TRANSCRIPT: ASK A SCIENTIST
Wednesday, October 12, 2005
San Francisco, California
www.askascientistsf.com

Speaker: Dr. Maureen O'Sullivan; Professor of Psychology, USF
Topic: Emotion, Lies, and Wizardry
Host: Juliana Gallin

Juliana Gallin: We're going to get started, sorry about the late start, but as you can see this is probably the most packed Ask a Scientist event we've ever had! *[Applause]* So let's get started—make yourselves as comfortable as you can, and at the break there's a beautiful patio in the back, you can get some fresh air and stretch your legs.

Tonight we're going to be talking with Dr. Maureen O'Sullivan, she's a professor of psychology at USF—and I will keep this short: she's going to be talking to us about lying. Here she is, Maureen. Thanks everybody, and thank you Maureen. *[Applause]*

Maureen O'Sullivan: What I've been doing for the last thirty years is looking at how it is that one person understands another. And one venue within which you can examine that is in whether or not people can tell when other people are lying or not. It's very difficult to know what's going on in the heart and the soul of another person, but if you have a laboratory that you do this research in—you can know whether or not they've stolen fifty dollars, whether or not they previously told you that their most strongly held belief was that there should be no death penalty…so there is a ground truth that you can use.

So what I want to do is to show you some video tapes that have come from research conducted by Paul Ekman at the University of California, San Francisco, and Mark Frank, who's now at Buffalo. Let me tell you what the scenario was and I'll show you an interview with a couple of these young men, and then I'll have you guess whether they were lying or telling the truth. And then I'll give you my presentation, and we'll go back and look at those videos and I'll point out what some of the behavioral clues are that you could have used. I'll also be talking with you about the theory, or psychology, of lying—how there are some clues, both in the emotions that people have that leak, and in the thinking, the mental effort that's involved in lying, that's not involved in everyday life.

Okay, so the first thing we're going to look at is this study: young men responding to an ad that said they would get $15—this was twelve years ago, so the money was worth more then *[laughter]*— they were getting paid $15 to participate in a study of communication. They didn't know it was about lying. They come in to the laboratory, take a whole bunch of personality and other kinds of tests, and among the tests was a survey of 18 different attitudes—their feelings about abortion, gun control, death penalty, and smoking in public places, which people could do then! We would be in a smoke-filled room right now if there were smokers allowed. *[Laughter]* For each person, we selected the opinion thing they said they felt most strongly about—trying to balance it between pros and cons—and then the men were randomly assigned to lie or tell the truth. They were told that if they lied successfully they would get an additional $50. *[Laughter]* However, if they lied and they were not believed, they would be put into adark room with intermittent blasts of white noise for 45 minutes. What we were trying to do is to simulate the rewards and the punishments of lying.

We told them if they told the *truth* and they were not believed, they would lose their subject fee and they would have to go into that dark room. *[Laughter and murmurs]* Because we have what's called the *Othello error*—innocent people who are afraid you are not going to believe them are going to look like a guilty person who's afraid you're going to catch them. This is one of the difficulties with a polygraph. It's not that it can't pick up autonomic nervous system changes that happen when people are afraid—it can, for most people anyway—however, how you interpret that emotional signal is what makes it so difficult to tell truth from lies using only the polygraph..

What you are going to see is a young man who's being interviewed by somebody who does not know whether he's lying or telling the truth. He has a semi-standardized interview that he's giving all of the people in the study.

[Video of young man explaining his views on the death penalty. He believes the justice system tends to be racially biased, and the state can't justify itself in taking someone's life. Claims these are his true beliefs.]

Okay, who thought he was lying? *[Hands raise]* Who thought he was telling the truth? *[Hands raise]*

He was telling the truth. *[Some surprised murmurs]* This group did well, about 60% of you thought he was telling the truth. Most people, in most groups we study, about half of them think he's lying. Why did those of you who thought he was lying—why did you think he was lying?

Attendees: The smile.

O'Sullivan: He smiled continuously. Also, physiognomically, he has a short upper lip. So it's like he has a smile on all the time, just because of the shape of his face. *[Laughter]* One of the kinds of areas that's involved in lie detection that human beings are wired to make quick judgements of other people. We call this the *fundamental attribution error.* So we survive because we make these quick judgements—this is one of the tenets of Gladwell's book *Blink,* these instantaneous judgements we make. The problem is, however, once we've made that judgement it's almost impossible for us to change our minds. So with this guy, he looks goofy! I had one CIA agent, and I said, "Well, how'd you get it right?" He said, "Oh he looks like a second grade girl! You know, he's just kind of bouncing his head back and forth." But if you look at his face, it's totally relaxed. He doesn't have any tension. And when he smiles as he tells this thing about "an eye for an eye," he's kind of pleased with himself.

Notice also the distance of the eye gaze. If you ask Americans—it may not be the same in other cultures—how can you tell if somebody is lying to you? What clue do you use? What do you think most of them say?

Attendees: The eyes.

O'Sullivan: Eye gaze. They won't look you in the eye. So people are in a study in a laboratory, and they're trying to fool somebody, to lie convincingly, what do they do about their eye gaze?

Attendee: Look straight ahead.

O'Sullivan: They look straight at the interviewer. In laboratory studies, the amount of eye gaze actually *increases* when people are lying. Unless they're lying about something they're ashamed about. If people are ashamed they will not establish eye gaze. But I've been doing a study of so-called *truth wizards*—they're a very accurate group—and what they've pointed out is that it's not just eye gaze, uber alles, it's

what *kind* of eye gaze. When we're having a conversation like this, I'm not going to stare in your eyes like this, right? In our culture you look, let's say you wanted to interrupt me—you'd make a facial expression, and if I don't want you to interrupt me I'll avert my eyes, so I don't have to acknowledge what you're doing! *[Laughter]* So there is a kind of mid-level eye gaze that most people will have in a conversation. Some liars show piercing eye gazes, where they're looking to see whether or not they're being believed.

Let me show you another video. This is the same kind of scenario, different fellow.

[A video of another young man explaining his views on the death penalty. He believes people should go to prison instead of being executed, or go to halfway houses or clean up the streets. Claims these are his true beliefs.]

What do you think? How many think—

Attendees: Lying!!

O'Sullivan: You all think he's lying, huh? Why do you think he's lying?

Attendee: Because it looks like he's telling the truth. *[Laughter]*

Attendee: He kept blinking.

O'Sullivan: Eye blinks can occasionally be a sign that somebody is having autonomic nervous system arousal. What you always have to be aware of, and we're going to be stressing this tonight, is there's no such thing as a Pinocchio's nose. There is no deception clue. There is nothing that when you see it you always know the person is lying. What there is is leakage. There can be hot spots, there can be a thing in the stream of behavior that doesn't make sense. You then look there and pursue it to figure out why it is that this thing is happening that doesn't make sense. So one of the things is he blinked a little bit more than you would expect. What about his vocal characteristics?

Attendee: Monotone.

O'Sullivan: Very flat, kind of breathy, holding his voice—a couple of times he sighed. But he could be just anxious because he's in an experimental situation. But he did he sound like somebody who's telling you about a strongly held belief?

Attendees: No! No way!

O'Sullivan: No. His story did not have ownership. He didn't own it. When people tell you something they really care about, they often use extreme words, strong words, definite words, and there's [gesture indicating strength, conviction] behind their voice. And he was looking all around, just looking for that story. So, NLP, neurolinguistic programming—there's a movie, *Negotiator,* with Samuel Jackson and Kevin Spacey a number of years ago, and in that story they said, "Okay, if he looks up to the left he's lying." And the guy looks to the left and they shoot him. NLP—there's zero evidence that if you look to the left you're lying. Okay? *[Laughter]* It is true that if you said to me, "What's your name?" and I said, "Martha," there's no reason I should look off to know what my name is. But if you said to me, "What's the cube root of 3,220?" then I might look away. It's very common for people, when they are thinking, to try to shut down external stimulation, to sort of go more interiorly, to not have the external

stimulation to have to deal with. So he's looking all around, because he's not quite coming up with a story, but what else? What about his story? What did he say?

Attendee: He was not convinced of his own story.

O'Sullivan: He wasn't convinced of his own story. But what were some of the details of the story? What did he think you should do with these cold-blooded murderers?

Attendees: Clean up the streets!

O'Sullivan: Yes, clean up the streets! *[Laughter]* That's a punishment for them, by golly! Right. That's just too goofy. I mean a college kid, that's the best he could do? That doesn't make sense.

Okay, one of the findings that has come out—not only of our research lab but of all of the people who are doing deception research—in over 100 studies, Malone and DePaulo found that most people can't tell, above chance, whether or not people are lying or telling the truth. If you have a scenario like this one, where you give them, "yes or no, lying or truthful," so that chance is 50%, what you find is that average accuracy is 54%. So that's just very perplexing—how can that be? Why can't most people tell when others are lying? But there are a few groups who *can* tell. Our particular research group found that secret service agents as a group were very accurate—now when you compare secret service agents with other kinds of law enforcement personnel, what do the secret service agents do? What's their job?

Attendees: To protect.

O'Sullivan: They're protective. So they're there to protect the president. So what do they have to do when they're with the president and other kinds of officials? What are they doing? How do they protect them?

Attendees: They look. They watch.

O'Sullivan: They watch. They're scanning the environment for anything that's off. The other job the secret service does is that if anybody makes a threat to assassinate somebody, they have to evaluate it. Now, if you get 100 threats to assassinate a public official, what percentage of them are going to be by koo-koo people? Well, all of them may be koo-koo in some way, but let's say 98% of them are going to be clinically certifiable. So when they have people making these threats, they want to know the truth. They don't want to just make a conviction, they want to find out "Is this person dangerous or not?". So they have an attitude of mind in which they are searching for truth. Most police officers, and I love policemen—with a name like O'Sullivan you can believe that seven of my nine male cousins are in some kind of law enforcement—so these are very idealistic guys, but if they've made a collar they *believe* that this person is guilty. And they, then, are going to be looking to find evidence to support it. They're not going to have the open mind that the secret service agents have.

Other groups we found to be highly accurate were selected law enforcement. These were people *within* their agencies—for example we tested CIA: 52%, FBI: 51%, so if you just take these agencies overall, nothing. But *within* those agencies there were highly skilled people who were interested in interviewing and improving their interviewing skills, and they've been identified within their agencies, as profilers, for example. So if you get these selected people they will be more accurate than most people. Another example is forensic psychologists as opposed to regular garden-variety clinical psychologists, federal judges, dispute mediators—there's a very high rate of accuracy in dispute mediators because what

they're doing is trying to decide who's going to get this child. They're not pro-husband or pro-wife, they're pro-child. So they're looking for the best information they can get.

Attendee: How much higher are they?

O'Sullivan: These groups, they would run on average anywhere from 67% accuracy to 82% accuracy. *[Surprised murmurs]* Then we noticed that there were a few people within even groups that weren't very good—like within the cop group maybe the average was 50%, but there would be one or two who got 80 or 90%. So we started testing people about ten years ago, and we've now tested over 14,000, and among those 14,000 we've found 37 who are highly accurate. They get 80% or better on at least two or three different lie detection tests that we have. There's probably many more than 37 "truth wizards" in 14,000 people, but not everyone agrees. to participate in the study, and if they don't we're not going to know about them. Or, we have many false negatives using the materials we do to test. Because I have people I know are wizards, I've worked with them, I just know they're extremely astute, and they don't do well on our tests because it's looking at a videotape where they can't use their personality, they can't interject. So I don't think our method gives us any false positives, but I do think it gives us a lot of false negatives.

So now, what are the clues to lying? How can you tell what's in somebody's heart and mind, from looking at them? There are cognitive clues about what they're thinking, both in their words and in their nonverbal behavior, and there are emotional clues as well. And again, these can be verbal or nonverbal. You always want to interpret these clues with respect to a person's baseline. I call this the *Miss Marple effect.* I'm a great reader of mysteries, and Miss Marple is a character in Agatha Christie stories. She's a little old lady and she always interprets when she's in a crime scene—she understands the characters around her by comparing them to people she knew in this little village of St. Mary Mead that she lives in. What she has is an unbelievably astute assessment of who a particular person is. You know like, some of the things the wizards will say is, they'll look at somebody and they'll say, "Oh, he looks like a choirboy who hasn't been molested." *[Laughter]* Or, "This is a surfer bum who's a lot dumber than he thinks he is." *[Laughter]* Or, "This is an inner city kid who looks tough but who's really a softie." And this is in the first second of seeing the person. So they get a sense of who the person is and then they interpret their behavior compared to that baseline. They also pay attention to whether the person smiles all the time, like that first guy you saw did. Whether the guy flutters his eyes all the time, or only when he's talking about something that's sensitive. So they pay attention to all of that kind of information.

Okay. Why are most people bad lie detectors? The first thing is that we don't have good information. That's a major category. Our information is bad. When you ask people how good they are at lie detecting, the correlation between people's self ratings and how good they are on an objective test is zero. Zero! Everybody finds that. But if I say to you, "How good are you at *lying?"*—how many of us are good liars? *[Several hands raise]* How do you know you're a good liar?

Attendee: I get away with it. *[Laughter]*

O'Sullivan: You get away with it! And you know if you're not a good liar because you get all flustered, and you get embarrassed, you turn red, you can't think up a story, and you give it up. So you know, you have feedback. About whether you're a good lie-detector or not, you *don't* have feedback. You'll say, "Oh I can always tell when my son is lying!" And I'm thinking to myself, that's because you didn't find out the ones that you didn't catch him in. *[Laughter]* And our idea of what a lie is like is really flustery and [stammering], and that's not what it's like. I'm going to show you some good lies later.

So we don't have good feedback, we have incorrect paradigms—for example, this notion of eye gaze aversion—and we make the fundamental attribution error, where most of us do not have a tremendously astute and accurate perception of what another person is like, that the wizards do. So we make our fundamental attribution error, we make our judgements of people, which we then are unable to change, and we judge people on the basis of that.

The other thing about the wizards that's so amazing is that a lot of them are cops, and they're terrible bigots! I mean, they're real sexists, they're real racists, you know? But when they go to judge one person, then that goes out the window. They do that in their everyday life, but when it comes to judging an individual, then that just goes by the by.

So we've talked about the fundamental attribution error. The *Pinocchio error* is this notion that there is no deception clue. We would like it to be that every time a person blinked their eyes, or flushed, or did something, it meant they were lying. Not true. It may be that for a given person, in a given situation, they have tells. For example, if you're playing poker, it could be that every time you bluff you smooth your moustache—if you're a woman you're in trouble. *[Laughter]* You smooth your moustache, and that indeed could be a tell for *you* in the poker playing situation. And champion poker players look for that kind of thing. But rubbing your hands across your face like that is not a universal clue to deception. A lot of people just do that generally, it has nothing to do with whether they're lying or not.

The Othello error we already talked about, confusing the anxiety and fear of an innocent person who's afraid you're not going to believe them. And this comes from Shakespeare's *Othello,* where he believed that his wife, Desdemona, was unfaithful to him. And she knew him, she knew she was not going to be able to convince him that it was not true, and he, indeed, killed her, even though she was innocent.

Cognitive biases talk about the way in which our minds are structured, the way in which we as a species seem to have evolved. One of the things that happens here is *collusion with the liar.* A lot of times we believe the lies of other people because we want to. I have a friend who is a master in lie detection in most parts of his life, but e's currently going through a very difficult business situation with a woman who all of us, everyone around him, told him was not somebody to be trusted. But he did not want to face it—so he did not. Sometimes they'll have these guys on TV who're simultaneously married to six people *[laughter]* and I'll think, "Wow, I've got to check him out! He's got to be smart, he's got to be pretty, he's got to be rich." And then you see him: dork city! *[Laughter]* How is this man able to keep six women going at one time? And it turns out all of the family and friends of the women involved knew that there was something wrong with him, but the women wanted to believe the romantic things that he said.

The other thing, next on this list here, is *accusatory reluctance.* And I'm just starting to study this. There is something about not wanting to call someone a liar. If I accuse you of lying, it's a fairly hostile action. And then I have to follow it up, and then there may be negative consequences to me. And so we tend not to want to do that.

The *truth bias*—this is something that's very fascinating and I've been gathering data on this. Most people believe what other people tell them. Are you sitting there thinking—or standing, those unfortunate people who got here late—are you thinking, is she lying to me? No, you're not going to waste your time doing that. Your default option for most people is to believe what other people tell you. And so what we learned in the laboratory, going back twenty years, was you say, okay I'm going to show you ten items. Half of the people are lying, half are telling the truth. And we would find that people would *still* guess that 60–70% of the people were telling the truth. You've already told them that 50% were telling the truth. That percentage is going down, nowadays. And that has happened since

1995. Since 1995 the truth bias has been going down and we now are *below* 50%. *[Laughter]* Now, the connection between that and the internet is very interesting, since 1995 is about when the internet started taking off. We have lots of data to demonstrate that this has happened, and trying to figure out what it is and what the implication for the culture is, is going to be very interesting.

Attendee: It's because of Bush! *[Laughter]*

O'Sullivan: Well, I'm afraid we've got Clinton in there too! We've had a few people in there who are not great models of honesty. *[Laughter]*

Anchoring effect means that we tend, when we judge people, to assume that the first time we see them is the honest sample.. So if you show an honest sample first and then the same person telling a lie, observers will be very accuratein detecting the lie. But if you put the lie first, observers assume the lie is the truth. And then they'll be very inaccurate. So that's just a little technical thing.

The fundamental attribution error—this is this phenomenon where we tend to judge other people by enduring personal traits that we assume are inside of them. We tend to understand *ourselves* in terms the situation. If *we* fail a test it's because it was too hard, the teacher was unfair, I didn't study last night, I stayed out too late drinking. See, these are all things that can change. If *someone else* fails the test it's because they're lazy or stupid. *[Laughter]* See? Lazy and stupid are enduring characteristics that reside with in the person. This is a characteristic of human thought. Definitely of western thought, maybe or maybe not of eastern thought. But it's certainly a characteristic of western thought. I did a study showing how it applied to lying, and I called it the *boy-who-cried-wolf effect.* If you're a scientist you always have to label things, make up a new name. So this is from Aesop's fable, you know, the shepherd goes, he gets bored, "The wolf is coming!" But there's no wolf. He does this two or three times. Finally the wolf comes, and then he goes running, "The wolf! The wolf!" and the villagers pay no attention to him, because he now is a liar in their minds. And you don't believe a liar. But a liar sometimes tells the truth, and an honest person sometimes lies.

The other reason that most people are bad lie detectors is the normal variation in ability. I'm very interested in emotional intelligence, and I think lie detection is a kind of social emotional intelligence. And people do well or poorly on it just like they do well or poorly on verbal skills, math, or anything else.

Okay, what are some of the kinds of clues you can find that tell you that the person is thinking too much about their story? That there's just too much mental effort involved? Let's just discuss, when you're going to tell a story, when you're lying, what do you have to do to tell a good lie?

Attendee: Have good details.

Attendee: You have to remember your story.

Attendee: Be self confident.

Attendee: Be consistent.

Attendee: Have conviction.

O'Sullivan: And as I'm telling the story, what am I doing about you? Suppose you said to me, "What did you have for dinner last night?" And I said, "Oh, I don't remember." I wouldn't care, right? But if

I'm trying to lie and convince you, I might look at you to see whether or not you're believing me. And then if you're not believing me, then I'm going to fix my story up. A *whole lot* more work, you see? Just think about when you can't remember something if you're telling the truth, you just let it all hang out. Whereas if you're telling a lie, it's much harder for most people to let it all hang out in that way.

Attendee: You say people look at the person they're talking to to see if they're believed. Is there any evidence that people can tell whether they're believed or not?

O'Sullivan: Hmm, I think so. For example, the guy who said something about [murderers] cleaning up the streets? I mean if he was telling me that I think I'd look perplexed, you know, or I'd give him a funny quizzical look. So you observe the other person to see whether they're nodding their head and agreeing with you, or they're questioning you. I'll show you one later where the interrogator didn't believe him and the guy changed his story midstream. He was a really good liar.

[Referring to a bulleted list of clues] You're also going to look for cognitive clues like slips of the tongue. Sometimes people will say things—and I'll have an example of that for you later. The lack of immediacy we already talked about. Unusual word usage, I'll have a good example of that later. They're inconsistent. And there's either too much detail or too little details. Many stories that people tell you, you know they're not storytellers, and so they're not great. And then there's a change in the level and style of *illustrators* or *manipulators*—so let me show you what this is. When people talk, they can move their hands to illustrate the speech. If I'm a person who makes a lot of hand gestures, and then all of a sudden I'm telling you a story, and in the middle of the story I stop doing that, that's a change. That change is a hot spot. It's something you want to attend to. Similarly, if I'm a very restrained person who doesn't move my hands when I speak and all of a sudden I get more active, that change from my baseline can be informative. Now, people will often think that people who move their hands a lot are more self-confident, more outgoing, more whatever. It's not necessarily true that that's what they are. For our purposes what's important is whether there's a change. Adapters or manipulators are gestures like this, where people rub themselves, touch themselves. Everyone in this room is touching themselves somewhere or playing with something. *[Laughter]* And we're in public, so we won't go too much into details, but you know, we soothe ourselves, perhaps, with those movements. And we each have a normal level for us of that kind of behavior. Changes in that usual level may be informative.

Now, nobody does all of these things. One person does one thing, one person does another. That's another reason it's so difficult to detect lies, because you have to understand what the baseline is for this particular individual. It's not just one thing you can learn and apply to everyone.

Our research group has been particularly interested in emotion. And the reason is that we are Darwinians. We believe that human beings all are the same kind of animal, we all have the same kind of brain, we have the same kind of facial muscles, autonomic nervous system, vocal chords. And so therefore, when we have an emotion it's a part of all of those. It's in the brain, and the face, and the autonomic nervous system, and in our big muscles. And so because it's hardwired, when an emotion seizes us it's very difficult for us to control it totally. And what you will get is *leakage*, a little bit of the emotion will show in an inappropriate way. And I'll show you Prince Charles in a moment. *[Laughter]*

So attempts to control our emotion will often be visible in leakage. Now, the leakage can be either subtle or partial expressions. If I showed you full-faced anger, everyone in the room would see it. Even if it's on the face for just a second, you lower your brows, the eyes are fierce, the mouth is pulled tightly together. So, I might not show all of that, but my lips might get tight. I might control my brows but not be able to control my lips. Or, we could have it happen that we would see *microexpressions*. These are

full-faced expressions that go on and off the face in under a second—a fifteenth or a thirtieth of a second. And I'm going to show you Kato Kaelin having a microexpression. *[Laughter]*

[Referring to a photo of a tight-lipped Prince Charles] Here is Prince Charles, trying to do a fake smile. *[Laughter]* Now, he's British so he's supposed to be able to have a stiff upper lip. But what happened? It's the week before he married Camilla. He's out on a ski trip with his sons, and the paparazzi won't leave him alone, and he's in a rage. He's in a *rage.* And he says, "What shall I do with these fill-in-the-words?" and his son said, "Just smile Dad, smile." Now, he's a lifetime public performer. And he was so enraged this is the best smile that he could give. *[Laughter]* Would anyone believe that smile? So that's an example of how even at the macro level, highly practiced individuals are not able to control their emotions totally. And that's why the leakage of emotions is, we think, one of the most fruitful arenas for recognizing hot spots.

Microexpressions are another one, they're on and off the face extremely quickly. Not everyone shows them, not everyone sees them, but most people can be trained to improve their accuracy in seeing microexpressions. And there's a website where you can get a self-instructional CD—METT, Microexpression Training Tool. I get no money from that, I just think it's very good and useful! (www.paulekman.com/training_cds.php)

Okay, so let me show you Kato Kaelin. You all know who he is. He's being interviewed my Marsha Clarke about whether or not he has a book contract. And in California, if you are known to have signed a book contract you can not testify in court. So he did not want to admit that he did, indeed, have a book contract.

[Video of Kato Kaelin, in court, denying that he has a book contract.]

Okay. Anybody see what he did early on? What did he do?

Attendee: Wrinkled his nose.

O'Sullivan: Wrinkled his nose. I'm going to show you that, that's the microexpression. I'm going to show you what he was doing when he did that wrinkle. Those of you who saw it in real time have seen what the rest of us will see in slow time. What else did he do?

Attendee: Clenched his jaw.

Attendee: He kept nodding his head.

O'Sullivan: And what happened as the interview went along?

Attendee: He got quieter and quieter.

O'Sullivan: His voice got more and more quiet, his body posture went back… But that's another story. Let's now look at the microexpression.

[Slow motion video of Kato's nose wrinkle] [hysterical laughter]

And we have many other examples of that from other media personalities, but that's a microexpression. Now, should we take a break?

Gallin: I was just going to say it's almost time for a break. How about one or two questions before we break?

O'Sullivan: Okay.

Attendee: You don't have to answer this, but is your research grant funded?

O'Sullivan: No, no it's not.

Attendee: Oh it's not. Is Paul Ekman's grant funded?

O'Sullivan: Yes, it was.

Attendee: Do you happen to know who is funding the [inaudible]?

O'Sullivan: Well he has retired, and he was mostly funded, he had a lot of things at the NIH for many years. And I am funded at USF. And he had a Longtime Career Scientist Award. And our colleague Mark Frank is being funded now—because the government is now very interested in this—by DARPA. So we do have some funding, not us directly, but people we're working with.

Attendee: I take it that you're going to have a range. I mean you're not equating all lies as the same. So there's the little white lie where you stop at the bookstore instead of going right home with dinner. There's the other extreme of the guy in North Beach that sold everybody these houses, friends with Angela Alioto—

O'Sullivan: The comment that's being made is that clearly there's a range of lies, from white lies, you're being polite—"Oh yes I love chicken and rice," when you don't. And even further on the good side of that is so-called flawed self-assessment. Lots of evidence to show that most people do not evaluate themselves accurately, that we tend to have a positive bias in our evaluation of ourselves. And so we have a kind of self-deception. And we have studied the lies that are at the other end of the continuum, where they were deliberate intentions to mislead the other person without prior notification. So we are interested in what's called *high-stakes lies.* You're going to get more of these clues, both cognitive and emotional leakage, when you have high-stakes lies. I would think if one is called on a white lie, you might still see some of these but they're not going to be as extreme as they're going to be here.

Attendee: Is there such a thing as a compulsive liar?

O'Sullivan: There are certainly pathological liars. We haven't talked about the emotions involved in telling lies—and I'll come back to that and talk about so-called *duping delight.* Most people, feel fear or guilt when they lie. But there are people who enjoy lying. And we're going to see some examples of that.

Attendee: Can you say anything about regional and cultural differences?

O'Sullivan: Well, interesting you should ask about regional or cultural differences! I just completed a study—I'm writing it up now—testing the assumption that if you're from the same ethnic group you're going to be more accurate at identifying the members of that ethnic group. I studied 900 people, all over the country—zip. No difference by ethnic group. There are extremely accurate lie detectors in every ethnic group. But we did find that college students from Houston were more accurate than college

students from San Francisco, who were more accurate than college students in New Jersey. *[Laughter]* And we hypothesized, part of that, based on cultural diversity, that being *with*—like USF's very culturally mixed—we figured that they were having to deal with a whole lot of different cultural issues, they would be more interpersonally sensitive than the kids from New Jersey where 80% of the sample was white. And then the people in the South were even more sophisticated. And we didn't predict that, because we didn't know which way it would go, but we did find that.

All right, we're going to take a break and come back—

Gallin: Yes, we will continue this conversation in just a few minutes, about 15 or 20—

Attendees: No! No! No break!!!

O'Sullivan: Who wants to have a break? Okay, not too many! Why don't we just go on then?

[Short pause in transcript to flip tape.]

…Fear and shame is not totally predictable as a consequence of lying. But in our culture most people do feel guilty about lying and they are afraid of getting caught. Now, people will vary. If you know you're a good liar, you'll have less fear than if you were a bad liar. If the person who's interviewing you is a nationally known profiler, you're more likely to be afraid than if it's your Aunt Susan who's always thought you were wonderful. So who it is that's interviewing you will affect your fear or guilt—as will your personal history.

Now, *duping delight*—you often can see this—one of my neighbors in Berkeley, when I lived over there, had gone to Oxford with Bill Clinton. Thought he was wonderful. Now, this was before things got bad, this is early in his presidency, and he says, "Oh yeah. He really *likes* lying. He lies when he doesn't have to! It's just sort of fun for him." *[Laughter]* So he's a man who likes putting one over on the other person, and I think likes being a bad boy, and then people will love him anyway. You know? I think there are deep reasons for why people do this.

Other kinds of emotions occur when you lie about your feelings. So you're deeply hurt, somebody doesn't reciprocate your love, you're furious because somebody has betrayed you, you're very sad because you've had so many losses in your life—but you think it's inappropriate to show it in your professional life. So there are many situations in which we have to lie about our feelings. It's extremely difficult to do this because, as we talked about earlier, of the involuntary nature of emotions. It's very difficult to hide strongly felt emotion. And the attempt to control it takes energy, and it looks different than ordinary emotion. As we saw, with Prince Charles—he's trying to look happy, *but he does not look happy*.

So what you need to look for, to try and find out if people are lying about their feelings are these discrepancies from baseline and discrepancies among communication channels. For example, if you said to me, "How was your lunch today?" and I said, "Oh, it was okay." *[Shrugs shoulders]* What does it mean if I shrug my shoulders like that? I'm negating what I said. It wasn't really okay. If, however, I'm trying to convince you, and I'm saying, "Oh yeah, I really believe in the death penalty," and I shrug it's inconsistent with what I'm saying. So a negation, when I'm trying to say something positive, is this inconsistent communication and you want to pay attention to that. So mismatches in communication channels is extremely important.

Let me show you another video that illustrates many of the things that we've been talking about. This is a man in the series we already saw. And I'll tell you he is lying, but I want you to pay attention—we might even watch him twice.

[Video of young man explaining his views on the death penalty. Claims he's been pro-death penalty ever since his "mother's brother was shot by his wife." Says that half the family felt she should be put to death, the other half didn't, and "I kind of felt like that's the way it should be."]

Now, he is very difficult. Most people think he's telling the truth. College students—because they can't believe somebody would lie about a death in their family—they think it's outrageous. Your mother's brother got shot?! Right there: "*mother's brother?"* Maybe in Islamabad they refer to their uncles that way, but that's not what we do. That's weird. Right away, you know this guy, he's very attractive, he's nicely dressed, he looks quite intelligent. He's asked the question and he repeats the question—a very good wayof gaining control. "How long have I had this opinion." Repeats it. Gives himself time. Then he answers. Throughout, he had a smirk. Do you see the difference between the smile he has on his face and the smile the very first guy we looked at had? Which was just a kind of goofy guy, with his short upper lip, you know—totally relaxed. This guy is smirking, he's scanning, he's looking to see what the guy's asking him—and then when he changes, he goes like this *[gestures with hand to face]* and at the same time he does this big shrug. And then he changes his story. Here's an example of collusion with a liar and accusatory reluctance. He tells a story about his mother's brother, then he says, "Half of them thought she should go to jail, half of them thought [etc.]…and that's the way I thought it should be." Qu'est-que c'est? *[Laughter]* Those are two contrary opinions! But we fill it in, we fix it up.

I work with the wizards, and I've gotten really good at talking to them, but what I've come to realize is that I'm not a wizard. I'm very good at all these details of facial stuff but I don't have the grit that they have. They *see* all this stuff and they can *see* the way people are. I just want it to be nice. And I think most of us want it to be nice. Most of us want to believe the people around us. And so even though we think—that's why we call it "gut reaction" or "intuition"—we know something's not right, but we don't want to go there. That's not where we want to go. And so there is a characteristic of mind, I think, that allows people to see the truth or not.

Now, I've been doing this for thirty years, I've got a whole lot of stuff I could talk to you about, but why don't we answer some questions if you have them. Yes, in the back.

Attendee: Is there any association between being a good detector of lies and being a good liar? Either to others or to themselves?

O'Sullivan: Right. I don't know about that. That's a very good question, and we're trying to look at it. I do know that among the wizards there are a number of them who are extraordinarily good role players. You know, they were undercover cops, or lawyers with very sensitive cases where they have to manage their emotions—and so I'd say at least two thirds to 70% of them have stories they've told me where they were very good role players. But all of them—and maybe that's why they volunteered to be in the study—care about honesty. And their families say that they can tell when the wizards are lying because they'll do things like flare their nostrils, or do something. And many of these people—even though they are extraordinarily good at understanding other people—some of them have very difficult lives, many marriages, alcoholism problems, you know, so it's not like they're models of mental health in other areas even though they're highly emotional intelligent. And some of them *are* models of mental health. So they're like the rest of us, there's a real range.

Attendee: Seems like you're mainly talking about a mixture of content and facial characteristics. What about something like television advertisements? Where the content is clearly—I look at it and it looks like they're being dishonest. But the advertisement exists, so it must be effective…

O'Sullivan: Right, we call it collusion with a lie! We *want* to believe. If all we do is take that one little pill we'll lose twenty pounds. Or if we put this in our bathwater our wrinkles will go away.

Attendee: Or if we call before midnight tonight. *[Laughter]* But they continue!

O'Sullivan: Because I think people are basically kind and good, you know, we're wired to be socially cooperative beings. And so people who want to sell us things, or get us to do things that are not good for us, can play on those hardwired characteristics of our behavior and our nature, for nefarious ends.

Attendee: Speaking of which, I'll cite two examples—one Republican and one Democrat—where they're on the *verge* of lying, but not technically lying so that you would go to jail. The part where, for instance, Clinton didn't *exactly* lie, and even asked, "Could you define the word *is?"* And then on the other side, let's say the Bush administration, and the way they handle the truth in a way that, okay, it's not *technically* a lie, but it's so convoluted that it's misleading.

O'Sullivan: The comment's being made about the fact that in politics different styles will exist, where people try not to do an overt lie, but they get on the verge of it. So Clinton would say, "What is *is?"* And "I did not have *sex* with that woman," because sex is intercourse, you know? And then there is the other style, which we see in current government, where it's so convoluted and you just act like somebody didn't raise an issue. Very difficult, I agree.

Attendee: I'm thinking of another kind of lying, which is very much based on collusion with a liar, and which is very popular nowadays, and that is the phone calls to the elderly saying that if you give us the $5,000 there's $100,000 coming to you from Toronto, Canada. I know firsthand this is working all through the U.S. and yet it's based on the person's collusion with a liar and wanting to believe it, but you don't have any of the [inaudible].

O'Sullivan: The comment is being made that many of the elderly are being beguiled by offers, and many people are falling for it. Yes.

Attendee: Now and again, I'll be speaking to somebody and I'll say something like, "I really, *really* want that to happen." And I'll find myself kind of shaking my head when I say it—

O'Sullivan: No kidding!

Attendee: —and I don't feel as though I'm actually disagreeing with myself. I mean, I'm not deliberately deceiving, and I don't think that the shake even means, no I don't want to do it. But I'm just wondering if you've studied anything about, basically, nodding versus shaking your head, whether we more naturally do one more than the other.

O'Sullivan: Are you from another culture? Have you lived in another culture at any time?

Attendee: No.

O'Sullivan: Because if we had interviewed and videotaped you, and you're saying something positive like, "I really, really want that to happen," and you're going like this *[shakes head no]* we would call

that leakage. Now, we wouldn't say you were lying, but we would say it was a hot spot. And we would have to know what it is—like maybe you're saying, "Why am I saying 'really really'? That's what wimps say." *[Laughter]* You know what I mean? It could be something about the situation, not that you don't want it. So we don't know it's a lie, we just know something's going on there that's odd. And then you pursue it further to find out more about it.

Attendee: You said that some of the wizards were excellent at role playing. Have you interviewed any people who do this professionally—actors?

O'Sullivan: No, I haven't looked at it from that side. No, I haven't.

Attendee: How about people who are not in touch with their feelings, but might say something that would be an unconscious kind of a lie?

O'Sullivan: Yeah, that's a whole area of self-deception, and that's more for a philosophy talk, so let's do that another time. *[Laughter]*

Attendee: How difficult is it to get better at detecting lies? After this talk are we all going to increase our chances by 10%?

O'Sullivan: Some of you might! If you do the microexpression training, there is a huge increase in your ability to see these microexpressions. I've done training—but in a much more regular environment than this one—and I've found that not everybody improves. So in a group of college students at USF—one of my students is here tonight—this was a group of highly motivated students, a lot of them were interested in forensic psychology, and I gave them a twenty minute talk, a shorter version of what you guys had, and I think only two out of 23 didn't improve. And the two who did not improve were the ones who were the best at the start, because the new information sort of screwed up what they already knew. So highly accurate people—and the wizards reported this—as they learn new information, they have a decrease in their accuracy. But not everybody improves—you have to be smart, you have to be motivated. In another study I did I found that if people say they lie to their friends, they don't do well on the lie detection test and they don't improve with training.. The people who said they are truthful to their friends are the ones who got better—because I think there's a kind of an attitude about the world, you don't take it seriously or something. Not everybody can learn, but most people can.

Attendee: I heard Paul Ekman speak once about lying and he said at the end of the talk, "I want to leave you off with 'you're better off assuming that people are telling the truth.'" Do you agree?

O'Sullivan: Yes, I would agree with that. Life is so miserable if you think the other way. *[Laughter]*

Attendee: You told the gentleman that, "if you were nodding your head we would have to explore that further." What do you mean? What would you be doing to explore something further?

O'Sullivan: Well, if I'm doing an interview, whatever he said he was "really, really wanting to do," that's something I would go back and talk to him about in another way. I'd try to go back to the subject, This is not the venue to do it in, but I'd want to know, what kind of guy is he? Why would he be doing that? Does he have hesitations about what he's saying? Does he have hesitations about the style in which he's doing it? So you just explore it more. It's a hot spot, not a clue to deception.

Attendee: Is there anything to the degree of protest, with people who are like, "Oh, NO, I'm not telling a lie! Absolutely not! I'm not a liar!" Have you found any correlation there?

O'Sullivan: No. Some people are just very anxious types. We had this one woman, she looked *so* guilty. Big shrugs, wringing her hands, "I didn't do it!"—she was totally innocent. But she's just a very anxious, upset, nervous kind of person. Again, it's the change. If you have a very low-key person—it's like when Clinton said, *"I did NOT have SEX with that woman."* I mean did your heart sink? That was not Clinton's style. If he had not had sex with that woman that's not how he would have said it. And so for him to do it that way was odd. But for somebody else, who talks like that all the time, it doesn't mean anything. It's that baseline issue that you really have to pay attention to.

Attendee: Do you have any comments about laughter?

O'Sullivan: Hmm, no, I think it's a fascinating topic and I just don't know that much about it, I'm sorry.

Attendee: What do you think about the effectiveness of the polygraph tests?

O'Sullivan: I think what a polygraph does is tell you whether or not the person has autonomic nervous system arousal. I think most polygraph operators—if they're honest—will tell you they do lengthy interviews before they go into the polygraph exam. And then I think they just use the polygraph exam to certify what they already have figured out from the interview. The problem is, if you pay too much attention to it you're treating it like a deception clue instead of a hot spot. So I would use the polygraph to find out, ahh, they're reacting to this, they're reacting to that. And then you do interviews or investigations around those issues.

Here's my favorite polygraph story: this guy goes home from work and he sees the neighbor's door is open, so he goes in and he finds the neighbor's wife, on the floor, she's naked and she's dead. He calls the police, they arrest him, he takes a polygraph, and he fails it. They send him to jail, he's convicted, and then a number of years later they find the real murderer. What was going on with him that every time they asked him about finding the body the polygraph went off the charts? What happened was, when he went in and she's lying there with no clothes on, he got sexually aroused. And he was *so ashamed* to go in and get sexually aroused over a dead woman, that every time they asked him that he wouldn't say, and he would spike. And that's the problem with the polygraph. It looks scientific. And people sometimes treat it like, "Oh, red light means it's right!" And that's not the case. And so that's why I would have concerns about the polygraph.

Attendee: Have you seen any correlation about age and how good people are at detecting lies?

O'Sullivan: Yes. Yes. Actually, in this study I was telling you about before about the same group, we had a group of college administrators from San Jose. So we had a large sample, and we were able to—we hadn't found it before because we were always doing it with adults, and we didn't get anything, or college students and we didn't get anything—so we split it at 30. So if you're 31 and above, ladies and gentlemen, we're better than those who are 30 and under! And I think what it's about is life experience. So these wizards are fascinating. You see this guy, he looks like a total corporate executive, you know, with his blue suit. Well it turns out he worked in the Appalachian coal mines, he was a tug boat captain, he was the chief of a smelting factory—he's done all kinds of things and worked with all kinds of people. So he has this array of experience with people. His template, like Miss Marple's, is huge. So when he sees somebody he's able to evaluate them in a way that somebody who's had a more narrow life wouldn't be able to do. So I think there are some wizards who are under the age 30, but for most of them they are 40, 50, or 60.

And the other thing I think is fascinating about the wizards project: most studies of expertise say that if you want to be the grand master of chess, or the world champion in anything, you have ten years of concentrated study in the first ten years of your career. But with the wizards, a number of them in mid-career said, "I'm going to get this right." And that's when they started to get much better. I mean they were always good to start with, but they were able to go to a whole other level through attention and motivation and so forth.

Attendee: I want to know if you've gone back, for example, it's pretty much accepted that Joe McCarthy exaggerated, or lied, in terms of the supposed information he had on communists in our government. Now you have the new movie [inaudible], Edward R. Murrow, and they actually use the footage of McCarthy. Is it possible for somebody like you to go back and look at the tapes?

O'Sullivan: Well, Abraham Lincoln once said about Seward, Secretary of State, that "Mr. Seward has so few stories, and he tells them so frequently, that he's come to believe them himself." And so I think that with McCarthy he may not show leakage because he may have believed what he was saying. But I think your suggestion is an excellent one.

Now it's getting a little late, I think probably just a couple more questions—

Attendee: Are men or women better at lying?

O'Sullivan: We find no difference. And we find no sex difference in accuracy at lie detection. Women are slightly better at detecting nonverbal clues, generally, unless the men are motivated. If you give them money, or make it important for their job, then the sex difference is wiped out. *[Laughter]*

Attendee: What about women trying to detect lies from other women versus—

O'Sullivan: No, we looked at that. That was our hypothesis, and that's what all the women thought, and it didn't happen that way.

Attendee: Can we identify which part of the brain is most active?

O'Sullivan: They're trying to do FMRI studies of some of the wizards. I think it would be broad activation. I mean, I think that the initial identification of the clues might be more narrowly focused, but the evaluation of it is going to certainly involve pre-frontal activation—but it would be more widespread. So we don't have the information, I'm giving you some guesses.

Attendee: Is there any correlation between moral systems and the ability to lie?

O'Sullivan: Morality…what do you have in mind?

Attendee: Like somebody who has a strict moral code to not lie.

O'Sullivan: I see... Well, we haven't found that it's related to religious belief. But no, I don't have any information about that, I'm sorry to say. Although very religious peple might feel more guilt about lying.

Attendee: Can you give any examples of professions where people spend more money to lie better? *[Laughter]* People who get the tells down very well and it makes them more successful at work?

O'Sullivan: Well, you can think of some, what do you think—salesmen, politicians, gambler—

Attendee: What kind of training do you think they would undertake?

O'Sullivan: Oh, I think it's on-the-job training. *[Laughter]* I really do. And I do think—we have one study—among our wizards we have two levels. We have the wizards, they got 80% or better on three tests. And then, early on, we were testing these therapists, and they were only getting 80% on two of them. The one they didn't get right was lies about stealing money. And then with cops we got the other pattern, where the cops could detect lies when people were talking about whether they stole money, but they couldn't tell lies when women were talking about their feelings. And this was almost perfect. I mean, you never get that in the social sciences. And so we have maybe 14 wizards who got 80% on all tests, and we've got the other 23, and it's almost perfectly aligned with what their profession is. So I believe that's why this template idea, to me, is what's happening. You have templates of situations, and so I think people who are used car salesmen, they know what somebody looks like that's coming into the shop. And they know who's likely to be a mark or not. So they know, within that range necessary for their job, what is good lie detection. They may not do well on our tests, because they would have a more finely honed skill. Politicians know which areas to talk about, so I think you develop a skill if you're going to stay in a profession and be successful at it.

Well, you were a great audience, thank you very much!

[Applause]

Gallin: Thank you, Maureen, and thanks everyone for coming. I have to say that in two years of doing this, this is the first time we've ever had a break voted down! *[Laughter]* So I think that says something about tonight's talk.

So thank you for coming—but first, now that we're going to cut off a little early since we didn't have a break, have some more food and drinks and stick around. I also wanted to tell you about something called Wonderfest, really quickly, that takes place the first weekend of November, November 5th and 6th at Berkeley and Stanford. You can look it up at wonderfest.org—I think actually Maureen spoke there last year. It's kind of like a whole weekend of Ask a Scientist, interesting conversations, so check out wonderfest.org and I hope to see you there!

Also if you want to get on the Ask a Scientist mailing list, for future events, the sign-up sheet is floating around. That's it for tonight! Thanks everyone, and thank you Maureen.

[Applause]