

UNIDENTIFIED SPEAKER: Okay, so we've got public comment I believe John. I will turn it over to you.

JOHATHAN MCGRATH: Sure I believe we have at least one person signed up for public comments. We have a microphone here for Billy Leiserson. You've got three minutes.

WILLIAM LEISERSON: Yes, so I've been attending these meetings for about a year and a half now, and the first thing I would like to say is, how much I appreciate the hard work that you folks have put in. I am new to forensic science, I'm a scientist by training and I worked at the National Institute of Justice for a year. So I was able to learn about what you folks do. So I think you deserve a round of applause and you should applaud yourselves. (Applause)

The second thing I would like to tell you is that it is disappointing that this venue will be gone. And one of the big values that I have seen during that year and a half and how you have evolved and you work with each other, or the relationships that you have established and just because this venue will go away, I'm going to ask you to do some more hard work, it might even be harder, but that is to maintain those relationships and to work across – invite people who are out of your normal sphere to be worked to give presentations or to collaborate on various issues. Because that part of what goes on here, does not need to end.

Finally, I would like also comment on the need for funding that I've heard from forensic science practitioners, and the thing I would advise people, first of all you are not a funding body, right? There were some people who had got that Congress has a lot to say in that sort of thing, and so do your local legislatures. But it is critically important that you explain the need. And the need is going to be negative, you have to be willing to accept that things are not ideal. So if you are saying that you have a shortage, you have to say there are consequences. What are the consequences? Not just that you don't have enough people, or that you are overworked, that won't go over very well. You have to say the consequences are things like, making mistakes. And you have to kind of own up to that if we continue this way, they will get worse. You know, that we need to deal with the problem now while it's small enough. So with that, that is all I have to say and thanks.

JOHATHAN MCGRATH: Thank you for the comment, are there any more comments? Alright, looking around the room I'm seeing no hands. So I will turn it over to Nelson.

NELSON SANTOS: I will turn it over to John.

JOHN BUTLER: Okay. That was easy, huh? Alright so I put the other few slides, kind of surprise, surprise, right? Just – I've been pretty quiet for most of the meeting that we've had because my job is to run things and not to chime in. But I have a few observations and put together a few slides here.

These are, of course, my own opinions and not those of the Department of Justice or of NIST, I want to make that clear because I will be making some statements that I feel strongly about. I want to go through some historical observations, some personal reflections on some lessons learned I think have come out for myself and just acknowledgements. It's truly been a privilege to be a part of this group, to get to know all of you. And just as Billy mentioned, the importance of the relationships that are developed from this, and I hope as we go forward with those things.

So the first thing I put in Judge Hervey's power point up there. And this is my future tie according to Dean, so I wanted to just say you may see that in the future.

Okay a few lessons from history. So some of you know I have been studying the history of forensic science and through the lens of looking at Wilmer Souder, who is a physicist who worked at NIST, at the Bureau of Standards. And we have nine of his notebooks that have been rediscovered recently, he did about 838 cases we have record of, almost 80 agencies from across the Federal Government, primarily from 1929 to 1953. A scientist really trying to address issues here. And so that has giving me a lens to be able to look at what's happening. And the story that Rich Press from NIST published two months ago, it

has been picked up by National Geographic, by the Smithsonian magazine, and a few other places and so it has given us a chance to get a little bit broader audience with this.

I have been also digging into some other things. This is a 1935 book, "Modern Criminal Investigation" which is really the first book dealing with forensic science, written by Harry Soderman and John O'Connell. And they were from the New York police department. And chapter 29 they have a chapter on police laboratories. And in that chapter they state, "the personnel of the laboratory should be composed of detectives with a scientific advisor that works hand in hand with the detective leading the laboratory. This scientific advisor must be carefully chosen; much depends on him." So from very early time the FBI laboratory was established in 1932, with the input and advise from Wilmur Souder, who serves as a consultant to them. But the point being that from the very early on there's a large law enforcement presence in how forensic laboratories were being run and the attitude that was there.

Next week I have an opportunity to participate in The National Council of Public History conference, and I will be participating with the FBI Historian, the DEA Historian, the ATF Historian in a discussion about some of the lessons learned from the early history of how forensic science got started and how some of these things got going. I think it will be very interesting as we have this discussion.

One of the things I wanted to point out from this, this is an article that Wilmur Souder wrote in 1932. In this he identifies – you see a picture of him here, this was taken in 1928. He had one of the very first comparison microscopes in the United States, this is work he's doing comparing two bullets at the National Institute of Standards – well National Bureau of Standards at that time. So he came up with four recommendations of things, this would be similar to what we have been talking about in the commission here. A minimum standards of equipment that should be used. He talked about standards for records of evidence to accompany and substantiate the experts' opinions, these to include photographs metrological data and interpretations in permanent form. He said that there should be standards for qualifications of experts that include actual tests made against a secretly designed materials and reported in compliance with item number two, in other words a proficiency test would be conducted. And number four, there would be a method for constantly following up with experts testifying in court to guarantee the highest efficiency.

So I would just point out here, that 85 years later we are still grappling with these exact same challenges, just looking at things. So, how do these – OSAC has been instituted to help try to prepare and promulgate documentary standards. This is moving very slowly, much slower than what people would like because some of the challenges of communication of the things that are happening there. NCFS, yesterday, we discussed Views Document on Report and Case Record contents and this was not approved as of yesterday. But I think the principles are still there, we need to have standards for how records of evidence are maintained.

PCAST, in last September stated that we need to have data that supports all conclusions that are being made, this has been largely ignored, it's been talked about already today. And lastly, the Department of Justice Forensic Science Discipline Review of FBI examiners has now been put on hold. This is exactly what Wimur Souder talked about the need to follow up with experts that are testifying in court. So the point that I'm making here is 85 years later we are still facing some of these same challenges. So are we learning from history or are we just repeating it?

So just some personal reflections from experiences here. As Jim Gates mentioned and also Barbara Hervey, interactions with the criminal justice system. My home was burglarized four years ago and so I have had an opportunity – the computer I had wrote my last two DNA textbooks on was stolen as part of that, there was a handbook on forensic science that was sitting on the desk that they actually stole the computer from. But in this I learned a lot about that the criminal justice system has challenges that go far beyond forensic science and measurements. We have been focusing here on forensic science but just as an illustration, the sample collection challenges that existed. I have six children, so there were eight people that were sampled in our home, to do an elimination test for DNA, I requested that be done, so

that they could make sure that the tests were done properly in the laboratory. There were three detectives that came and did that, they scrambled the samples, so when the samples got to the laboratory I happened to know the DNA profiles of all of my children, I can prove that I am the father of my children, but – so I like data, as you know. But the point being here, is that when the laboratory called me and said, “your son is showing up as a female and your daughter is showing up as a male and we don’t know which one.” I have two sons and four daughters. And so the point being that samples can get scrambled before they ever make it to the laboratory, and that’s a very important point to keep in mind.

Also just to – In April, 2013, I moved within NIST to be able to help with this commission and with other forensic activities, I left the laboratory, which I had been working in for almost 20 years and this has exposed me to a very different laboratory of learning. I have enjoyed the opportunity to get to know people that work in this type of environment but I am not type heading samples anymore, I am doing things directly with DNA, like I was doing before. Likely I will be involved in the future with technical merit review and I may have some more free time on my hands, I guess, and will be helping with validation work as we go forward at NIST. And so this is a part that I hope to play to help to be able to help strengthen forensic science.

I go forward from this experience as an optimist. I think there’s a belief that as we do small and simple things, great things can be brought to pass and they don’t happen as quickly as we would like them to, but even looking back at history like the experiences of looking back at Wilmur Souder and realizing that we are still facing the same challenges 85 years later. I think often in human nature, we are often quick to criticize, but what would you and I be doing going forward to try to strengthen forensic science in the future? And as mentioned I hope we can maintain relationships and grow these things. I plan to continue writing articles, books, conducting trainings when requested and available to do so. Forensic practitioners, prosecutors, defense attorneys, and judges; I have worked with all of these groups and I really enjoy the opportunity to be in an independent situation at NIST where I can work with everybody. I am doing the training in a couple months with all the judges from Washington D.C. A few months ago I had the opportunity to train all the judges in Maryland. And I will talk about next, some experience I just had in the U.K. last week.

So Carol Henderson mentioned the -- going to the Royal Society a couple years ago. Last week I had the chance to go back to the Royal Society, which was first established in 1660 is the first scientific society in the world. These issues that we are facing here go far beyond the United States, they are seen around the world and I get an opportunity to interact with people all over the world, my experiences with forensic DNA. But what we did last week was we had a diverse stakeholder group, which I will explain in a moment, to help connect across the disciplines and the stakeholders and this is really important, because otherwise we live in silos and we live in Eco chambers in not listening to what – and that’s why I think the benefit of this commission has been the opportunity to hear all these different perspectives and learn from them.

So last week, on Thursday and Friday of last week I was in London. And we participated in some strategic discussions, I was one of two people from the United States that was there. We had judges, the heads of the Judicial College in the U.K. were part of this, the Head Judge from the Supreme Court of Scotland was there and I got the chance to know them. I sat around the table with them. The U.K. Regulator was there. We had a lab director perspective, a forensic statistician, a prosecutor, a defense expert, many, many academic researcher, people coming from outside the disciplines of forensic science to be able to provide their perspectives in terms of DNA. We had a documentary filmmaker and we had a crime novelist and that was very, very interesting to hear the different perspectives there. This was operated in a business modeling environment, which I will show in just a second. But what we really focused on was the need to communicate and training was crucial to be able to move forward with future improvements. We were talking specifically about challenges with DNA mixtures and the complex samples that are being taken now. But we need to take action with these things.

This is one of the –I took a picture of one of the things we did, and this was a goal as Carol Henderson mentioned earlier, developing a primer of information to help train judges. What we learned from this in talking to the judges and to the prosecutor and the defense experts and everything is that we need to have different types of information for different people at different levels of understanding, we need to have both written format and a multi-media format. Currently we have a 23-page document dealing – designed for judges in the U.K. that gives very specific information to help in training them. And hopefully this can be designed further to be able to reach other stakeholders that the forensic community can help.

One of the things that I thought was kind of neat from this, we had an illustrator that was present who was capturing all of the discussions. So he would draw all these little cartoons after we discussed. I was in a group that was working on communications. And so what you see here is just a comment that illustrates some of the topics.

This first thing we talked about was developing this matrix of dynamic standards that would be collaborative in nature and continually growing. We wanted to improve the quality of reports and this was something we talked about here in this commission. Right now in the U.K. they have no systematic way to handle reports, they are just whatever is written. We talked about the need to have this pre-trial conference which they have in the U.K. in their Section 19.6, they have a section that allows the prosecuting experts and the defense experts to come together before trial and find common ground. And that is something that I thought was very interesting that they actually produce a written document that they can go into court with, what are the arguments that they are fine with and what are the issues they are fine with and what do they have concerns with? We had a discussion about advocacy, a gateway, toolkits to help with that training. And then finally with jury research, we need to understand better where people are coming from. And in the picture you see on the right is a picture kind of the aspirations to get the right people behind bars, that's the vision statement. And then we had a drawing of the von Trapp family in the Sound of Music all working together, to be able to "The hills are alive with the sound of great forensic science communication" there.

So really this commission has provided a unique forum, as I look back on it myself. It's enabled communication; colligation, I put the word in there; and collaboration across various stakeholders into the forensic science community. I think we have benefited a lot from the openness and the public input that's been required by a Federal Advisory Committee act rules. We had more than 600 public comments that have come in that had to be addressed and things. It's just important to point out we do live in an increasingly polarized society, especially here in Washington D.C., and that's something that's unfortunately is something we are facing challenged with. There are many unique challenges that exist in forensic science specifically when we operate in a legal adversarial environment. And I personally enjoy getting to know all of you and the members of the commission here in working collaboratively to try to help and understand one another and reach consensus.

I have stated that the world has been watching what this commission has been doing, this is an article from Nature, last week about the importance of labeling the limits of forensic science. And I got calls yesterday, and contacts from all over the world. People asking, what's going on with the commission closing? From New Zealand to various places in Europe. So one of the things as I've look back on this, I found that this has been a unique classroom. Just as an example, Paul Speakers talked this morning, looking at some of the data. We've covered a variety of topics. And as I gone through and counted, I've counted 140 invited speakers that have spoken in 13 meetings before this commission, and that's been very valuable for those who have spent the time watching this on webcast, those who have gone back and watched it later, and those who have been in the room around the table and watching. And I hope that, that's appreciated and people go back.

The National Academy of Sciences Report has called for changes, some of those have happened and are moving forward and some aren't. But they are not really new issues, as I had pointed out with Wilmur Souders 1932 position statement there. The criminal justice system, of course, is not perfect. There are, I think, forensic scientists are trying to do their best, but they are facing many challenges to do that. There

are many forces at play, some want to keep things as it is and some want to change things dramatically. Which changes are needed? And that's really a hard thing to try to decide as we go forward and think about these issues. As I've thought about this from my perspective and as a scientist, I've realized and Ken Williams showed this as a knot, depict this as a knot, but really there's a great deal of tension that exists between the science and the law with the legal community looking to the past desiring precedent; the scientific community looking to the future and desiring future improvements. And that tension is what creates a lot of the challenges that exist in forensic science. Also the legal community wants to deal in absolutes, guilty/not guilty at the end; whereas the scientific community operates without certainty, there's rarely ever a situation where probably's are zero or one.

So challenges with communicating. One of the things I realized last week, was reaffirmed was realizing that people like narratives, they don't like numbers. As I talked to the judges in the U.K, for example, they want to make sure that sciences communicated correctly, but they want to make easy in a format that they can understand and appreciate. I found that we often talk past each other as we are dealing with things, whether that's forensic practitioners talking to lawyers; or practitioners talking to academic scientists; we don't appreciate that they are subtle and sometimes significant differences in the meaning of a word or phrase. And so I think we will benefit from having uniform terminology but that's always a challenge for everybody to agree on those things. Just to point out, like the reasonable degree of scientific certainty; I believe this little legal crutch has no scientific meaning and shouldn't be used in court, as we passed as a commission.

Some lessons learned, I have four lessons learned in thinking back on this. One is it takes time and patience whenever you are trying to establish a new group, for the group to align, to pull together and to gel. And it took really five meetings for that to happen with this group, and I will show the data in just a moment. Respect and trust.

Unidentified Speaker: I want a narrative.

JOHN BUTLER: Okay, you want a narrative? Okay (Laughter) We've been living it for 13 meetings, right? Respect and trust I think are crucial for that to happen, that requires that we listen to and seek to understand the perspectives of others, and that's becoming increasingly difficult in our society. Third is that receiving feedback can be very uncomfortable but in the end it usually helps improve our efforts. I work as a – one of my hats I wear is an editor for Forensic Science International Genetics, and so I have to mediate between comments coming in from reviewers and then from authors that are very frustrated sometimes. But I see in the end, the papers improve as they are revised and strengthened by the comments that are received. If people will listen to them and seek to improve them. Finally, I believe the community benefits when a dedicated group works together, like we've seen. When they are open with their work products and I hope going forward that that can happen.

So this is the data of the challenge of ramping up activities and the impact of ramping down. And so this is just the number of documents approved per meeting, and really by the fifth meeting to get all the sub-committees operating and getting things going through. And then we had the summary report, we finished with, yesterday being approved. And then the request for survey of forensic law enforcement, forensic science units was not something that came through, it's just something we introduced just to kind of get the process going. I will point out the most productive meeting was held at NIST. (Laughter) In September of last year, so meeting 11, with nine documents approved.

Okay I wanted to just finish with some acknowledgements. We've have 49 commissioners in total across the two terms and I really appreciated getting to know all of you as we've participated in these meetings. We've had great meeting proxies as well, and we've had sub-committee members; seven sub-committees and that means there's been 60 additional sub-committee members that have participated in this process. I put all the exact numbers of invited presenters to get to the 140 that we've had. And I've really enjoyed the input and the effort that they've put into this.

I would say that the leadership from this have been very meaningful to me personally. Willie May is the one who talked me into doing this, serving as the Vice Chair. Working with Pat Gallagher, Willie, and Kent. And Rich Cavanagh has been a great blessing in my life personally, I've learned so much from observing them. The DOJ leadership support, I've really enjoyed working with Nelson and getting to know him better, appreciate the chance to serve the great fellow Vice Chair. Getting to know, just briefly, and meeting with the Deputy Attorney General James Cole and Sally Yates. And then the Office of Legal Policy, who's provided a number of very helpful things as we've gone forward. And finally just the staff of the Commission; Jonathan McGrath and the other DFOs we have had before; Lindsay DePalma, and others who have done so much to help this meeting. And there's just a lot of things that happen with the logistics that have made this a great blessing in my life and I just again want to say thank you for all that you've done, an option to be part of this, so thanks.

(Applause)

ANDREW GOLDSMITH: Before I wrap up, I think Fred had some comments that he wanted to make you said? Fred? You're not going to get the last word, I am. (Laughter)

FREDERICK BIEBER: Okay. Sorry Pete. I wanted to thank both of you Nelson and Jon and everybody else on the commission. I wanted to follow up on a couple comments made earlier. And also, urge this group to think back to the medical model as we go forward in forensics, because I think that there are a lot of lessons that are transferable.

If we look back to American medicine, much of it wasn't evidence based until the 1920's, after the Flexner Report when medical schools became four year enterprises as opposed to an apprenticeship. And if we look back 20 years from now, I think we will see that chemotherapy, is a horrendous treatment protocol as we develop new methods of immunotherapy and targeted therapies based on genome sequencing of tumors that are occurring at most major cancer centers around the world. And if we just took a look at the medical mishaps that occur every day, from sample mix ups to failure to diagnose a pregnancy, to failure to diagnose cancer in a patient, to allergic responses to drugs, to aberrant drug interactions in patients who are in hospitals with unanticipated responses to drugs. We would all be afraid to see a doctor or go to a hospital if we knew all the data that exists about untoward outcomes of medical visits, 100,000 patients die a year from hospital acquired infections.

So I think it's important that we don't get too depressed, or overly concerned with the sky is falling attitude about the challenges ahead in forensics because they have occurred in other things that affect people's lives and health namely the medical world. And each time those things have been addressed and found, we now check a medical bracelet before a patient is admitted for a surgical procedure. Are we operating on your right wrist, or your left wrist today Mr. Smith? Those kind of things, those corrective actions have occurred because of the errors that have been documented and identified. And I think we need to do the same thing and put one wreck at a time in the yellow brick road and we will get there here in this field. But only if we work together and not in silos with what Ka Sustein (sp) has referred to as incestuous amplification, where we crowd together in groups that think alike and come out with an even more biased attitude than we went in with.

I think back to, I think it was Justice Learned Hand who wrote in a book called "Essays on Freedom" that the justice system was a three horse chariot with one being the law, one being ethics and policy and the third being science and technology. And he wrote that that science technology horse raced ahead of the other two and made for a very rocky ride and I think that's some of what we see in the collective work that we are doing.

So I would follow up on Jon's comment and I'm very thankful for the opportunity to have worked with all of you. I have really and experienced an epiphany with regard to the concept of bias, both confirmation bias and contextual bias and that's improved my work in the hospital, in the diagnostic lab that I run. And I think that we have a lot to contribute individually, whether we are working alone with the groups that we

work with in the public safety arena and with our students who we can teach and inspire. So I would like to thank you for inspiring me and I hope that we will go forward individually and severally to do good things and not feel like the sky is falling with the problems that do exist, but I think they can be addressed. Thank you.

NELSON SANTOS: I promise to be short. No slides. But I do have a few words to say. So four years ago, and I'm not going to start four years ago and go forward. Dad Cole (sp) called me into his office and said, "Hey we've got this commission thing would you like to lead it?" And I said, "Sure, I would love to lead it." I had no idea what I was getting into. I all honesty, it's been a very challenging three and a half years for me but it's also been a very rewarding three and a half years. And as I reflect back on what we've accomplished, I think even more important than the 43 products and the summary document, is the colligation, is the collaboration, and the fact that so many of us from so many different places were actually able to accomplish or agree on 43 different things, which I think is very important, very telling. Also the one benefit that I don't think has been mentioned so far, is that forensic sciences historically has not been at the national level every three months for three and a half years, and I think if anything as a forensic scientist for 30 years we can be proud that we've actually raised it to a level that is impressonated in that regard. So I feel very good about being part of that in that forensic science is maybe getting the attention that it deserves.

So with anything that ends, it always has a melancholy feel to it, and I would say to you folks that we should be optimistic about what the future leads. And we should think and be proud of the fact that we were the first, I don't believe there was another commission on forensic sciences in this country to deal with the issues that we deal with. And because we were the first, we will always be the first. And when we look around the room and we go on our ways, we can always reflect back and say, you know we were there, we started this. And I think we've got it going in the right direction.

So with that, thank you. Thank all of you, for your patience, your understanding, for coming back on time after breaks, not. (Laughter) And for working so closely together, I thought we would get through the entire 13 meetings without a real big argument and today we had a little one, but that was okay. We made it through. I also want to thank the Department for having faith in me to help out in this effort and to move the dialog on forensic sciences forward. And lastly I want to thank my Vice Co-Chair. Jon, before this opportunity I've heard of Jon, the DNA guru and working with Jon over the last three and a half years has been a pleasure, so I didn't know him and now I consider him a friend, so it was great working with Jon. So with that, Nelson out. (Laughter)

(Applause).

JONATHAN MCGRATH: So before we go, we do have a token to each of the commissioners for the time and efforts that you spend and the contributions. So we do have certificates to pass out. So if you would stay in your chairs for a couple more minutes while the staff pass them out and they will be able to identify you by your tank cards as they pass them out as well.

I'm not going be long at all, but I have just a couple of comments. I can't really follow well, Nelson and Jon have both covered the appreciation that everybody. But I do want to thank DOJ in this for this partnership. I want to thank my boss, Gerry LaPorte who brought me on board at NIJ, not knowing what I was getting myself into, coming in on board at meeting number six, it's been a real pleasure working with everybody. I want to thank the commission staff, I'm not sure if everybody understands what goes on behind the scenes and in between meetings, working with the sub-committees; having seven sub-committees, working on 43 work products, that's really been a testament to what everyone's accomplished. And so I really want to give a shout out to not only the commissioners that have participated over the years, but the sub-committee members, there are about 60 sub-committee members that contributed to these work products and I think the last couple of meetings we haven't had sub-committee meetings, so a number of the members have not been able to participate in the room, but I think we definitely need to thank them for their contributions. Also I want to thank the SCPO, the Sub-Command Procedures and Operations

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that started when I came on board, it's been a pleasure working with you guys in between the meetings as well. Again, the speakers, the panelists and I really want to echo the comments made thanking the public and communities' participation in this effort. So on that note.

NELSON SANTOS: Would you drop your mic? (Laughter) I stole that from Obama, though.

JONSTHAN MCGRATH: But I can say I'm the first designated federal officer who has been a forensic science practitioner, taking nothing away from the lawyers that have been involved, but it's my pleasure and role and responsibility to adjourn this meeting and the commission, so thank you very much.

(Applause).