver Wendell Holmes was, "Three generations of imbeciles is enough." Okay? That extant Supreme Court ruling, by the way, has never been overturned. Case number two is relevant. 1948-49, Skinner v. Oklahoma. I am *not* making this up. Skinner v. Oklahoma was about someone who was a chicken thief and his father was a chicken thief, his grandfather a chicken thief. It went to the Supreme Court. The Supreme Court ruled that in Skinner v. Oklahoma, no, you couldn't sterilize Skinner. Why? In an extraordinary piece of logic, the Supreme Court logic, actually progressive, they ruled, well it's class-bias. We're not looking at generational crime from people of higher status and until we can do that, we're not going to permit the sterilization of Skinner. The important part of the story is Buck v. Bell remains extant Supreme Court ruling; it's never been overturned. So, long way back to your question; it's in the family. Chicken thievery is in the family, so is poverty, so is, let's say homosexuality, because it could be, so is alcoholism. Now, how do you disentangle the family from the social and the cultural? So, wayfaring, back to Dan Kevles, wayfaring is in the family. They thought it was genetic. We're back to the original point I made. You've got the phenotype, wayfaring, the phenotype is alcoholism, the phenotype is IQ performance, the phenotype is religion, keep the list going. And some things are candidates for interpretation in the genetic. And other things are not. People will say, "Oh yeah, alcoholism, yeah, that could be, because its in the family." Well, why not fruit juice? Why not lactose intolerance? Why not milk. Why not shining your shoes? I mean if you're going to go for wayfaring as genetic, and they did. People will say, "What do you mean wayfaring is genetic?" But they published an

article on the genetics. They published and article on politics and genetics. So, its just a matter of the prism of inheritability that we're using that makes it plausible that you think wayfaring in 1910 was genetic and now you think in 1995 that alcoholism is genetic. Or gayness is genetic. But it's the social-cultural framing that makes you have the theoretical warrant to call something genetic or not. That's my point.

STAR: There has been a steady rise of programs and credentialing in genetic counseling. What advice or suggestions would you offer to students, to keep in mind, upon entering genetic counseling programs? What do you consider essential knowledge for students going into this arena?

TD: This is not just a hypothetical question. I was on the advisory committee for genetic counseling at UC Berkeley back in the mid 1980s when these programs were getting started; Berkeley was one of the first ones. There was a debate between several of us on the committee about what counselor's *should know*. Charles Epstein, a geneticist on the committee, said that these students need to know vanguard biological and genetic research. "We want to put them in lab programs at the very vanguard; we want them to know everything the rest of us know about molecular genetics; no cutting corners." Some of us said "No," that's not what you need to know to be a counselor. If you want to do lab work that is a different skill, a different technique from being a counselor. Epstein replied, "But you have to know the vanguard research." He wanted these genetic counselors to be trained at the very apex of molecular genetics. I, along with a few others, said that will divert them from the real mission of counseling which is to give people considered advice on the likelihood of them having a child with a genetic disorder. That they can not learn purely with lab work, but with an understanding of dominant genetics, Mundelein genetics or an understanding of the complexities of talking about genetic susceptibility. For that you need not be in the lab, to understand the basic principles of genetics. That is my view.

Now, what happens in a counseling session? I go into this in some detail in the book. In counseling sessions couples, usually

couples, want to know their risks. The counselor, in framing risk, is very much in control of how the person is going to respond. Here's an example: Downs Syndrome. [A couple inquires] "What are my chances of having a child with Downs Syndrome?" Let's say, she's thirty-three and he's thirty-five. The counselor can say, "Well, your chances are about one in 600." The couple may say, "That's pretty good." The counselor could say, "Yes, but if you were twenty-two, the chances would be about one in 6,000." So, as you get older your chances and your risks for Downs Syndrome go up. By the time you are thirty-eight, your chances are one in 200." Now, as the counselor frames the risk, you can see how the couple is listening to the risk figure. If it is decontextualized, one in 600 seems okay. If [the counselor] says, "Yes, but one in 600, that is not like one in 6,000. Don't you really want to think about this?" The counselor, in framing the issue of risk, is giving the cue to the couple of whether or not they ought to consider seriously not having this child. That is true for almost all sessions.

I, and others, use Tay Sachs as the limiting case. Tay Sachs is the most debilitating of all the gene disorders. The child is born looking healthy, by age three [the child] starts to have deterioration of the central nervous system, dies by [age] four or five. That is devastating. [Genetic counselors] use Tay Sachs as *the* case for genetic counseling. "You don't want that to happen." Here is where things get complicated. Let's take cystic fibrosis or sickle-cell anemia. With Tay Sachs the child is going to die by five, but with sickle-cell — given the ways in which we now intervene therapeutically or with treatment programs, with all kinds of antibiotics and cures, a child with sickle-cell could live to be 60 or 65. That is an issue for counseling. Now, what do you say? With Tay Sachs, you could say, "You don't want to go there." But as a counselor, how do you frame the risk for a couple that comes in and says, "We both have sickle-cell trait, therefore we have a one in four chance of each birth having a child with sickle-cell. That tells you that three of four of their choices will not be sickle-cell. Notice the frame problem. Do I tell the couple, "You have a seventy-five percent chance of a child without sickle-cell." or A twenty-five percent chance, at each birth, of a child with sickle-cell?" That is a framing problem. Further,

how do I frame your risk or the risk to the child once they have sickle-cell? There is something called, "high variability of clinical expression," which means that the child could die at age eight or ten of a crisis. It could be dramatic: [the carrier] could have a serious kind of sickle-cell crisis—e.g. attack an organ like the liver. Or, with a diagnosis of sickle-cell, they [the carrier] could be quite mindful of using certain interventions therapeutically and they have actually cured sickle-cell with corked blood. It is not common but it can be done. Now, you're a counselor, what do you say? Here's the sociology of counseling. You could show a picture or a video of a sickle-cell case that was devastating for a couple, or you could show a picture or a video of someone who lived to be sixty-five. They are both done. The Cystic Fibrosis Foundation has several videos that they show. If I have three or four videos here, do I pick the most devastating video of cystic fibrosis? Obviously, some people are going to die by the time they are twenty-three with cystic fibrosis. I can show you that. Or, I can show you that now we have certain kinds of developments. Life extension with cystic fibrosis is now up another ten years. What is a worthwhile life? To live until you are thirty-five or forty? Is that a genetic counseling issue? Or is that a philosophical, spiritual, religious, political, cultural, moral issue?

So, your question was what do you teach people going into genetic counseling? I said to Charlie Epstein and others, and I am not alone on this position, but I was clear that genetic counselors need to have a very broad understanding of what it means to frame decision-making. They are much better off learning about framing risk factors—socially, politically, morally—than they are knowing about RNA messengers in the laboratory. When couples come they could care less whether or not this particular communication between the protein and the cell happens. They [the couple] want to know what it means to have the child. What am I at risk for? Not all this high tech work in the laboratory.

STAR.: Are you concerned that without that proper training of framing with the genetic counselors that that could lead to a type of modern day sterilization.

TD: No, I don't think sterilization is the issue. At least in Western, or advanced Industrial, shall we say democracies? I don't think that's going to be an issue. I don't think we're going to have sterilization programs. We're going to have subtle programs, like on welfare. You know the kind of subtle issues, where you're told, "Well, you're on welfare, do you really want another kid? We may just have a little implant in your arm here that keeps you from having a kid. You want to get your welfare check, put this little thing in your arm." So, I don't think we're going to go back to the crude sterilizations of the 1930s, the 1940's, indeed up until the 1970's we were still sterilizing people. I don't think that's a likely development. I think what's more and more conceivable is through a form of chemicals and subtle coercion with people who are poor. Just tell them, "We're not going to give you your welfare check, unless you put this in your body, then you can't have kids." It's going to be subtle.

STAR: You are the grandson of the late great civil and women's rights activist, Ida B. Wells. How does your connection with her impact your approach and goals within this discipline?

TD: My grandmother was a fierce fighter for justice. I think there is a burden when you are the offspring of a famous person. Measuring up, to what extent are you like your father or grandmother or grandfather. Psychologically it is a huge burden. My mother protected all of us, she said, I don't want you to ever take credit for what you didn't accomplish. If you walk around this world just saying you are the grandson or granddaughter of Ida B. Wells, I will be ashamed of you. We grew up knowing that we could or should not even lay claim to the legacy. It is kind of extreme because people don't know, after all my last name is Duster not Wells, and I never mention it unless it comes up in conversation. There is no direct cognitive link through me. More subtly, of course, there was something in my upbringing — my mother actually was very close to my grandmother, went around with her to all the meetings — whatever happens in that social interaction between mother and daughter influences my mother. I am sure my mother told stories about all of this that influenced me and the family. So, there is a subtle transmission going on about justice, truth and beauty . . . and warn-

ings. One of the warnings was, from my mother, "Don't ever think that by doing the right thing you will get rewarded for it. You do it because it is the right thing." Because she saw her mother often being vilified, having done the right. So she said, "Be careful of public life. If you think you are going to be rewarded for a good public life you are mistaken. You might be or you might not be, but you can't count on it." So, I don't see a direct link, I see at most a kind of subtle, nuanced indirection from my mother's view about truth, beauty and justice.

STAR: One thing, I thought was important, and especially since this will be in our student journal, is for you to talk about how you came to study this. It's not very typical for a sociologists to go into this field. And, especially hit on your experiences working with so many different disciplines and if you're respected as sociologists as [compared] to a maybe a biologist. If you even like working in a multi-disciplinary setting?

TD: How I got into it is kind of prosaic, it's not as though I said, "Ahh [hand shading over eyes], forward into that field!" I'd done some work earlier on the history of opiates and because of that book, I was invited to sit on review panels in Washington to review research grants. So, I got to know a lot of people in the world of biomedicine. And they began to tell me things that were happening in the new field of genetics and how I might find it of interest and if we could spend some time in the lab talking to them. So, that is the prosaic version. I literally was involved in biomedical discussion because of my earlier work on opiate addiction. That subtly got me more and more involved in what was happening in biomedicine, which in those years was the vanguard was molecular genetics. So, I just fit into conversations, learned more about the history of all of this. I will tell you a short story, which directly relates to your question. Because of my earlier work on opiates, I was on the President's Commission on, well the President's task force on mental health, during the Carter administration, 1979. And on that commission, we had the research task to advise the NIH for what kind of research ought to happen at the NIH. I got involved with, I was the only sociologist on the panel, other people were

very strong about mental health being mainly biological or genetic. I was struck by how strong, how fierce, their arguments were. That they believed the Mental Health Institute in Washington had gone astray; had been giving grants about poverty and rape and that was not a mental health issue. Mental health was about genetics and schizophrenia. And I heard these arguments and I heard the passion and I couldn't understand it, so I began to go and do some reading. And so the direct answer to your question is that the mental health research task force that I was on was a specific link for me, because I heard the claims-making about genetics and mental health, went to do some reading, and to my surprise, saw that the link was not nearly as strong as these people were making it. And, lastly, I understood that the claims-making was not coming from geneticists. It was coming from people in psychology, epidemiology, from political science. It was James Q. Wilson and Hernstein, the author of "The Bell Curve". In a chapter in "Backdoor to Eugenics", I talk about this. I say, "What struck me about the claims-makers was that none of them were geneticists, they were all people from other fields." So, as I did more reading, I got more fascinated with the sociology of knowledge. What is this that people are talking about genetics and IQ, like Jensen? Jensen is an educational psychologist, doesn't know anything about genetics. But claims-making is coming from people like James Q. Wilson, political scientist, about crime and human nature. I could go on down the list. People in alcohol research were talking about genetics and alcohol. They were not geneticists. Sociology of knowledge, which I knew about, begins to emerge for me as a real issue. So, that's an answer to your question about how I got involved.

And the last response is about how am I treated, or how I am engaged in this conversation with people who are outside of my field. Now, I think the best answer is a sociological one. Which is, I'm in a situation structurally where they have to listen up to a point. That is, I was a member of the National Advisory Council on the Human Genome Project and sat on the council. I became a member and then a chair of the National Advisory Commission on Ethical, Legal, and Social Issues of the Human Genome Project. So, I don't mistake my being a sociologist with my effectiveness in policy

arenas. That's a function of my structural position, okay? Once in the position I can bring sociological insights, or lack thereof, to the conversation, but I think my effectiveness in governmental policy conversations was more a function of my being on the Advisory Council or being chair of the [pauses], maybe I should tell you little bit about what it had to do with money. The Human Genome Project was three billion dollars, three billion dollars. Five percent of that went to ethical, legal, social issues research. And as chair of the LC working group, I therefore had some more say about policy around the direction of research that should and could be done. And, again, not because I'm Troy Duster, not because I'm a sociologist but because I was on that Advisory Counsel, as a chair of the subcommittee on LC issues. Now, once in the room, I *am* a sociologist and that's where you may be, or the thrust of you question is. What happens in the room when the sociologist talks to a molecular geneticist about these kinds of issues? And I don't think this an abstract question, so I'm going to give you a specific answer and you can do with it what you like. Here's the specific answer, one of the issues, and this could sound familiar to you, because I talked about it emergence yesterday, there are six of seven panels of the Human Genome Project. Only one of them that is social and political issues, that was my panel. The other five were technical specific issues, that is how do we increase the PCR analysis in the lab and they may have spent two years, finished their research or advise and disbanded. All the other panels disbanded after two or three years. But my panel, of which I became chair in the second round. So, the first two years one person was chair, Nancy Wexler, then I became chair after, on a year rotation. So, we had a big fight between the human Genome Project and a particular sub-panel, which I won't go into. It had to do with funding and who is in control. It was a big blue ribbon panel that got together and the question was, what should happen to this LC working group and as chair I had to testify. So, Leonard Olson, a molecular geneticist, said, "How do you explain why all the other panels did their work and finished and they're gone. And your group is still around and has no sunset. It looks like you are going to be around forever. What have you been doing?" And I said, and this is the answer to

your question, this is a discussion [between] me, a sociologist, and a molecular geneticist. I said, "Well, every discovery that you make in the laboratory is going to specify a particular social population." I said, "What happens is that, depending on a what population surfaces to be a higher or lower risk for a gene disorder, all the other issues are transformed." So, for example, let's take BRCA 1 and 2, which is the breast cancer gene. In its early discovery stage, they thought BRCA 1 and 2 was going to be something that made Jewish women at higher risk. And I said, "That discovery among Jewish women produces a certain kind of social response, because of the social position of Jewish women." Had that same discovery come about and you thought it was for Puerto Rican women, or for French-Canadian women, or for black women, the issues would be different. So, I say, "What happens with social research, or, pardon me, implications of social research, ethical and legal social issues, is that depending on the social forces of play, a genetic disease discovery is emergent. What you are doing, you're looking at PCR analysis and how to get this technology. You're looking at it this way: solve the problem and we go home. Once you solve the problem of BRCA 1 and it's into the risk population of A, B, or C, its a wholly different social, economic, legal, political discussion. And you can't know that before the discovery. You cannot know," I said to a molecular geneticist, I said to Olson, "what it means for this population to be Puerto Rican or to be Jewish. You can't know that before the fact," I said, "That's why LC continues." That was my answer. I said, "You guys are molecular. You don't know what's going to happen here or here." It is emergent.