ACADEMIC WORKSHOP ON PUBLIC CONFIDENCE

PROCEEDINGS

Report of the President’s Commission on Critical Infrastructure Protection
1997
PRESIDENT'S COMMISSION ON
CRITICAL INFRASTRUCTURE PROTECTION

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ACADEMIC WORKSHOP ON
PUBLIC CONFIDENCE

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Friday, May 30, 1997

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The workshop met in the Riggs Library, Healy Hall, Georgetown University, Washington, D.C., at 9:30 a.m., Mary Culnan, Chair, presiding.

PRESENT:

MARY CULNAN, Chair, Commissioner

BILL GARBER, Moderator, Fleishman-Hillard

ELIZABETH BANKER, PCCIP Staff

ROBERT BIES, Georgetown University

MICHAEL DARBY, University of California, L.A.

DAVID GEDDES, Fleishman-Hillard

DORIS GRABER, University of Illinois at Chicago

BETSY HARRISON, PCCIP Staff

RAY HIEBERT, University of Maryland
PRESENT (Continued):

BRIAN HOEY, PCCIP Staff
PAUL KLEINDORFER, University of Pennsylvania
ROD KRAMER, Stanford University
ROY LEWICKI, Ohio State University
LIZ LIPTAK, Georgetown University Staff
DAN McALLISTER, Georgetown University
STEVE MITCHELL, Commissioner
JOE MOORCONES, Commissioner
TOM TRIPP, Washington State University
TOM TYLER, University of California, Berkeley
NANCY WONG, Commissioner
LYNNE ZUCKER, University of California, L.A.
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcoming Remarks by Allen Andreasen</td>
<td>5</td>
</tr>
<tr>
<td>Introduction by Mary Culnan</td>
<td>6</td>
</tr>
<tr>
<td>Discussion of What is Trust</td>
<td>32</td>
</tr>
<tr>
<td>Discussion of Elasticity of Public Confidence</td>
<td>165</td>
</tr>
<tr>
<td>Discussion of the Role of the Media</td>
<td>173</td>
</tr>
<tr>
<td>Discussion of Role of the Government</td>
<td>194</td>
</tr>
</tbody>
</table>
PROCEDINGS

(9:16 a.m.)

CHAIR CULNAN: Good morning. My name is Mary Culnan, and I want to welcome you on behalf of the President's Commission on Critical Infrastructure Protection, which is a real mouthful. We're the PCCIP, and we haven't quite figured out how to say that either.

But as we do say here inside of the Beltway, we are from Washington, and today we're from the government, and you're here to help us.

(Laughter.)

CHAIR CULNAN: So I want to thank you all for coming. We invited each one of you because of your particular expertise we thought could come to bear on our research, and so we're really glad you could find the time and come to join us. I know everybody is very busy.

I'm from the Business School here at Georgetown, my home when I'm not on the Commission, and Allen Andreasen, who's our Associate Dean, is going to say a couple of words of welcome on behalf of Georgetown, which is officially hosting the
occasion here.

MR. ANDREASEN: Thank you, Mary.

I do want to welcome you all here on behalf of the Georgetown School of Business, and we're pleased that we're able to host such an event.

This kind of activity fits, I think, very well with where the Georgetown School of Business is trying to carve itself a major niche in the academic world, and I think in the public policy world. I think there are several things that we do here that impinge on the kind of work that this particular group is involved in, and you have several of my colleagues among you. We are very interested in all sorts of issues of trust.

We're also interested in the broad area of business and government relations. We've been hiring a number of folks and growing rather rapidly in all of these areas, and the chance for our faculty to work with such bright and interesting people as you've assembled here today is great for us, and we hope that by hosting this we can make your work at least pleasant, and I'm sure my colleagues will help a lot to the intellectual side
of your enterprise.

So thank you again. Welcome. Have a
great day.

CHAIR CULNAN: Thanks, Al.

Before we get started, I'll just tell
you a little bit about the Commission and our work.

This is going to be informal. We want the workshop
to be informal. So there are no overheads. I'm not
going to stand up and turn slides, but there are
some overheads in your packet if you want to look at
that because I'm just going to go through these
quickly, that have some more details.

The first question is: what are
critical infrastructures, which was interesting to
me in reading the different papers that were
submitted? And this is another thing for which
there is no real good sound bite, but really they're
the nation's life support systems, the kind of
things we take for granted.

And probably the best example of the
fact that people really do take these things for
granted was illustrated by President Clinton at the
beginning of the month when he was asked how he felt
about his daughter going away to college 3,000 from Washington at Stanford, and he said, "Well, the planes run out there and the phones work and the E-mail works out there, so we'll be all right," and that pretty much sums up, I think, how the public feels about infrastructure.

So why have a commission to study this? President Clinton signed the executive order that established the Commission last July, motivated in large part because of some recent terrorism events, such as Oklahoma City, the World Trade Center, and some things that had taken place in some other countries as well.

And so our mission during the year and a half that we are in business is to develop policy recommendations for the President that will assure that the nation's critical infrastructures will be safe from both physical and cyber threats.

We have 20 Commissioners under the executive order, and ten of these are from the federal government, and then there are supposed to be ten from the private sector, which is broadly defined. I think business people wouldn't consider
me to be a private sector person, but I'm not from the government. So we have five private sector people on the Commission now, including our Chairman, who is a retired general and then served in the private sector after he left the Air Force, and we have some more private sector Commissioners to come, which we hope will help us as we finish up.

Our work is organized around five different sectors which represent the critical infrastructures from the executive order, which named eight. There's banking and finance. We have an information and communications sector. We used to call this electronic distribution, but decided it was broader. Physical distribution, energy, and vital human services, and the slide on the sector teams shows what kinds of specific activities are included in each one of these teams.

One of the things that makes our work particularly interesting is that the private sector owns the infrastructures, not the federal government, and so one of the major challenges in our work is to build a partnership with the private sector or, in fact, to get the message out so that
the private sector on its own will take steps that
may turn out to be necessary to plug any holes that
currently exist.

We're also looking at a number of
crosscutting issues, and I'll talk about them at the
end. These are really the research questions for
our Commission.

Terrorism was the driver for
establishing the Commission, but one of the things
we've found as we proceeded in our research is that
the real issues that are perhaps threatening the
infrastructures are what we call the new risk
environment, and people in business schools know
this already because the business environment has
changed so much, and this drives a lot of the things
that we're teaching our students.

Deregulation has meant there are more
players, and there's more complexity. It's now a
global environment. We have the merger between MCI
and British Telecom. So now you have foreign
companies operating part of what used to be a
formerly American infrastructure.

Greater dependence on information
technology, in general, and specifically on telecommunications, and that this goes across infrastructures. So you have a lot more interdependencies across these different infrastructures. Internet is one big example, but there are others.

Also there's really a new paradigm for national security that's emerging. Where it used to be if you wanted to attack the U.S. you took out a missile silo, now you will take out a financial institution, and so this, again, creates some new realities that the private sector and the government have to address and how to do this.

So the research questions that we're addressing in our work, we're looking at what is the national risk. Are there new threats that represent problems or potential problems for the infrastructures, and are the infrastructures vulnerable to these threats or, in fact, are we protecting against them already? What is the business case for why the Commission is in existence?

National structures issue. How should
the government be organized to address these issues, and is it currently organized in that way or not?

Public confidence, which is what we're here to talk about today.

Economic issues. Who pays for any changes that may be necessary?

Research and development. What kinds of new tools or new technologies may be needed? And, again, who should pay for these?

Legal and regulatory landscape. What is it with regard to infrastructure, and are there holes that need to be plugged or are there laws that serve as impediments to assuring infrastructures?

And finally education, training, and awareness both for the business community today and the future business leaders of tomorrow, which are our clients or whatever we'd like to call them, our students.

And so these are the kind of issues that we're addressing. The last slide in the handout has our address. We'd be happy to hear from you or if you'd like to follow our work, we have a Web site, and we put up transcripts of public meetings. We
will put up a transcript of this meeting eventually when it's done so people can see what we hear, have said about this today, and so, again, you can see the executive order or anything else you'd like.

Before we start and I turn this over to Bill Garber, I know I'm going to trip up and call you "Graber" because Doris Graber is here, and I've already made this mistake once, but I'll start out the day right.

I want to thank my colleague on the Commission, Steve Mitchell, who before I came to the Commission had the idea that we should focus on public confidence, and he started Team Confidence, as I understand it, and really serves as a champion for this idea. I think I heard some of the other people that were skeptical that maybe this wasn't such an issue, and now any time we have a meeting and discuss an issue, public confidence inevitably rises to the surface.

And on a personal note, because I've started looking at trust and justice in my own research, when he called up and said, "Well, you know, you're going to be on the Commission, and
we've started this project on public trust. Maybe you'd be interested in being involved in that," I thought, "Boy, would I ever."

One final thing. In the paper this morning, if you get a chance to look at the Post on the Federal Pages, which is on the back of the editorial page, there's an article that some of the top appointees in the Clinton administration are having a retreat this weekend, and they're talking about public trust also, not in infrastructures, but in government, which was a topic that some of you addressed in the papers you sent in. So we're timely without even realizing it.

So, again, thank you all for coming. We're going to have an interesting day, and I'll turn this over to Bill, who's going to co-moderate this with me.

MR. GARBER: I'm the guy that's supposed to keep us on scheduled, and obviously I have miserably failed at this point because we are probably about 30 minutes into our allotted time.

A couple of ground rules of no particular order. First of all, for those of you
that haven't found the restrooms in this facility, they're very, very close. They are out the door to your right, and then an immediate left, and then just beyond the elevator, which is on your left just as you go in that next little ante room there, there is a little hallway back to your left, and both the men's and ladies' rooms are there.

And as Mary said, this is informal despite the lovely setting and everything else and some kind of sense of formality, and so we have scheduled breaks, and we'll go over the agenda in just a moment, but don't feel as though you have to wait for those either to get something from the table, some fruit or juice or coffee, whatever the case may be. I mean do as you please in terms of coming and going as you need to.

In your folder there are some discussion questions, which perhaps you've had a chance to look at previously. Most of them were part of the correspondence that was initially sent to you when we started forming this workshop, and they'll be the basis for which we will go through the day.

It's sort of my task to keep us on
subject, on task, and to get through these particular points.

Along the administrative lines, I'd like to say that Kristin Cuscella is a member --

CHAIR CULNAN: Who just left.

MR. GARBER: -- who just walked out the door, but the woman by the door there. She and I both work for an international communications firm called Fleishman-Hillard. We are working with the Commission on a variety of fronts. My colleague, David Geddes, is a senior member of our research staff from our corporate headquarters in St. Louis, and he is specifically working with Mary and the Commission on the survey research that we're going to do on this particular subject, and of course, of which this is a part.

If there's anything that Kristin or I can do regarding arrangements, flights, whatever the case may be, anything at all, please just ask and we'd be delighted to help you out.

As we go around, as we start these things, I'll essentially just sort of read the questions and whatnot or a question, and then what
I'd like to do is if the area that's being talked about here is in your particular field of expertise or you have done research or whatnot in that, signal some way.

CHAIR CULNAN: Turn your card up.

MR. GARBER: Well, initially kind of let me know in some fashion that you're willing to take the lead on the discussion because what we want to do is, I mean, this is not one person carrying the ball and one person speaks on a question and then we go on to the next one. I mean we're in the discussion mode here, and Mary told me I didn't have to tell academicians that they had to talk, but for subsequent things, if not for the first one, rather than raising your hand or something like that, just put your name tag up on the corner, and that will signal me that you have some additional comments, challenges, debate, or whatever the case may be regarding the topic that we're talking on.

And if we go on a little bit long, I'll sort of, you know, say it's -- I'll look at Mary and I'll say, "Mary, have we gotten what we need?" and then we'll move on.
The other thing I would like to tell you, each of you, is that we have a court reporter here with us in the corner, who is making a verbatim transcript of these proceedings, and if we follow suit the way the Commission has worked previously, in a couple of weeks that probably will be posted on their Internet site and, of course, is accessible by any of you who might like to download part or all of that transcript, but I certainly want you to be aware of that.

Are there any questions at all or whatever before we start? Anything I've forgotten to tell everyone?

The agenda is also in your packet, and I might just mention that we have a break scheduled at 10:30. We have lunch scheduled here at 12:30. We don't intend to -- I mean, while we want to have some time for social talk and whatnot during lunch, we don't have a long time scheduled for that. Obviously, you know, this is the lunch table where we sit, and so we'll intend to resume, you know, when it's comfortable for everyone after lunch.

The 3:00 p.m. adjournment time is pretty
firm because I think there's another function in this room at four. So we will end at three o'clock today for those of you that may have other plans or reservations and whatnot to leave.

Before we get started with the questions, I would like to kind of -- I would appreciate it if we could kind of go around the room. In your folders, for those of you who stayed in the hotel, there were some bios of the Commission members, but, of course, the Commission members do not have bios of you. So I'd just like each person to go around the table, starting with you, Joe, and introduce yourself and not just names and where you're from, but maybe a little bit about your interest in this particular subject, whatever research you may have done, and whatnot. I mean this won't last too long, but nonetheless, we'd just like to get everybody to know each other and know who we've got around the table here so that we can then continue.

So, Joe.

MR. MOORCONES: I'm Joe Moorcones. I'm a Commissioner. I come from the National Security
Agency out of Fort Meade. I've spent 25 years in information systems security, worked on everything from nuclear command and control codes to make sure they can't launch our missiles, where we have a big deal of trust and confidence, and it goes to everything from personal security all the way through physical security, all the way down today to trying to figure out how we're going to get better security enabled features in commercial products because that's what everybody in government is using, including the military.

So that's sort of my background. I've been involved in this area for a long period of time, but never looked at trust as just a pure academic kind of a view, but I would say mistrust was probably the way we designed our systems, assuming we could trust no one.

MR. BIES: Yeah, my name is Bob Bies. I'm in the School of Business here at Georgetown University. My area of research has longstanding been in issues of justice, perceptions of justice or injustice more accurately in the workplace, but more recently gotten more involved in looking at how
people act out the dynamics of distrust, particularly in the form of revenge and paranoia and things like that. So I'm really interested in the distrust piece, much more so than trust. So that's it.

MR. HIEBERT: My name is Ray Hiebert. I'm a professor at the University of Maryland, former Dean of the College of Journalism there. I've written a few books on journalism and public relations and the mass media, and for the last 23 years I've been the editor of the Public Relations Review, which is a quarterly journal of critical commentary on public relations.

And I'm interested in the public relations aspect of this question of public trust.

MS. ZUCKER: I'm Lynne Zucker. I'm a professor of sociology at UCLA, and I guess my interest is focused most on the social construction of trust, and I've looked at it in a number of different contexts, and that's my major approach. So it's kind of a blending of sociology and economics.

MR. DARBY: I'm Michael Darby, Lynn's
husband. I'm a professor at the Business School, the Anderson School of Management, and the Economics Department at UCLA.

I guess I come at trust from two ways: one, from sort of an industrial organization orientation towards, with Eddie Carney, I introduced the idea of credence goods, when you buy something like an operation and you really don't know if you need it or new transmission, and how do market structures enable those kinds of transactions to be made?

And the other is from the financial markets, safety and soundness questions, and questions of what we call systemic risk. What can set off a run on the system?

MR. GARBER: Gee, I wish you'd publish. I really want to know about that. It sounds like we small investors that that might be some good knowledge to have.

MR. MITCHELL: I'm Steven Mitchell. I'm the Department of Justice representative to the Commission, and I come at this question from a criminal law perspective, having formerly been with
the department's Computer Crime and Intellectual Property Section, and in the course of the last nine months with the Commission, I can say that one of my proudest achievements is successfully recruiting Mary Culnan to be a part of our Commission as well. So I look forward to discussing this.

MS. GRABER: I'm Doris Graber. I teach political science at the University of Illinois. My main area of research has been the mass media, particularly television news, and of course, there the issue of what it does in terms of people's trust is a very important issue.

I've also done work in information management in the public sector, and part of that involves public communication campaigns, and there again, the issue of trust comes in, and I've done a good bit of work in what people call political psychology, which again deals with perceptions and people's attitude towards information and such.

MR. TYLER: I'm Tom Tyler. I'm from the Department of Psychology at the University of California at Berkeley. I have been concerned with public confidence in government and government
I think there are really two aspects of that problem that I've particularly explored. One is the consequences of trust. That is, I've been concerned with why people comply with legal rules, why they obey the law, and how trust in government shapes whether or not people, in fact, will obey laws, will accept decisions by political and legal authorities.

The second issue is the mechanisms that government can use to create and maintain trust, and in particular, I've been concerned with procedures through which government functions and how those affect trust in government and trust in government authorities.

MS. WONG: Thank you.

My name is Nancy Wong, and I'm a Commissioner on this Commission from the private sector. I'm serving as a private citizen. So I don't represent the company I came from, but before I came on this Commission, I worked for Pacific Gas and Electric Company. I've been in the information technology field, serving that company for the last
25 years.

My particular interest in this is I've taken on the assignment of putting together a profile of the national risk as we move forward into the Information Age and how that has changed, and risk is an area which I am responsible for in my company, particularly related to information assets and how risk has changed in my company as a result of our dependence on information technology and the use of information in our business processes.

For national risk, risk is very much related to perception and expectations of the public, and it plays a very important component in determining risk as it is perceived and as it is in reality, and so I really look forward to today's discussion.

Thank you.

MS. BANKER: I'm Elizabeth Banker. I'm an attorney at the Commission, and I work with Steven Mitchell on the legal issues that the Commission is facing.

MR. HOEY: My name is Brian Hoey. I'm the first public affairs officer detailed to the
Commission as a Special Assistant to the Chairman.

My most recent experience in building trust was in Sarejevo-Bosnia with warring factions.

(Laughter.)

MR. GARBER: Did you succeed?

(Laughter.)

MR. HOEY: Not entirely successful.

MR. GARBER: Not yet anyway, right?

MR. HOEY: Correct.

MS. HARRISON: My name is Betsy Harrison, and I handle legislative affairs at the Commission, our outreach to members of Congress and the committees on the Hill, many of which have jurisdiction over the areas that we're studying.

And I wanted to join Team Confidence because I think that public confidence and trust will be of major interest to Congress when the Commission finally sends its report to the President and eventually it becomes public.

MR. TRIPP: Hi. I'm Tom Tripp. I'm with Washington State University. I've always been interested in issues of transactions at work between workers and subordinates and bosses and how power
differences affect that and how perceptions of justice come into that.

More recently I'm interested in when trust fails, how it affects those relationships, and in particular, revenge in the workplace and how workers tend to get even with each other when trust fails.

MR. LEWICKI: I'm Roy Lewicki. I am professor of management and human resources at Ohio State University. Most of my career has been in areas of negotiation and conflict management, justice work, and in the last few years on questions of trust and trust development.

I've been most interested in interpersonal trust, how trust develops, how people view different kinds of trust and the way it develops, how to repair trust, how you fix broken trust, and how to measure trust and trust dynamics, how to understand sort of what trust level people are and how that process grows or changes over time.

MR. KRAMER: I'm Rod Kramer. I guess I would describe myself as a trans-social. I'm a social psychologist trapped inside a business school
MR. KRAMER: I was trained as an experimental social psychologist, but I've been at the Stanford Business School since 1985, and I study sort of the social psychology of collective action and inaction, and in particular, I've been interested in why people cooperate with other people when they're sharing scarce or critical resources. So I'm very interested in many of the themes that this Commission is studying.

I'm also interested in why cooperation fails or unravels, and recently have been working a lot on the relationship between trust and people's willingness to cooperate, and Tom Tyler and actually quite a few people who participate in this conference or in this Commission also got together a few years ago and thought about some of these issues in the context of organizational areas, and we published a book, Tom and I and a number of the people, reflecting our views.

And one of the things that came out of that for me has been an interest in paranoia, why
people don't trust other people, and the antecedents of collective suspicion. So I think probably national security issues and other issues are involved with that, but it's been a fascinating topic. It's made me a little paranoid myself.

(Laughter.)

MR. KRAMER: But I'm happy to be here.

MR. GARBER: And they are recording this.

(Laughter.)

MR. McALLISTER: Dan McAllister, and I'm from here at Georgetown University. It's a pleasure just to be able to walk down the hall from your office and step into such a wonderful intellectual environment.

My work is in organizational behavior, trusted personal relationships within an organization or work setting. If there's something that's distinctive about my thinking, it's getting beyond the reasonable useful information towards the affect and emotion that's in the personal baggage that can build and can influence the sort of confidence that people have in their relationships
with one another. Call it the affective component, as well as the cognitive.

I'm very much concerned with not only the function, the positive side of the question, but also the dysfunctions of trust. The bottom line is in order to pull off the scam, you've got to be trusted, and the larger the scam, teams of trust are needed.

(Laughter.)

MR. McALLISTER: And so within this context, I'm very much interested in a balanced perspective on trust and understanding and exploring not only the reasons why we should be pursuing it, but also the controls that we need to have in place.

MR. GEDDES: I'm David Geddes. I'm from Fleishman-Hillard. I'm Vice President of Research. My direct involvement has been through Bill Garber and Mary Culnan in designing and soon to implement some research, a public opinion survey and then surveys of both owners of infrastructures. As Mary pointed out, most of these infrastructures are privately owned, yet the public has near complete dependence upon them, and the users of critical
infrastructures, which can include virtually any
business in this country, but we will focus on those
that are tremendously dependent.

Outside here, my primary work over the
past ten years has been for telecommunications
companies. I previously worked for one of the major
long distance companies, and now most of my time is
spent with working for at least what is today the
largest local phone company in the country, although
that may change in the next few days, and also
working on, I guess, strategic marketing and brand
image development for both telephone company,
telecommunications companies, and technology
companies.

As I reflected on a few things, it
became clear that we actually spend a lot of time on
a day-to-day basis on the issue of what is
essentially a commodity business, trying to get
people to develop trust in our company.

CHAIR CULNAN: Before we get started, I
wanted to bring this to people's attention because a
number of you here may be interested in this, and
you can get a copy free, and if you call before you
leave town, it's a local phone call, but the Pew Center, which used to be the people in the press that was part of the L.A. Times, just released in I think it was this past month a survey they did called "Trust and Citizen Engagement in Metropolitan Philadelphia, a Case Study," which touches on a lot of the issues that many of you are interested in, and so this will be here if you want to look at it during lunch, and inside the front cover is their phone number. If you call them up, they'll send you a copy for free.

There's also an executive summary on the Internet, but this has all of the items and all of the statistics, and they do actually some analysis at the end that they report.

MR. GARBER: Okay. It's perhaps unique that two days ago the Washington Post had an article in it that talked about the confidence index, and of course, this is consumer confidence here, but the confidence index hitting a 28-year high, and that the country is basically feeling pretty good, which is one of the challenges, of course, that the Commission has in terms of looking at the other side
of things and planning for the potential eventuality that some failure, intentional or otherwise, might cause some major and abrupt change to feeling good about some particular infrastructure.

But in any event, as I mentioned, looking at the first question, what is trust? And how does trust in individuals differ from trust in institutions, such as infrastructures?

Who's going to be the first? Lynne, do you want to give us a shot at this?

CHAIR CULNAN: We pick on you because you're sort of our institutional person here.

MS. ZUCKER: Okay. I have to admit I didn't really prepare a speech based on what I wrote.

MR. GARBER: No, no.

MS. ZUCKER: So I hope you can take a look at what Michael and I put together because I'm not going to cover all the points.

But I guess the major thing I'd like to start out with is just, you know, there are kind of two ways of looking at trust, and I really look at trust as not generally a manipulative strategy by
people to try to get people to, you know -- a confidence game kind of thing -- or to try to get people to do something against their own self-interest, and I think, in fact, that if trust is extensively used that way, you finally don't have any, and that's when systems collapse and you don't have any of this critical infrastructure you're talking about.

And so I think that just as we talk about signals in many areas, especially in the labor market with Spence's ideas on using signals that contain information about the underlying characteristics of the worker, and for us it's signals of trust that tell us something about the underlying characteristics that we can expect in ongoing transactions.

And if there's much divergence between the signals and the underlying real "this really is really there and is really supporting the transaction," then eventually, and not very long, the transaction really breaks down.

So, you know, kind of if we went around the table and asked how many of us have been taken
in by these scams we read about, we probably find that not many of us actually have been because we understand signaling and we understand reputation pretty well, and so because we know about these things, we're much less likely to get taken in by a confidence game. We ask the right questions and, you know, we don't proceed. We don't act immediately. We reflect on it and we think. You know, we may collect other information certainly before we make a big investment, even of time and energy, let alone money, right, which people often talk about as one of the kind of classic confidence areas.

So building confidence, building public confidence and public trust I see as really something that requires real investment and a lot of underlying structure that actually supports the transactions that are going on rather than something that can be done superficially on the surface and then radically change public confidence.

Michael, we going to probably get ahead, and I don't know if I'll be actually able to use this, but one of the really good surveys that's been
done -- I promised to bring survey items -- one of
the long-term surveys that has asked questions over
a number of years is the general social survey, and
if you look at the questions on the banking
institutions, which is what we focused on in our
statement, what you see is that, in fact, public
confidence really responds to what happens.

There was a lot higher public confidence
in banking when you didn't have the savings and
loans' failures, and you know, again, there's a nice
distinction between banks and savings and loans, but
a lot of the public mix those up, and as Michael
pointed out, actually after we put together the
statement, he pointed out that, in fact, there was
actually a depreciation of kind of the bank's
reputation capital by allowing --

    MR. DARBY: The use of the word "bank"
by federal savings banks, the former thrift
institutions.

    MS. ZUCKER: You know, so there are real
effects. So if you, you know, assume someone else's
losses or you take on the responsibility of another
institution that hasn't done well and which makes
people nervous and, you know, doesn't really support their trust, then you lose some of the trust in your institution. That is, there is real depreciation of the reputation, and it can occur very quickly.

You know, you can think about the actual runs on banks, and there are actually very few, and they were mostly limited to state banks where the state --

MR. DARBY: Savings and loans.

MS. ZUCKER: Yeah, the state savings and loans. Sorry. The state savings and loans where there could actually be insufficient support for the insurance fund, so that the states might default on promises to insure some of the accounts.

And that's kind of one of the most extreme examples of what happens with lack of trust, that you really do get these runs on institutions that basically make the situation much more serious than it was before the run started. It causes a further collapse of the system.

So trust is something that's built up, and the question is: can you understand well enough the mechanisms of supporting trust to be able to
actually develop a strategy of increasing trust in the institution? And the answer is, of course, yes.

And we can see that because practically, that's what you do. You advertise, and you point out the characteristics of your product or service that really is competitively better, and you try to emphasize your strengths, right? That's what advertising really does.

But, again, there has to be something under there. It's not just putting out a nice ad and saying this is the way we are. If there's not something underneath that, eventually the system collapses, and again, I think the gap between the time the signal is sent and it's really false, a false signal, and the time the system collapses is not very long. You know, it's time you start to decrease the amount of reputation or trust in the organization.

I've talked a lot in my previous work about the replacement of trust between people, between individuals, with trust that's based on institutions, and I do think that is a general process. That is, as we know less about individuals
and we don't know whether or not -- you know, we haven't had a lot of repeat interactions with them and the investment of time and energy in these repeat interactions may be more than would be offset by the gains in the relationship, we tend to rely on other kinds of institutions to replace that kind of trust.

And it's partially because of the complexity of our exchanges. So if you think of exchanges you do, if you just think of your average day and you think of the kinds of exchanges you engage in and think of the situation if you had to build enough personal trust with each person you interact with during the day, what that would mean in terms of your time. You know, as the kinds of exchanges you're involved in and the number of exchanges really increases a lot, which is part of what's happened in modern society, you can't possibly develop those relationships quickly enough and extensively enough to support the kinds of exchanges you're involved in.

So that's led to the development of institutional based trust or at least growth of that
component of trust, I think, a lot in modern societies.

You know, will this be reversed? I mean, one question you could ask is one consequence of the Information Age could be that we really gain so much more information, are able to gain so much more information about individuals that actually we could engage in more direct transactions and bypass the institutional structures more.

I don't know if that will happen, and I don't know which sectors it would be most likely to happen in either. We tend still to rely on a lot of intermediaries, like escrow accounts. We don't try to qualify the person who's trying to buy our house ourselves to determine whether or not they actually can pay the money. We don't generally extend loans to them, although this is actually becoming more frequent because when the housing market gets very bad, people will loan on their own.

You know, we tend to rely on these third parties to guarantee transactions, but there is a cost to that, and there's kind of two costs. One is the direct cost, that is, someone's time and energy
is going into actually certifying all of these people that engage in transactions or at least kind of limiting your risk or limiting various people's risk in the situation.

This is expensive. So it increases the transaction's costs. So we're paying a lot for these structures that then protect us. So it's not as though, well, gee, we don't need interpersonal trust anymore. Look at all of these substitutes we have, but rather it's kind of a tradeoff in terms of different kinds of costs.

There are certain kinds of costs in terms of time and focus, I guess, to actually engage in interpersonal trust and sort things out, and there are typically financial costs to kind of laying off this trust relationship onto an institutional structure.

And then you get into questions of, well, now that you've moved all these trust building relationships into an institutional setting, then what about trusting the institution and how do you build that?

And, I guess, again there are a number
of different ways of looking at this. One way we've
looked at it on scientific teams is that on your --
on the team itself -- so if you're a principle
investigator and you have your group of students and
all of us are familiar with this, so I think it's a
good concrete example -- if you're actually a member
of a working team in the university, typically it's
all interpersonal because, you know, you're talking
almost everyday or, you know, very, very frequently,
and you are working back and forth and you are
working out the dimensions of the trust
relationship.

But in the very large scientific
collaborations which typically happen more in high
energy physics or in space science or some
geophysics collaborations or like that, where these
individual teams that are built up at universities
end up becoming interdependent in a very large
collaboration, then the question of how you actually
construct trusts becomes extremely critical.

Why? Because each group has kind of its
own mechanisms, but when they get together, they
don't whether to trust the other teams. And here
they are putting their cutting edge research ideas on the table to try to really move this project forward because they'll get the maximum out of it, you know, if they put their best ideas in.

But there's a real risk. The risk is that someone will try to publish from this collaboration before they're able to publish really their own ideas and their own work, their own data. This especially becomes critical when the data is all shared. So there is no way to really protect your property rights by saying, "Well I'm going to publish first and then I'll release the data to the rest of the collaboration."

I mean, high energy physics is a pure example of that, since all the data basically is released at the same time to all the teams on the project.

In geophysics sometimes you're able, especially oceanography, you're able to kind of segment. You have your instruments down there off the ship, and you're are able to kind of segment your own data a bit better, although because the multi-disciplinary an area is, the more conflict you
tend to get into.

So oceanography actually is fairly high in conflict over both allocation of time on the -- how much time can you have putting your instruments over the side? Not all of the instruments can be down at the same time. So, therefore, there is a lot conflicts over who gets to collect the most data.

In high energy physics that's typically not a real constraint. So you get into different kind of disputes in different projects.

So the question of how much you have initially, socially constructive, that is the same. That is the idea of, you know, the cross-discipline versus within discipline. If you're inside the same discipline, you tend to share a lot of the same rules and ideas about how you share data and what is appropriate and what our property rights really are.

And as you move across disciplines you lose those rules. They don't apply. You're not sure what the other, you know, the other team from the different discipline really will think. So as you move across these boundaries, you tend to be
more uncertain and you tend need to construct trust.

Now, if trust construction were free, that is, if it didn't really cost anything, well, you know, so what? So you just construct some rules or you construct some way of working together.

But the argument really is that you actually have to construct trust, and that it takes time. Instead of collecting data or analyzing data or writing your paper, you're busy trying to create rules that will protect your property rights, and so it takes time away from things that you value and, you know, your real, you know, your real task.

So trust is seldom -- you know, occasionally it can be the main thing you are trying to do, but very seldom is it really your main job. I mean, banks' main job is not constructing trust. It's, you know, engaging in these financial transactions.

So it's only -- you know, it's very important to what they do, but it's not kind of -- their only job is kind of a side part of there work, and the more they have to work on it -- and of
course, that's what exactly what they think you
countered with is they've had to work on it more --
takes time away from their normal kind of business
activities.

MR. GARBER: Thanks.

Doris.

MS. GRABER: I'm going to look at this
more generically and probably much more briefly. I
defined a trust as confidence that expected
performance will take place, and that's really two
elements that I find very important in the creation
of trust.

The first thing is that one has
confidence in their several level schemata. One
would be individual confidence where, based on own
experiences that expected behavior has taken place,
we decide that some institution or individual is
trustworthy.

I think there is a collective aspect of
this where the question of confidence becomes an
issue of group confidence. There's also a what I
like to call a historical aspect to it, where one
has certain notions that certain -- which has more
or less historically reinforced that certain groups are trustworthy or not trustworthy.

For instance, in this country, unfortunately there's sort of a general belief that politicians cannot be trusted as a group, and you have to work against this sort of political myth.

And there are consequences which I won't spell out in terms of the initial, you know, how you create confidence on their personal level, collective level, and on the collective myth level, and how do you dispel distrust. Those variations are very important, I think, in the practical sense.

The other thing, and I think that was alluded to here, is the question of what is expected behavior. And I think that's a very important aspect, on one hand, in building trust when people are not familiar with a certain situation. You do have to lay down rules so that people will know what to expect.

I think under many circumstances when it comes to major institutions, and that includes government as well as many major projects at the
institutions, the individual really does not know what trust ought to be based on and has misconceptions. So, for instance, you know, in my particular field being government, there are a lot of expectations about what a political candidate can do or what a Congressman can do that are really quite false, and people don't understand it, and then they become disappointed with the performance.

And so I think in any investigation of the level of trust, one needs to ascertain what people really expect, and if those perceptions are false, do something about these perceptions. Advertisement was mentioned as one thing. The media very often are involved in this, and there I think we talk about a chain of trust in the sense that those institutions are fine to pass on the word, but they have to be trusted as well, and if they're not trusted, if you don't trust the advertisement, it's not going to do any good.

If you don't trust journalism, the media, et cetera, and they publicize something, it's no good. So one needs to look at the chain of trust
and who the agents are that are likely to be believed by the particular community that one tries to address.

I think there's also such a thing as the overall climate of trust. There are so many different institutions and there's sort of a spill over from one institution to another. If you have a number of experiences that indicate distrust, you started out with the notion of distrust because in terms of many international aspects, I think, there's very good reason for distrust, and then you distrust everything. The basic principle becomes distrust.

On the other hand, that's, I think, the one thing that's really favorable. People like to trust because trusting is very reassuring and confidence building. So once you can create a climate of trust, you can ride on that a good ways.

So I think that's a generic approach that might be useful across many different types of infrastructures.

MR. GARBER: Rod?

MR. KRAMER: Thanks.
I actually I appreciated your comment about the fact that people seem to like to trust because I think there's some good social psychological evidence of that, but I'm also reminded of an essay that David Kipnes recently wrote where he talks about the antipathy towards trust. People have also kind of an aversive reaction, having the trust or rely on institutions and stuff, and I like his notion, especially, I think, in terms of this Commission, because he draws it out in the context of people's reluctance to trust technological systems and social technical systems; that there's an ambivalence towards trust, which is just a side comment.

In terms of what is trust with respect to critical infrastructures, one of the notions I thought was interesting was sort of the sense of fiduciary trust, the trust we have in institutions to carry out their perceived obligations or duties or responsibilities, and within the trust literature one distinction that I think is useful there is the distinction that some people have made in terms of the perception of trustworthiness of institutions...
and authorities, a difference between the intention
to be trustworthy, which is kind of a motivational
dynamic or inference, but also the ability to be
trustworthy. Can they actually do what they say
they can do?

And I think in some ways with respect to
many of these kinds of infrastructures, that's where
the public needs to be reassured, that in fact,
regardless of the intentions of people, which are
always good, can they actually do what they say they
want to accomplish.

And my favorite example of that, I
guess, is I remember when I was doing my
dissertation on the arms race, I used to
occasionally hear these references to studies about
the survivability, for example, of the postal system
in a post-nuclear environment and that mail would be
delivered. It would be slower, but it would be
delivered, and it just was very hard for me to
imagine scenarios --

PARTICIPANT: It might be glowing.

MR. KRAMER: Yeah. I mean when you
really try to visualize it, it was very hard to do,
despite the rosy, optimistic reports of how through snow, sleet, and nuclear snow this would happen. So I just wanted to make that one point about the sense of ability to be trustworthy as an important dimension, which maybe has not been looked at enough.

CHAIR CULNAN: It's all because David's science fiction, you know, about carrying the mail.

MR. GARBER: Roy, I think you're next.

MR. LEWICKI: Yeah, Dan, Bob, and I did a paper this fall where we tried to grapple with the question of what trust is and some of the research that's been done, and we defined trust picking up very much on some of the terms that you used, Doris, as an actor's confidence in and willingness to act on the basis of the words, actions, and decisions of another.

And I think for us there were two things, again, that were critical in that definition. One was confidence and a sense both in a cognitive sense of predictability and an emotional sense that you could sort of believe it was going to happen, that it was going to occur, and a
willingness to base one's decisions on that confidence.

So it's not only that I have some both thoughts and feelings about predictability, but I'm willing to act on that.

We saw, I think, something that we've begun to grapple with and tried to struggle with in the paper, which was that we see distrust as somewhat different from and not necessarily just the opposite of trust, and this is something that we're struggling with and trying to understand.

We defined distrust as skepticism in and unwillingness to act on the basis of the words or actions or decisions of another, but I think in spite of the fact that that may sound like it's just on the negative end of the trust dynamic, that trust and distrust, we think, are phenomenologically a bit different, and it's one of the issues that I'd like to pursue because of what I tried to grapple with in my own little contribution here, which I think that there are things that you can do to build trust, and I think that there are things that you can do to decrease distrust, and I think those are quite
different from each other.

And the impact, therefore, of where you put your resources and what you worry about may be to make some very key, strategic decisions and choices.

CHAIR CULNAN: There's, in fact, a great infrastructure example for that, that most people expect the lights to come on when they flick the switch, but how many people here have an alarm clock, an electric alarm clock with a back-up battery in it? Which doesn't say you don't have confidence in the electricity, but, hey, it goes off, and you want to get up on time.

So I think that sort of shows the --

MR. LEWICKI: The duality, yeah, and I mean, we reviewed a lot of research, and I know there's a lot more out there, that tries to grapple with the question of what is trust and are trust and distrust different from each other.

We think they are a bit different, and I think it may be important to talk about them differently as we begin to explore some of the issues about how people feel about infrastructure
questions.

MR. GARBER: Dan.

MR. McALLISTER: Two quick comments. One, I'd like to building off Doris' comments, confidence and the expected performance, which brings me back to Morton Deutsch's comment that trust is the expectation that we will find what one had hoped for rather than what one had feared.

If there's one thing we know about human nature, what is to be human is to err, and in that sense, which would you rather be trusted, in the expectation that you would always deliver or in the expectation that there would be grace when you failed?

And trust builds into it the expectation of imperfection, an expectation that somebody will not deliver, and in that moment there is a benefit of the doubt component, and that trust is linked not so much in the expectation of performance, but the judgment and the decision that will be made when somebody doesn't deliver.

A scholar by the name of Rheabietzme (phonetic), is his first name, but in 1962 he had a
nice measure of trust that included my boss, when he
makes decisions that don't appear to be in my best
interest, I know that they're driven by other
factors, as a nice element of a measure of trust
that moves us a little in a different direction.

The other comment that I'd like to make,
I am not a parent. I'm sure that there are quite a
few here who are, and I have been learning about
parenthood by studying trust. It's interesting.

(Laughter.)

MR. McALLISTER: It's interesting to
think --

PARTICIPANT: Which direction?

(Laughter.)

MR. McALLISTER: It's interesting to
think about what a secure attachment between the
child and the parent is. That is the child who sits
in the room and isn't nervous when the parent leaves
the room. It's the child who when the parent
returns to the room doesn't cling. This is the
child who can explore, be creative, and play and can
build attachments with others.

That is a trusting individual, and as
parents we want to nurture that sort of capacity in our children, but one thing we don't want to do -- at least I'm extrapolating here -- is to create a child who would trust all of the time. Also as parents we would not want to trust the child in everything. There are certain parameters and domains, of course; there are things in which we wouldn't want to trust.

I think of Nick Luhmann's comment that trust is the positive expectation of the desired and distrust is the positive expectation of the undesired, and where there are certain areas where you know your child isn't trustworthy, that's a positive expectation of undesired. You put boundaries on that. You create a domain in which you can trust the child.

We bound the rationale, using Herb Simon's term, and we create a domain in which we expect and we understand that people will behave rationally.

The challenge is to understand how as a parent we can create a child who trusts as much as possible, but knows when to catch the signs and to
distrust. Distrusting becomes so important because trust is so important, and because we want to create a society, a context within which people can trust and trust well, we have to prepare them to know the signs so that they can know when the positive expectation of the undesired is, not to always be vigilant, but to put in control so that vigilance can be set aside and they can move ahead on the trust side.

MR. GARBER: And I lost track between David and Bob, but whichever.

MR. GEDDES: Let me add a few comments.

Lynne stimulated some thoughts based on the banking industry, some thoughts from the private sector perspective.

Local telephone companies have a tremendous amount of trust. We have some questions we've been using over the past couple of years that mimic the GSS questions and really the level of trust is at the highest levels you had at the very beginning of the GSS.

And when we look at why this may happen, I think Rod mentioned this kind of fiduciary, you
deliver what you're going to deliver. Dan mentioned that as well.

   Basically it works. You pick up the phone; it works. You flip on the light switch; it works. There's a tremendous amount of trust engendered by that, as well as local presence. You see repair trucks. When there's a storm, service is restored very quickly.

   It's interesting, however, at the same time over the past decade, as you all know, there's been a tremendous amount of what I think we could probably honestly call a con game, which is the long distance advertising or, depending on where you live, you have seen or will in the very short future see a lot of the same thing appearing in local telephone advertising.

   We know from research, and we follow this very closely for obvious reasons that people discount this and they recognize it for the con game that it is, and they look to the underlying fundamentals and discard the mud slinging, which is seen as like political campaigning, and why couldn't we get rid of this?
There's an interesting trust phenomenon.

One of the big fears of the established, the incumbent local telephone companies is that new entrants to the business come in as resellers. They buy your services and package it and sell it under another name, and that this will bring down public confidence in the whole system even though it's the existing providers that are delivering the fundamentals.

I can assure you we do spend a lot of time within more strategic marketing issues within the phone companies, and they operate, and I've seen this in a number of companies, they operate on the belief that there is long-term trust to be built, and they spend time advertising and marketing.

Now, the question that Lynne raised is, you know, bankers are supposed to be the silent partner who delivers the services. You know, should they be spending money reminding you that your telephone does work? Within the industries, they tend to believe that it is valuable because they will argue, "Let's look at the long-term value to us of the customer. So we spend advertising and
marketing."
Yet from another perspective we could say, "Let's get rid of the advertising department and spend the money on building reliability in our phone networks."

MR. GARBER: Is your comment a direct follow-up to this one? I don't want to break the chain of thought if it is.

MS. ZUCKER: It is because he's addressing exactly the issue that I think was raised with the alarm clock example, which is: how much does it cost and how much are you willing to pay for it?

Because a lot of what we're talking about, you know, again, you have to be very careful because building this trust does cost something, and at least in terms of activities that you're not engaging in that you would have been doing had you not been building trust, even at that level.

But, you know, what you also have to realize is that banks, even if you cut out the advertising budget totally, what they do is they hire economists to talk to clients, right, since we
do some of this, to talk to clients to basically reassure them that the bank is making very good decisions.

MR. GEDDES: They do the equivalent of over engineering their network.

MS. ZUCKER: Exactly, exactly.

MR. GEDDES: And is that a good investment of the money.

MS. ZUCKER: Right, and then the other question that you raise, which is very important and I want to make it explicit, is who should pay. You know, if advertising cost, everyone bears it, what about government? What role should it be?

You know, Michael and I were talking this morning kind of about the elasticity idea that we didn't really talk about in the paper, but, you know, who should be in that business and how much should be invested in constructing trust or, in the case of one of the forms of it that's especially governmental, is insurance. You know, how much should the government be in the insurance business? And is it really -- it's kind of the deep pocket insurance problem.
So anyway, I'll leave it at that, but those are the two issues I wanted to raise.

MR. BIES: Frank Crane had a great quotation. He said you'll be deceived if you trust too much, but you'll be in constant torment if you don't trust enough. So there's that sort of curious balancing act.

One thing that Rod said that's going to take me back to something Doris said, talking about intention of capability. One of the things that makes the issue interesting to me is when there are these performance failures, whether system failures or something breaks down. Then it becomes interesting politically, socially, and there's always two questions that cross people's minds when a failure occurs. Why? And how does it affect me, or does it affect me?

And if it doesn't affect me, I'm probably not going to worry about it, outside of general sympathy for the people that are affected, but the why question is important.

And one of the things we're going to look at to go into the intention capability: was it
an act of God? Was it an act of terrorism, which seems to have motivated much of this Commission? Or was it a set of human errors, sort of normal accidents that get created?

So they're going to ask that question in terms of who did it. I mean all of the lawyers say, "Who did it?"

But another question they're going to ask about the capability issue is: should they have known? Should they have anticipated? Okay. We're going to ask that question.

My feeling is that people have the expectation that government is all knowing; business is all knowing. Business should have anticipated.

My colleague, Roy Lewicki, says he's working on the computer on a paper. Okay? The electricity goes out in Columbus, Ohio. Okay? Well, geez, you know, they should have let me know about five minutes in advance they were going to cut off the power.

I mean I think we have high expectations when there's failures that you should be instantaneous. When my phone system goes down, my
electricity goes down, I want them there right then, and they should have anticipated it.

I think that's the thing we're going to have to think about, is the role of the expectations that you should have known.

The other thing, just to add on to something Dan said and Roy said, was I think actually you should be both trustful and distrustful in engaging in everybody. You see, part of the issue with my daughter, to go back to parental upbringing, is I want her to be trusting, but I also want her to survive in the world, and she's going to have to be distrusting.

It's hard to teach distrust until there's trust violations, but you have to have both, and you have to be a little more skeptical. Okay? So it's the trust and distrust. Both can coexist and make sense to me.

If I'm going to do electronic commerce or do business, I want to be trusting and distrusting.

MR. GARBER: Joe?

MR. MOORCONES: I had a question, and I
think when the discussion went around the room we talked about institutions and we talked about individuals, talked about prime investing resources to build trust to be able to do things, and then institutions as part of their job building trust, individuals having transactions.

My question is: does trust have a time frame? And if it does, does it vary for individuals and institutions? And what can break it or change that time frame if that's what you have, if it is dependent on time?

And I don't know who to ask the question to.

CHAIR CULNAN: Just lob it out there.

MR. GARBER: It's on the floor.

CHAIR CULNAN: Or we could keep going and then somebody can come back and respond.

MR. GARBER: Doris.

MS. GRABER: It seems to me, yes, it does have a time frame both in terms of building trust and in terms of violations. So, for instance, what's that poem about fool me once, you know, it's okay, and fool me twice, you know, I'm stupid.
We have certain rules. At what point? I mean we forgive certain kinds of transgressions as whatever the error, but beyond that we don't go.

Then in terms of building trust, you aren't going to build trust on the basis of just one single experience. You have to have a number of experiences. I think there are individual variations.

So, for instance, we've talked about kids, and kids tend to build trust very quickly and also tend to be very disappointed. So you have a kid that will go with some guy who says, "Help me find your lost puppy," because that seems trustworthy if anybody has a puppy. Yet the kid, you know, breaks down in tears if the toy doesn't perform the way he thinks when he's trusted that the toy will behave the same way.

I think for grownups it tends to be a longer period of time. I think there's also a social psychological factor there. In terms of institutions, I think it's the same thing. Before you trust a brand name, for instance, it takes a while to soak in.
Now, I would think that those limits vary with individuals, with the type of institution, with the ease of getting experience whether or not expected performance will take place, and I also think there's, again, a certain cultural kind of thing. I know, for instance, I travel a lot, and in many countries. Like, for instance, you go to India, and people don't want to buy bottled milk because they're afraid that it's going to be somehow polluted. So the vendors bring the cow to the front door and milk it right then and there so that you can see it's not been diluted. So there's extreme distrust of people's honesty.

And I think we can trace it in different countries and how long it takes to establish trust there I don't know, but I'm sure it's time bound.

MR. GARBER: Michael.

MR. DARBY: I wanted to talk a little bit about banking and trust there. We had the power example, and people are upset when their power company fails, but it's even more upsetting, as some of us in the West have been living through recently, when there's a systemic failure, when the failure of
one company leads to the failure of a bunch of other companies, and we have a large geographic area without power.

And we see this same sort of thing in banking. Sometimes one fails. In the Depression we had many failing. The Panic of 1907 led to the creation of the Fed. so that that wouldn't happen, and then the Fed. didn't do its job.

In the '80s, we had the thrift institutions failing not because they invested in each other, but from a common cause of the rise in interest rates, so that their liabilities fell in value faster than their -- excuse me -- the value of their assets fell faster than their liabilities. So they were generally going bankrupt.

That crisis led to a drop in confidence.

In terms of the question about banks and financial institutions and GSS, the '72 to '82 average, 34.9 percent had a great deal of confidence. By '83 to '87, and only 12.5 had hardly any. By '83-'87, that was down to 25.9 and up to 15.2. By '88 to '91, it was down to 19.4 and up to 22.7.

So it's coming back now. By '96, we
were a little over 25 percent and back down to 16.8 on the hardly any side. So there is rebuilding.

But the fears among central bankers of systemic collapse of the system are real. I happened to be in a position in 1987. I was Assistant Secretary of the Treasury for Economic Policy, and during the October '87 crisis, I was in charge of the derivative markets for the Treasury because I was the only one who had ever invested in them or understood them.

(Laughter.)

MR. DARBY: There are a few of us left who weren't going shooting in Sweden.

And it was sort of interesting because here you had all of these financial groups setting up, you know, anticipating, if you will, failure. So they set up lines of credit, five billion, $12 billion line of credit so that they have offsetting positions. They're making $6 billion over here, and they're losing $6 billion over there. So their net worth really isn't affected as long as all of the transactions actually come through, and eventually they all did come through.
But first there was a mismatch of timing. So they needed to come up with $6 billion margin two hours before they were going to be paid $6 billion margin on another exchange. So that was one issue.

And then there was the issue for the banks of whether or not they should actually fulfill their commitments under the line of credit. Should they advance the $6 billion without which the Chicago Mercantile Exchange might fail?

And so they had, you know -- they were talking to officials like me, and I was saying, "Yes, Brokerage X, all famous, is good for it."

Now, I wasn't authorized to give the full faith and credit. If they went against my house, it wasn't going to help much, but they bought it, and they delivered, and you know, we were going through about 12, 14 anxious hours as to whether or not we were actually going to complete these transactions. As long as they were completed, everybody was okay, but if somebody got cold feet and said, "Well, I just want to make sure that you're still meeting the covenants and restrictions before I advance these
funds," then we went down the tubes.

So anyway, that's the reason that we still have these systemic concerns today, I think, among central bankers. Having lived through that period, as Alan Greenspan did, we're all left feeling that it's not as perfect as it looks, and we want the public to think it is.

MR. GARBER: I think before we break we'll hear from Roy, and then we'll take a short break, and we'll continue on with the discussion because I think we're getting into other issues than just the first question. So I'm very comfortable with where we are on the agenda.

So, roy.

MR. LEWICKI: I just want to pick up on something that Bob said, and I hear it in some of the comments Michael made before. I think there's a difference. Bob said the quest is for sort of what's the cause or who did it, and as I tried to say in the little introductory piece that I wrote, I think there's a fundamental attribution question that gets raised when we ask that question.

And the way I see it is whether the
failure was controllable or not controllable because I think the emotional response is very different.

To go back to Bob's example, which was the other night I was sitting at the computer, and the power went out, and the whole street went out, and I lost what I had been working on for about three hours. Now, if I'd been sitting in Eastern Europe, I would have been backing that up every 15 minutes, okay, because my experience in Eastern Europe is that that's a regular event, and in Columbus, Ohio, it's not a regular event for the power to go out.

So in the first place, it shapes my expectations. The second is that when I expect it to perform and it doesn't perform and my attribution is this is management incompetence or they don't know how to run a simple power company and keep the power going through the grid, my response is anger, and when my response is anger, okay, it affects my trust level.

On the other hand, if this is an act of God, if this is sort of an uncontrollable circumstance, my response is fear, and I think that
affects my distrust level.

And so I think how we decide or how we account for what's going on in terms of whether it's controllable or uncontrollable and my own emotional response, anger, fear or perhaps a mixture of the two, has a lot to do then with what drives the trust and the distrust dynamics.

And as we get into this, I hope we could begin to maybe think about those two alternative scenarios and maybe look at the consequences of exploring each.

MR. GARBER: Okay. Well, it's time for our break, but before we do, I would like to recognize Paul Kleindorfer, who joined us from the University of Pennsylvania.

Paul, if you want to give a brief second introduction to your --

MR. KLEINDORFER: Critical infrastructure failed me this morning. Our train was --

(Laughter.)

MR. KLEINDORFER: -- was held for an hour in 30th Street station, and I guess the only
other thing I'll say is that when I told my wife
what I was going to, she said, "You know, the last
thing I need on this planet is for the telephone or
the electric power to start criticizing me when I
turn it on."

(Laughter.)

PARTICIPANT: That sounds like it's
grounded in fear.

CHAIR CULNAN: But also you've got
different backgrounds here. You might point out
your background is in risk management.

MR. KLEINDORFER: I've spent most of my
adult life studying utilities and managerial
economics and regulatory issues. I've most recently
been dealing with catastrophic risk and their
consequences for risk bearing capabilities. Califormians are quite interested in this,
Floridians, and so forth, but there's obviously an
intersection between those that is of interest to
this group.

MR. GARBER: Okay. With that, let's
take 15 minutes. About ten to 11 if we could
reassemble.
(Whereupon, the foregoing matter went off the record at 10:35 a.m. and went back on the record at 10:57 a.m.)

MR. GARBER: If we could resume please, as we drive along toward our lunch break and whatnot.

I think we had a great discussion before the break, and I don't want to lose that momentum that we had. Bob, I think you probably were the --

MR. BIES: No, I think actually Nancy.

MR. GARBER: Well, Nancy took her sign down. So I didn't know whether that meant she wanted to eat or wait or whatever it was.

MR. BIES: Well, I'll make it brief. In response to Joe's question, he said does trust have a time frame. Again, I'd like to frame it differently. Does distrust have a time frame, again, getting back into this sort of failure frame?

And I think for some it probably does. I mean, if I have a really bad event, I won't touch the system anymore, but there's a couple of things that remind me that maybe we overreact, that distrust is really short-lived.
We recently had James Varney, the founder of AOL, come here, commencement speaker, and he talked about their 18 and a half hour outage, and that now they have more subscribers to AOL than they had before. He didn't recommend it as a marketing strategy.

(Laughter.)

MR. BIES: But he had more subscribers.

A plane crashes. There is a drop in confidence. Okay? Insurance sales go up, but people go back and fly.

So I think that there's ways you can buy people back. You can create incentives to get people back to play the system, but also one of the things that struck me in Roy's example is he had no other choice, I mean, dealing with the electrical company in Columbus. It's a dependency-power thing.

If I have choices, I may act out my distrust, but if there's only one game in town, what am I going to do? I may be distrustful and build in ways to protect myself, but I have no choice. I have no choice at all.
So I think that's part of the game. If we have some alternative carriers, then maybe I can play the game out.

CHAIR CULNAN: Right. I mean how many people are flying Value Jet still?

(Laughter.)

MR. BIES: How many people flew Value Jet before?

CHAIR CULNAN: Right.

MR. BIES: There's no baseline data here.

MR. MOORCONES: I have some data. My daughter just flew Value Jet to come up to Washington, and her analysis was, "My God, if they got them back up again, it must be the safest airline in the world."

MR. GARBER: Well, I had the same opinion with U.S. Air, a little bit more established airline that had some disasters and whatnot, and my opinion was -- my travel agent said, when I said, "Hey, I'd like a U.S. Air flight," they said, "Well, you know, you're the only one that's asked for that recently."
And I said, "Well, you know, they probably are being far more careful at this stage in checking their maintenance and their operations than probably some of these other folks who may not have stepped their business up to the level that they have to because one more time, we get to the elasticity issue and there are choices there."

And one more disaster, you know, could doom the airline, as it did, you know, some predecessors. Allegheny Airline, which some of you may recall around here, had a series of disasters, and essentially, you know, that became U.S. Air, but they had to change their name and change the brand and buy Piedmont and everything else to do that, but it was quite a deal.

MS. GRABER: Would you go back to your broker after he lost all of your money for you? I think it depends.

MR. GARBER: I think it depends. I guess a different thing is do you sell your mutual fund after it goes down for a year, and it's a question of, well, you know, it's done. Now where do I think it's going to go now, which is the same
airplane thing. I mean, the crash is done, and what's my expectation of what's going to happen on the next flight? And if I think the next flight is going to be safer or the next year, because of the niche that the fund or stock invests in or the broker is expert in is going to be the hot issue, if that's my expectation, which goes back to some of the other discussion here in the room, I think I would stick with it.

I mean I have done that, and sometimes it works and sometime sit doesn't.

MS. GRABER: Well, isn't it a question of achievable competence? If you figure that there was a slip-up and somebody was incompetent like on an air craft, but now, you know, the government is going to check and make sure that all of the standards are met, so it's going to be okay, on the one hand. Yet, you know, my broker example, if the guy's just dumb, he can't do it, and I can't trust the guy or he's dishonest or whatever, and so I think, I mean, there is a difference in whether or not there's a recovery in something where there's a choice.
When you have no choice, if it's just one carrier, there's nothing you can do, and then I think you tend to think it's probably trustworthy because it's very uncomfortable to think I'm flying on this airline, and you know, it's very likely to crash. It gives you stomach cramps.

MR. GARBER: Ray.

MR. HIEBERT: I want to come back to a different point that Doris made earlier about culture because I think culture is a very strong component to both trust and distrust.

Having spent the last six years going to Eastern Europe very often, I found a whole culture there that has no trust whatsoever in anything, especially government, even the former or even the current government, and no trust in the new business enterprises, as well, no trust in the telephone, as David mentioned.

Earlier I spent a lot of time over a 15-year period in Africa, and another place where the level of trust is nearly zero on the part of people in any institution whatsoever, and in both places even on a personal level, not very much trust.
So that leads me to wonder what it is about the larger society that creates these kinds of environments. I think in the case of both African and communist countries the dominance of one particular party or the dominance of the government over all public dialogue and public exchange certain didn't build confidence and trust in those societies. It destroyed it.

That leads me to think that another thing that's come out a little bit here is the fact that options and choices and competition actually help trust, help develop trust in society because we can make choices between what we think is good and what isn't.

Another thing is shared perceptions about the world. Looking around this table, I would say that all of us pretty much share the same perceptions about where we are and who we are, what our society is all about, but increasingly those kinds of perceptions are not shared by a lot of people in our own society.

We're becoming increasingly a multi-cultural society, and large parts of what we call
America have completely different perceptions from those of us who are sitting around this table.

Maybe some of you saw this morning's *Washington Post* article on the front page of the Style section about a lawyer, professor of law, G.W. here in Washington, a black lawyer, a very accomplished black lawyer, graduate of Yale, Harvard Law School, former federal prosecutor in Washington, now a professor of law, who is opening espousing the fact that black juries should free black people on trial, that because the system is wrong, because the perception of blacks about the justice system in this country is completely different from the perception of justice by the rest of us sitting around this table and those cultures that we represent.

It's a real cross-cultural problem that I think is going to only become greater in our society, and I think that what we need are people who understand the problems of communicating across cultures, bringing cultures together, but also interpreting one culture to another, and this is where I think public relations can come to play, but
that's another aspect of what I want to talk about, and I'll save that for later.

MR. GARBER: Paul.

MR. KLEINDORFER: Just to follow up briefly on some thoughts raised in addition to the perspectives of anthropology, cultural anthropology and sociology, those of economics, and perhaps point to my own favorite biases in this direction relative to trust, but certainly building on, I think, the shared comments about these are beliefs or confident beliefs, that is, trust is, that you can expect some behavior of an institution or another individual. I think that forms the core of what we've heard here this morning.

What, in fact, makes trust so fascinating from an economic perspective is, indeed, that it does clearly intersect very strongly with social and cultural foundations of society. We take, for example, the works of Max Weber on the Protestant ethic and what really gave rise to the success of Protestantism. In other societies that he looked at he had similar conclusions that these shared values and shared experiences were extremely
important in allowing people to have expectations mutually about what their colleagues were going to do in certain situations.

And that view assisted them in not having to write what we would perhaps consider to be Jesuit order blanks or what economists call neoclassical contracts that account for all possible contingencies. If you had to do that, all society would stop.

So it's very interesting. Georg Simmel, for example, talking about one of the most important institutions of modern society, "goeut" (phonetic), money, brought clearly the issue of trust to the fore and indicated that without this, without the trust that, in fact, you know, these little pieces of paper that we carry around and so forth are going to be -- in Michael's interesting story about banking and derivatives, of course, there was a little bit of a counterparty risk -- but money has got counterparty risk, too, and someone we manage as a society to trust that this institution, and extremely important institutions, that the monetary system will work.
We can go through a number of others, but I think that core suggests that this is a very interesting and multi-disciplinary undertaking to understand this.

Now, if we focus on infrastructure, which is an area I've thought a lot about over the years, perhaps the most important economic characteristic associated with trust -- and as Doris was explaining -- confident expectation that you're going to see one or another outcome, is that certain investments are made in lifestyles, habits are formed, and so forth, and they're formed on the basis of those, and even if you take a narrow economic perspective, these have very distinct economic costs.

So if I do not expect my electric power system to work very reliably, and it's important to me that it does work reliably, that I have reliable power, voltage, frequency, whatever, I will, in fact, install at cost, at some cost to myself, certain additional capital investments that are required.

Similarly, the same is true with respect
to all other infrastructures. We not only have expectations about what they will do, but we actually, as was indicated in several earlier comments, we actually undertake behavior as real economic consequences based on this.

And so I think the most important thing about trust from an economic perspective and critical infrastructure and, let's say, disruptions that might arise from various acts of God or other acts, other disruptions in the system, is to take this two-phase or perhaps three-phase model into account and say that these expectations cause economic actions to be undertaken both individually and in groups.

But then, secondly, we see that people on the event, when certain events occur, will, in fact, undertake other actions immediately upon those events occurring, and they will do this based on their understanding and their expectations about the principled behavior, the prudent behavior, what's likely going on out there in the infrastructure. They will do that, and they may be wrong. They may have confident misperceptions about these matters.
And then after the fact, there will be blame or there will be responsibility attributed, and people will adjust their beliefs.

And so, for example, you take certain airline accidents. People quickly get over them. They say, "Ah, yes, it was, you know, like the Denver accident. A triple failure in all of the systems. It's been explained. I can understand this. I can see how it could have happened. Act of God. No reason not to fly, you know, United again," right?

But the Value Jet case there were certain things uncovered as part of that that suggested a more sinister underpinning to that particular accident, and therefore the ex post, the third stage of this gave rise to other issues.

I think what we see -- just generally I'm looking forward to exploring this over the course of the day and perhaps following up on the issues that were just raised -- is that trust and critical infrastructure have different implications depending on where one is.

I'll just provide a two-dimensional grid
based on listening to what I've heard here. On one
dimension, one can think of decisions that are
primarily private decisions all the way to results
that are primarily public. Think of this as the
character of the good that's being provided.

Now, in electric power, for example, the
normal thing is a private good, but reliability and
the reliability of the system and the integrity of
the system becomes more of a public good. It's not
quite a public good, but it is more of a public
good.

You get into issues associated with
defense as a part of the infrastructure, and it's
almost a pure public good. You cannot provide it to
anyone without providing it to all. So that's one
axis.

And on the other axis, the issue that
Ray was just indicating: how easy is it to
establish and monitor trust, and what are the
drivers of that ease? Let's call it the social
clarity of the trust relationship.

And if there's competition, if it's a
very simple issue that you're dealing with, you
know, postal services, we think we understand what it means to put a stamp on, collect the mail, get sent somewhere. That's a different matter than, let's say, nuclear power or something of this sort, but what is the ease with which?

Now, where we really have problems in critical infrastructure in terms of the economic decisions are in those areas in which you move to the far right in that two-dimensional picture I hope I've evoked for your eye. It's those areas where it's difficult to monitor, to establish and monitor, trust because even the phenomenon is complicated or for other reasons that social psychologists or others may put on the table before us and where it's primarily a public good.

If it's private and it's clear, then we say, "Hey, that's your responsibility. If you don't like what you're getting, go out and get something else. I mean it's your personal responsibility to assure that you're getting what it is that you want." It's a private good. You're getting the value that you're paying for it. You understand it. It's simple enough to establish and maintain trust.
A lot of competitive alternatives out there; pick one. Don't come complaining to me, right, the President's Commission on this matter. We want to worry about things which are more difficult.

So I think if you think about the economic consequences in this way, you'll see that they really are primarily in that right-hand coordinate where things are more difficult to establish and maintain and where they have more of a public character to them.

And what that is, we could perhaps take up in the course of the discussion.

MR. GARBER: Thanks.

Tom.

MR. TRIPP: When I think about the time frame of trust and especially distrust, and I was thinking about some of the cultural implications, the word "expect" or "expectations" confuses me, and when I think of I trust someone, I expect them to do something. That can mean one of at least two different things. Either I predict that you will or I demand that you do, which can be very different.

One tends to be normative in terms of
making sure that people follow social norms, and the other tends to be sheer prediction.

With that distinction I can think of it would be possible to say that if I'm talking about prediction, I can fully trust a Machiavellian. This person is simply out for his or her own interest, but, you know, they're pretty simple in character. They're reliable. I can predict what they're going to do. Does that mean that I trust them?

Okay. Most people would say, "No, that's not what I mean by trust." So there's sort of this normative component to trust, and what that raises for me then when we're talking about building trust, we're talking about building predictability, simply building reliability so people can plan their lives, or are we talking about making sure that people follow norms?

Now, on the infrastructures, how do these norms develop? We've talked a little bit about predictability, but how do the norms develop?

And I think about the Internet and computers, and part of this is a power issue because we still have choice, but why are the norms so much
different for that industry, which is horribly unreliable. I mean, we wouldn't tolerate these number of failures from virtually any other industry, but we do in the computing industry.

We expect, yeah, my computer is going to crash once a day, you know, and deal with that. Now, part of that, supposedly I have choice. Typical industry is kind of the same, so I may not, but you know, as the Internet develops and it becomes less archaic and the regulation starts getting involved, then how do we manage those types of norms, and exactly what are we talking about?

I don't know if I have a clear question or a clear answer, but that distinction or the lack of that distinction confuses me.

MR. MITCHELL: I think Tom anticipated a comment I was going to make, but I'm having an awfully good time taking some of the observations that are being made around the table and thinking about them in terms of the two charges that were given the Commission.

One is to assess threats to and vulnerabilities of the critical infrastructures to
physical problems or physical attack, and the other
on the cyber side, cyber vulnerabilities and cyber
threats, and when you talk about things like our
shared perception of the world and the expectations
that we have of, say, infrastructure services, I
can't help but think that there are some very real
differences between the expectations we have with
respect to physical resiliency of our
infrastructures and cyber resiliency of our
infrastructures, perhaps directly related to the
much wider variety of expectation we have with
respect to their cyber resiliency.

There are information haves and have
nots. There are widely differing expectations of
the reliability of certain security measures, for
example, and so while our expectations differ, the
degree to which those expectations are being met
also differs, which makes in a sense the whole issue
of trust and confidence on the cyber side somewhat
more fickle and somewhat more prone to wild
fluctuation than the common expectations we share on
the physical side.

After all, we can look at a piece of
planking or a deck and make some common observations about the relative strength of that, and we can make some observations about the chances of someone wheeling up a truck bomb to our place of business on any particular morning, but those aren't necessarily the sorts of shared views that we would have with respect to the security of our computer networks or the strength of our firewalls that protect our data.

And so, well, I'm having a good time playing through those issues.

MR. KLEINDORFER: Just one little footnote to that comment is certain parts of the cyber resiliency I'm not concerned about, even though they are, in fact, as pointed out here quite unreliable because there are all sorts of incentives for the economic agents involved to get things right eventually and for consumers to, in fact, make the right choices.

If they don't, you know, that's not a problem that I think we're concerned with, but on the other hand, take the banking industry. We heard Alice Rivlin recently discuss some of the issues on credit payments, credit card payments and so on. If
there is a threat to that, to the security of that,
there's no "there" on there anymore in respect to,
you know, where you're signing things and so forth.

There we would have a public good,
really the quality and cyber resilience of that
network which, in fact, could have immense
consequences.

You know, just to take that as an
example of some aspects of cyber resiliency and so
on, you know, are going to get fixed by the market,
but some others are extremely important focal
points, I think, for the Commission.

MR. GARBER: Brian.

MR. HOEY: Just to follow up on
something Steve said, one of the central concerns of
the Commission is to determine what the role of
government should be related to the issue of
infrastructure protection, and I would take that
another step by saying what's the impact of third
parties, i.e., a government body or an industry
association, let's say, and forging trust,
maintaining it or building it among or between these
infrastructures.
And clearly in this country we have a sufficient body of regulation where that helps preserve trust. My own experience in Bosnia showed me that without such a framework, you run the risk of bringing in third parties that can fail or succeed. Specifically the U.N. came in, had nothing but a mandate to keep warring factions apart, and wound up being despised by most of the people.

NATO came in under the auspices of a Dayton agreement with an articulated strategy, set of objectives, and was very well respected both in terms of the framework it had to work from and its institutional framework.

I don't know if anyone else has ideas about the role of third parties, but I think it would be useful.

CHAIR CULNAN: We want to hit that especially after lunch because that's one of the take-aways that a number of us on the Commission think we need to elicit from this group. So thanks for reminding us of that.

MR. GARBER: Michael.

MR. DARBY: That reminds me that most of
what economists have worked on in terms of trust has
to do not with you were saying basically an
expectation that norms will be fulfilled, but
comments would be more likely to say an expectation
that contracts would be fulfilled even if they
really were norms. That's just part of the implicit
contract.

But I think a lot of the or the bulk of
the work has been instead on the issue of trusting
someone's judgment where you're really trusting an
agent to make a decision for you that you won't have
the information to make, you're trusting Ford to
design the Pinto, making the cost-benefit
calculations you would make if you had that expert
knowledge and position. You're trusting the banker
to be a prudent investor, not imprudent in the sense
of avoiding all risk and not imprudent in terms of
taking inappropriate levels of risk.

So that it seems to me that besides the
sort of fulfilling expectations, there's another
aspect of trust there. Do you trust somebody to
take your proxy and do with it properly? And that
seems to me to be an important aspect of the
commercial transactions, too.

MR. GARBER: Tom.

MR. TYLER: Well, I think that a lot of our discussion has focused on trust and infrastructure in a more technological way, but I'd also like to make a plug for what I would call trust in the sense of confidence in public authorities or trust in the motives of authorities as a very important form of trust and important form of what's often called social capital.

And the reason that I would want to emphasize that is that the research that's been done suggests that the most crucial issue when citizens are responding to government authorities and deciding whether to essentially voluntarily defer to those authorities, obey laws, accept decisions is those citizens' judgments of whether they trust the motives of the authorities or institutions that they're dealing with, so that there's a tremendous gain in discretionary capability on the part of government authorities if they are trusted by citizens.

It's very costly and ineffective for
government to try to gain compliance through, for example, threatening people, rewarding people. It's much easier for government to function if it can basically expect citizens to defer to its decisions.

And in all of the studies that have been done, we find that the most important factor that people are considering when they're making that decision about deference is trust, and that leads me to what I think it is a second important point, which I think should be highlighted, and that is that there's a lot of public opinion research that suggests that trust in government is quite low and has been declining for decades.

So that we started out with an actually kind of optimistic view of trust, but I think that's because we're conceptualizing trust as trust in the phone company, but what if it's trust in the government?

Trust in the government and the motives of government officials and institutions is actually quite low and has been steadily declining for decades. So I think we should highlight that as an important problem to be concerned about.
The final thing I would want to suggest is that we also have a broader conception of why that trust might be declining. One argument that's implied by some of what we've been hearing is that it's related to feelings that problems aren't being solved. Expectations aren't being met, yet a lot of the research that's been done suggests that that's not the only or even the crucial factor.

For example, if you ask the question, are politicians competent to solve problems, and you compare it to whether you think politicians have integrity, it's integrity that predicts trust, not competence, or if you ask the question, how are feelings of obligation to accept and obey government decisions affected by the actions of Congress or other government bodies, it's not that people think that the solutions, the policies are good policies or bad policies. It's judgments about how those policies are being made, which are then linked to trust in the integrity and motives of Congressmen, of Congress.

So that I think as Tom was mentioning when he talked about norms, people have a very moral
orientation towards government and government officials, and I think that a lot of the distrust and suspicion is linked to a feeling of a lack of morality or moral integrity, more than to a sense that individuals won't perform in a certain way or won't meet expectations for performance.

So I think we need to also have that social or interpersonal component, the feeling of a lack of trust in the motives or character of leaders and institutions as an additional issue to consider.

MR. GARBER: An appropriately current issue.

MR. TYLER: Absolutely, yes.

MR. GARBER: Around this town.

MR. TYLER: Yes.

MR. GARBER: Just to manage expectations here, I've got Rod, Nancy, Dan, David, Doris, and Ray, in that order, as we continue on just so you'll kind of know what the pecking order is here.

Rod.

MR. KRAMER: Well, I was actually going to defer, but I'd say real quickly in response to Steve's points and questions about resiliency, I've
also been interested in the issue of sort of the resilience or fragility of trust in social systems, and I just wanted to very quickly comment on a piece that might be relevant to this Commission, if you're not already familiar with it, and that is, you know, there's often an appeal in terms of approaching these problems to seek large-scale interventions or solutions because they're large-scale problems.

But Karl Weick a number of years ago wrote a very wonderful paper called "Small Wins," and argued that for a lot of social problems like the prevention of nuclear war and violence and other things and civil unrest, that we should seek small win solutions and interventions.

And the example he gave in a paper which I always really liked because I worked in the library as an undergraduate was that when people were first trying to deal with the problem in American culture of homophobia and fear of homosexuality and these kinds of things, that one of the things that gay activists did in terms of breaking that down into a decomposable problem is have homosexuality reclassified from the HQ section,
if I remember right, which was sexual deviations and abnormalities and aberrations, all of these horrible labels, to alternative life style.

So that means that any time a young person would go into the library to find out about homosexuality, they would not have to go to the sexual deviation, aberration section of the library, which was usually, by the way, a locked case section of the library and you have to go to and ask for it, but you could go -- and I worked in the locked case section, and that's how I know.

(Laughter.)

MR. KRAMER: That's where all the juicy stuff was.

But instead privately go to the alternative life style section, and he argued that was a wonderful, small win in terms of social change.

And a lot of these problems of creating trust in infrastructures might be solvable partly by seeking constantly over the long haul small wins, redesigning confidence building acts and systems and demonstrations that people can slowly build trust,
and that cumulatively might lead to resilience, much more than some large-scale experiment that might fail dramatically and, therefore, undermine trust.

MR. GARBER: Nancy?

MS. WONG: Well, actually I have a question, and so I'm going to throw it out and then as people think of perhaps a good response to it, they can just bring it up.

My question was related to the difference and the distinction between confidence and trust, and what are the characterizations that distinguish between those two? And then what would be the differences in the consequences, if any, in terms of loss of trust or loss of confidence?

MR. GARBER: Does anybody want to make an immediate response? You can jump to the head of the line.

MS. GRABER: Okay. Well, thanks.

Actually I was going to address this issue because I think we've been talking a lot in sort of a cognitive kind of way, that you have trust because certain things are happening. Yet as we talk we keep on saying feelings of trust, and I
think we have ignored the emotional part, and I think that is, as I see it, the difference between, you know, just having confidence in something, that something is going to happen, and trust as such, which involves the emotional component.

And when Tom Tyler was talking about the trust in government is going down, it sort of reminded me that while, on the one hand, we do not trust our public officials, in some ways we trust the United States, the country, you know. There are still feelings of patriotism and again, feelings of patriotism. You see the flag. You can appeal to people. This is your duty as a citizen, which again becomes at least to a large extent an emotional component.

And I think when we talk about trust and the restoring of trust, somehow tapping into that emotional component is important.

There's another thing that demonstrates this. We talk about people not trusting politicians. On the other hands, surveys show when you talk of government services in general, when you talk about their interrelationships with a
particular government official or their reaction to a particular service like, you know, welfare service, et cetera, there's much more trust there, and I think it is because of the closer interpersonal level which allows that emotional component to become involved, and it's not just the cold confidence, the calculating aspects, but the emotional component.

MR. GARBER: Thanks.

Dan.

MR. McALLISTER: I've heard a lot of discussion about trust in kind of implicit targets, and I just wanted to explore or not explore, but kind of craft out a bit of the terrain of trust for what and trust in what.

When you look at trust in systems, something tells me that systems and infrastructures don't exist to be trusted in and of themselves because they are virtuous, because we're better off with a virtuous system, but rather, systems exist as a skeleton, a framework within which people relate and which there is social activity going on.

Two observations that were interesting
that I noted, between 30 years ago and now we are so much closer to being able to bridge time and space by communication technologies.

The other, a statistic that's interesting from Robert Putnam is that the percentage of people participating in community organizations, voluntary organizations, any of a number of ways of participating in society is at an all time low, and I don't think we want to create a causal connection there.

But we want to say how can our infrastructures nurture society, and when you think of confidence and trust, and we don't necessarily want to think about trust in the system, although that's important, how do I frame it? What are the ways that people relate to each other?

They relate to each other in commerce, doing transactions, call it market transactions. They relate to each other in terms of authority relations. They relate to each other in terms of communal sharing and rapport.

And I think those are three dimensions that you could think of as types of relationships
that people have. At an interpersonal level they can be compartmentalized. When you think of the relation to the system, it's less clear that they can be compartmentalized.

The importance is trust persists as long as the number of disappointments is kept low, and if we create an infrastructure that allows people to relate to each other one on one, this is kind of an architecture within which transactions take place.

Over the Internet, for instance, transactions take place. People meet, and communal sharing relationships take place, and authority is expanded, and the arms of authority can be mobilized towards ends.

If in any of these three different domains of relationships disappointments emerge, relationships at a personal level, who know the sort of people that you can meet on the Net? If the technology is used as an instrument of domination and control and power, you can see that the trust within or trust among people utilizing the system has to be maintained if the integrity of the trust of the system is to be maintained itself.
I like to think of it as a little three-by-two matrix of trust in the system and trust among people within the system, and then look at that communal sharing, that market transactions, and that authority relationships dimension.

And almost in order to have trust in the system, the architecture, the infrastructure that we're concerned about, we're almost responsible for being good parents and nurturing people so that they can develop rapport, all of those things that people do within the system and nurture society.

Just wanting to promote that as a way of thinking about the broader scope of the domains where trust has to emerge and the sort of things that it functions for.

MR. GARBER: David.

MR. GEDDES: I just want to see if I could lead Tom Tyler to take the next leap, which is most of the critical infrastructures we're talking about are privately owned, and confidence in government is going down, but to have our electricity system work, we rely on the electric company whose management and executives are
invisible to us and, if anything, see themselves as
beholden to their shareholders.

How does that play into what's known
about that? Can we go a step beyond your comments
on government to confidence in the leaders of
private organizations?

MR. TYLER: Well, there is research on
business leaders and confidence in business leaders,
and my impression is that it suggests that, in
general, confidence in business leaders is declining
as well, and in fact, confidence in most leaders of
organizations, religious leaders, the mass media, is
decreasing, and it's actually an interesting
phenomenon in our society that essentially
confidence in leaders of all major kinds of
institutions is declining.

So I don't think that we would
necessarily think that public/private is going to be
a crucial distinction.

MR. GARBER: Ray.

MR. HIEBERT: Since surveys on trust
have been raised, I thought I'd just share with you
the survey that the Washington Post published
earlier this month just so we can put it on the table. There are a lot of these surveys, and a lot of them get into the media, but this one asked Americans in whom they have a lot of trust, and only 24 percent said local television. Twenty-two percent said their local daily newspapers. Fourteen percent said their local government. Only nine percent said their state government, and only six percent the federal government, which sort of reinforces what's been said.

But at the same time, as Doris has indicated, the level of confidence in the President of this country, in spite of all the problems he's been having, is at a remarkably high level.

One of the things that all of this makes me think is that by the mass media continuing to publish surveys on how little we trust the government, I wonder if they don't actually inspire a lot of distrust.

One of the areas that I've been very concerned with has been the effect of television, and a lot of studies show that the more television you watch, the more you think you're going to be a
victim of violent crime. The more television you watch, the less you trust the institutions in your own community.

So there is some kind of relationship, and I think we ought to be concerned with that as well.

MR. GARBER: And we want to get into that even in more detail here with this group probably after lunch, but thanks for bringing up the point, and I think it's something we need to investigate as we go around and continue this discussion.

Michael.

MR. DARBY: I wanted to follow up on Tom Tyler's comment and also something provoked by Ray's comment before last, which is the trust in government, trust in the private/public.

You were remarking on the trust in the communist countries, trust in Africa. There is an article on, you know, can Africa flourish like Asia in the last Sunday Times, and the last three paragraphs were as a little joke. The African official was visiting his Asian friend and admiring
the lavish lifestyle and said, "How do you do it?"

And the Asian referred to the cut. "See
the highway out there? Fifteen percent."

And so then the Asian visited the
African official in his home, again the lavish
lifestyle. "How do you do it?"

"See the highway outside the door?"

The Asian official looked in vain, and
the African said, "A hundred percent."

And the level of corruption is
important, and you know, unfortunately you take
surveys of business officials, as people do, and the
U.S. and Japan are about on a par in the middle in
terms of as we like to say transparency as a
euphemism for the inverse of corruption, which is
sort of the idea of, well, why should I voluntarily
accept a decision if I think the decision was made
in return for 20,000 or 50,000 or whatever the
current price is.

And in private businesses, you know, you
can say Machiavellian, and you expect them to profit
maximize, but you know, sort of Adam Smith's genius
was showing that in general, where you have private
goods and a few other conditions, self-interest leads to the public good.

So there is a sense in which it's a lot easier to trust the decisions of private individuals that they're maximizing in their business and, therefore, they're treating you fairly than it is to trust that this government official is maximizing his personal take and, therefore, he's making a wise decision.

There is a difference in ownership. So maybe that is a basis for a difference in private and public trust in private and public institutions, regardless of even if you think the motivations of the officials are similar.

MR. GARBER: Let's see. I've got Bob, then Paul, then Lynne.

MR. BIES: I want to respond to Nancy's question and say a couple of things.

I think part of your question is answered by what Tom said about the predictability expectation and, you know, to be reliable, but also more important, the enormity of peace which distinguishes trust from confidence.
Confidence you can get it done versus trust that you will get it done. Take care of my interests. Look out for me. There's this sort of moral expectations, and I think that's part of any transaction that comes in, that you'll do no harm to me. You'll have my best interest at heart.

I think that's part of the thing that makes it very fascinating when that gets violated. Some of the work that Tom and I have done on the revenge stuff says that people really sensitive to exchanges, and when the trust is violated, it sort of comes in two categories.

One is there's this sense of a damaged civic order in the sense that there's rules and procedures about how a system ought to operate. When those are violated, we get angry, but also in that sort of civic order, there's a sort of honor, a code of honor, how you should behave vis-a-vis other people, and if you lie, you cheat, you know, betray confidences, we get really upset with that because that's that sort of normative stuff that's independent of just you've got a performance failure.
But the other part that we find that people get upset about is that when they feel that their reputation or who they are is misrepresented, and that's going to be an important issue for the infrastructure. Whatever is encoded or shared across things is not an accurate representation of who I am. Where do I go back? What economic calculus can I get that will restore my reputation, particularly in a world that says we're going to start putting clamps on punitive damages for those sorts of things? I mean, where do I go? How do I get it back?

So those sort of issues about the civil order and social identity are important, but one of the things that was striking to me and, I think, is important for the infrastructure was if you believe that the violators are not punished, you cease to have any confidence either morally or performance-wise that the system can operate. You become that Third World corrupt or a lot like Washington, D.C. You have that sort of -- I mean, Washington, D.C., is a Third World country in terms of its operation. You no longer trust them.
MR. DARBY: You mean the city government.

MR. BIES: The city government, right.

Well, actually --

(Laughter.)

MR. BIES: We can generalize.

But the notion of punishment, and I think the punishment issue is important because we too often think of punishment in terms of deterrence, punishment to correct these bad people, but what we miss is the importance that when you punish, you are also signaling that the norms and values governing the system are important.

There is an expressive we are upholding the values. Yeah, we might deter somebody, put them in jail, and they'll correct and rehabilitate, but there's this other piece that we too often -- so if you only characterize the debate in terms of deterrence and rehabilitation, you're missing a very important point of how people experience it.

So you have to punish some people to remind people that the system still is -- because if you don't, the community, the morality, it breaks
down.

MS. WONG: So you're saying that just to make the distinction as confidence is not -- doesn't elicit as -- loss of public confidence doesn't elicit as strong a reaction from the public --

MR. BIES: Right.

MS. WONG: -- as loss of trust.

MR. BIES: Right. That's what our data says, that when -- it's performance. You may be frustrated and angry in the short term, but it's those lingering, deeper resentments, is the violation of trust.

I mean those can be more intense, and richer, and can lead you to sort of paranoid and set in how I got screwed and that sort of thing. It's that trust piece that really generates the strong negative.

MS. WONG: And then the consequences to the public good in terms of if you don't trust, then certain things don't happen versus if you don't have public confidence, there's still recovery time. I mean, there is -- it's easier to recover from.

MR. BIES: Yeah. You can recover on the
confidence piece, yeah. That would be -- yeah.

MS. WONG: And so really trust is the
foundation block here.

MR. BIES: Yeah.

MR. GARBER: Roy.

MR. LEWICKI: A quick point on that.
For me it's not do I worry about whether TWA-800
blew up because of an issue in the -- or Value Jet,
when it blew up, why it blew up, but their failure
or unwillingness to put in smoke detectors for me is
as critical, is much more critical to my long-term
trust of that. It built off the resentment. It's
not why it blew it. It's also will they do anything
to try to fix or remedy that and do something to
change my perception, and their unwillingness to do
that really undercuts my long-term trust of that
environment, that context.

MR. BIES: Can I just -- I just have
this one, and I apologize, but to what Michael was
saying.

The public/private authorities, private
decision makers because they're motivated by self-
interest, maximizing the value, all that sort of
stuff that we write about; we allow them to be greedy, but when we really get upset is exploitation and pigging out.

If we believe they're taking advantage of their situation, then we get really angry, but we don't mind people making lots of money. So there is a normative dimension, and we allow you to be more self-interested than maybe public officials are, but it's when we perceive you're pigging out, there's a dimension out there that we say, "Oh, that's just too much, you know."

So I think if we just think about those terms also, even in the private sector. I think the procedures, the norms, the values still are important.

MS. WONG: Yeah, I'm curious about how that translates into consequence, say, for the private sector or for the government.

MR. BIES: Well, it has consequences that a consumer has choices. If I don't have choice, if I can't exit, then probably I'll just do -- maybe I'll put pressure on government to invoke a third party. That becomes a pressure. That becomes
a pressure, and maybe if the media runs a couple of good news stories that are half true, you know, then maybe that'll increase the pressure. Maybe someone will put something on the Internet.

So you have those sort of social collective movements to make something happen, but if there's market choices, then I can exit.

MS. WONG: Well, then that really just rang a bell because what happens is if you're anger is so high, you start looking for those choices where choices were not there before.

MR. BIES: Right.

MS. WONG: In fact, you will drive somebody to create choices or the marketplace will create choices because now there's a demand where there was not a demand before.

MR. BIES: Yeah.

MS. WONG: That's a very important point for private industry. Right now utility companies in the electric industries are understanding that fact.

MR. GARBER: Paul?

MR. KLEINDORFER: Well, I wanted to
build on something that Dan raised, and the issue is what is -- he provided, I think, a very helpful comment about keeping the number of disappointments low or trust in some ways is reflected over time as a low incidence of disappointments.

If someone gets into that a little bit and starts thinking about what gives rise to those disappointments, then the particular point that I would like to raise both on the choice issue, but the public/private debate that we've raised, is the issue of responsibility and self-reliance.

I'm very heavy on this particular matter as an economist when there are choices. It's an extremely important matter, but frequently it's misjudged. So if you go through and you see that people have a particular expectation about what they expect their infrastructure or some other institution to do, what gives rise to their mistrust, growing mistrust, is a disappointment triggered by an expectation that's not met.

And you start examining why that expectation was not met, and you see two or three different things that have been a part of the
discussion here. One is that they have the wrong idea, as it turns out, about how much responsibility they should have themselves as consumers or citizens. So they expected the government to do it all. The government didn't do it all. They're disappointed, right?

Another is that they believe that the decision was arbitrary or capricious or violated fundamental rules of fairness, the issues that Bob was just raising, and there you can have two different kinds of fairness that a number of people here much more expert than I am at this, but procedural. Somehow or other this thing was just drawn out of the hat and it disadvantaged me or I just didn't like the way the process worked, our outcome fairness. I mean, I see somebody making, you know, $100 million in bonuses for a particular year. I don't give a damn where they come from. Nobody, no human being ought to get that much money, as it were, in one year, you know, for whatever reason.

Now, I'll just mention two examples of this just to hone in on this very briefly. One is
the U.K. deregulation experience, both telecom. and electric power, water, and other areas. I've worked very extensively with them, and I can tell you that this has worked very well from an economist point of view. If you look at total benefits generated, they have been very significant.

It just turns out that most of the early benefits went to the industrial firms that were associated with this, and very foolishly, in spite of my good advice to hide the money, these people actually lavishly spent it on their directors' salaries and so on.

This gave rise to very significant repercussions in the last round, the last two years of adjustments in the regulatory side of price caps and other issues. Just think of those as very strong repercussions.

It also arguably gave rise to Mr. Blair's recent stunning success. It wasn't that he was successful, was not so stunning, but how successful and where. That was interesting.

So that's an example of where people have a number of disappointments in this particular
case based on what they viewed as distributional unfairness of something that they had reason to believe. It worked very well, I can tell you, as an economist. This worked wonderfully well. It just did not stay within the bounds that people were expecting with respect to distributional equity and fairness.

And as a second issue on the risk management side on responsibility, we have seen and tracked through the National Hurricane Center various earthquake areas and so forth. We've seen both counties drinking from the inexhaustible soup bowls of FEMA and private individuals drinking from subsidized, if you will, insurance rates.

We've seen them locate time and again in harm's way. In fact, it's along the lines you can take pictures of, you know, portions of South Carolina or the Florida coast, and you see, you know, $150,000 on average homes, and five years later it's $500,000 on average homes, and then five years later, you know, after Andrew, it's $1 million on average homes.

Well, where are they getting the money?
Well, it's just leveraging on up out of subsidized insurance payments obviously.

This is manifestly unfair from the point of view of consumers, let's say, in north Florida or elsewhere who are actually paying these areas. From the businesses involved it's manifestly unfair, and when it comes to light, this will also -- when it comes to light, if it comes to light, I perhaps should say -- it will also be viewed as manifestly unfair because here we are seeing people who are acting in an unprincipled way, violating fundamental principles of fairness and integrity.

Now, those two stories though indicate that between all of these drinks from the cup, you know, there are lots of different ways in which people get information about whether they're going to be disappointed or not and whether their anticipatory set, psychologically speaking, is going to be satisfied or not.

But I really like this number of disappointments. Where do they come from? If you start to explore that, you get into, I think, some of the issues there.
MR. DARBY: A two-handed follow-up to that point. I used to have until it was stolen from the office at the Treasury a statue of Calvin Coolidge --

(Laughter.)

MR. DARBY: -- because as an economist I greatly admired him as the last President to veto a flood relief bill on the grounds that it would encourage people to move into the flood plain.

So while I tend to agree with you professionally, I also have to note that he was the last President to do that.

MR. KLEINDORFER: He had certain other characteristics.

MR. DARBY: But, you know, we're from California. We've just passed a law sort of so that FEMA will have to bear it all, nearly all of our losses come the next earthquake. You know, where are the rest of you outraged taxpayers?

MR. KLEINDORFER: Wait till it happens, right?

MS. ZUCKER: Then it would be too late, unfortunately.
MR. GARBER: Lynne, you may continue.

MS. ZUCKER: Okay. I have three points to make based on a bunch of the discussion that's gone on.

First of all is that it's not really just a contrast between either having a competitive system where you have choices, so therefore you don't have to worry really about repairing trust; you just switch to another provider, and there's kind of a competitive system, and on the other hand, government.

Another way of repairing trust that I think we should note is providing better information, usually buying better information. So one consequence of the banking crisis was the development of a number of businesses that provided detailed information on the financial soundness of particular banks.

So before, where we took it for granted that, you know, most of these banks would do fairly well, people who really need to depend on a bank coming through now buy information from these rating services.
MR. KLEINDORFER: The same is true with insurance.

MS. ZUCKER: Right. So, I mean, you can look at this in two ways. One, it's a failure of the system, and so therefore, you have to shore it up, and the other is it's more jobs, and you know, since we seem to always glorify that, hey, you know, you're employing a lot of people that weren't employed.

So the second point is that I want to be very careful about these global assessments of public confidence and trust, either one, and as an example, I want to look at schools and, you know, public evaluation of schools.

And what's really interesting, although the general overall public evaluation is not necessarily that strong and in some cases has been declining, parents universally rate the school their child they're going to very, very high and the teachers very high and, you know, very supportive. So there's a large literature in sociology of education which looks at these rates, and at least John Meyer, who is a sociologist, marvels at how
they can possibly be that high given how poor we say schools are. Okay?

So is it really performance? And if so, in what dimension? I think we need to be extraordinarily careful because maybe it's keeping the kids happy, having them in a good, supportive environment, you know.

I'm not quite sure, and I haven't looked into this at all, but in not the actual specifics of the training.

Another way we might look at our assessment of failure of schools is it's kind of a muck-raking opportunity. So, in fact, it's been greatly overwritten, and I'm inclined to think that's true, but IQ plays such a big role, and we don't really want to admit that for a number of reasons. So instead we'd rather blame the schools.

And the reason I feel so strongly that way is the discontinuity in the U.S. system. If you compare Japan and the U.S. in terms of their educational system, we always say, well, Japan has this absolutely superb educational system, and the U.S. is a failure, but what is actually factually
correct is that their education through high school is extremely rigorous.

Now, I don't know how parents rate it. I would love to know because it's not particularly supportive, and they need the cram schools and all of that. So it may not get rated very high.

In the U.S., our high school and below is judged a failure, and yet our university systems out-compete every time. There's no university system in Japan that competes with our best university systems in the U.S.

Well, how can we have that discontinuity? What happened? Where are all of those uneducated kids suddenly getting the ability to out-compete these Japanese kids that have been trained so well?

Well, it just doesn't fit. So something else is going on.

That brings me to my third point, which is that I'm a little uneasy with the distinction between public confidence and trust. I don't quite know what that distinction is, and I'm not sure the way we measure them in these surveys is really
something that makes me trust the results or have confidence in the results.

And I think that we need to think about what the anchor is to the judgment. You know, for most of these judgments, I mean, I can go ahead and rank. I can go ahead and rank this university. We're sitting right here in the library, you know. What is my level of confidence in this university?

And I would come up with some -- you know, I could check off on a scale, but it would have almost no meaning because I don't know very much about this university. You know, I was commenting this is the first time I've ever been on the campus. You know, it's kind of a neat place to be, but you know, I really don't know very much.

And so I think a lot of the ratings are really made with almost no information about what you're rating. You have some kind of global effect. I don't trust the ratings particularly of people for that same reason because, you know, how much are people really reading? What do they know? What evidence are they using?

And I think that one aspect is, for
example, how much do you depend on that institution or that person, and once you ask that question and then you get those people that are heavily dependent on it to actually rate it, they have a big stake in gaining enough information.

Michael and I have written quite a bit on costly information and the fact that you really have to have a reason to want to get it be able to want to spend the resources acquiring it. So, you know, if you want to ask the questions, we really have to think about who they should be asked to.

The general social survey, which we were quoting on the banking issues, you know, it's good in terms of kind of general, how do you build confidence back up in the general public, but that's a very different question from, well, what about other banks, banks that are dealing with other banks, for example. They're not going to be swayed by these public polls.

So I think that that's extremely important. The normative component which a number of people have also brought out really relates to this because, to the extent the survey you're
proposing is going to be done just in this country, you're missing an awful lot of what would be different across countries because there's a big component to fairness, decisions about what's fair in different normative systems.

Just to give a quick example, in a recent comparison of how much people in different societies thought it was equitable to pay very high occupations compare to very low, like one times equal to, one times as much, two times as much, three times as much. What was found was there were huge differences in what different -- societies almost always agreed about what was right for the low level, but not the degree to which the two levels should be separated.

Poland and Hungary -- Poland was the lowest in terms of thinking that salaries should be almost equal. Hungary was next to that, and I can't remember what the top ones were. U.S. was not the top, and Australia and so on were in there.

So there was an enormous range of response to that question. So I wanted to raise that issue, too, because since this is just within
the country, a lot of the basic issues of legitimacy are really going to be missed since the legitimacy will vary much more between countries.

CHAIR CULNAN: I want to sort of toss something out and hopefully people can, given we've got a lot of expertise on this, weave this into some of the comments that come later, but about the role of procedural fairness, especially transparency and voice in influencing people's views about infrastructures and how this affects the elasticity of either their confidence or their trust, whichever you want to call it.

For example, you know, a lot of the research says if procedures are fair, people are more tolerant of negative outcomes because, you know, this happened, but basically I understand the system, and how do you apply this to infrastructures? Is it press releases? Is it newsletters? Is it the media? Do they play a role in this? Citizen boards? I mean, how do you incorporate this in a non-sort of workplace situation?

And there's one paper that's in the blue
folder. It's not in the spiral bound, that suggests that, in fact this will apply. It's a paper by Paul Slovic, and he did a study in the nuclear power industry and the one thing that was the most trust increasing when you fed people a lot of different scenarios was that there was a local board that had the finger on the button, you know, that could basically shut the plant down if it wasn't safe.

And you see what percolates up out of his research is, you know, it's fairness; it's trust; it's, you know, transparency, voice, all of that kind of stuff. So I would be interested in hearing what people have to say about that, and especially, you know, can you have too much transparency.

You know, there are stories about hackers attempting to break into something. Does that, in fact, then reduce trust when it was an unsuccessful attempt versus you tell people something happens and you lose your customers? You have choices, et cetera.

Yeah, Paul.

MR. KLEINDORFER: Just a brief comment
on this issue in the public utility area. We've seen for years that procedural fairness is extremely important. It's been instituted in a number of ways with public advocates and so forth both with respect to reliability complaints and the other issues.

In a competitive market, the entire move to guarantee, service guarantees and so forth that we've seen over the past five years. Ways of adjudicating paying and so forth for any perceived disappointment that you might have has become an extremely important part of business, of customer call service. Perhaps the largest growth area in the service sector in recent times has been in customer call centers, customer service issues, and so forth.

So procedural fairness is an extremely important element of that. Now, the critical issue in public utility sides though, whether in telephone, gas, water, whatever, is this business of getting the expectations correct in the first place, and so there is where, especially with respect to, let's say, very rare events, low probability, high consequence events, whether it's anticipated nuclear
power difficulties or whether it's power outages or what; it's to get clear what would a prudent, reasonably principled person of integrity guiding such-and-such an institution, what should they do? And can we have that discussion before the fact?

Now, there is where citizen participation, if you can get them to do it, is very, very useful in legitimating that this has gone through that process, but the history of public utilities and elsewhere has been extremely difficult, especially in low probability and high consequence events to get a reasonable cross-section of the community actually involved in that kind of discussion.

After the fact, you can get them involved, but that's no long any good if you wanted to legitimate that you have been reasonable, prudent, fair, principled, and so forth, before the fact, you see.

So I'll just say that the history in the public utilities area and all the things you come across if you've ever got any testimony in any of the commissions up here, you know, the Postal Rate
Commission or others, procedural fairness is the foundation of what goes on, but it's really balancing the ex post and the ex ante that turns out to be very difficult, and especially in those areas that we're talking about here, critical infrastructure vulnerabilities in which the very vulnerability you see is something that people don't necessarily want to get involved in spending, let's say, two years of their life going down and saying, "Yes, we as a community believe that you will do X."

It's very difficult to get them involved before the fact.

MR. GARBER: Doris?

MS. GRABER: I want to talk about what I consider one of the more spectacular drops in the confidence as an example, and that is in the medical field. You used to trust your doctor, and now very widely people have lost trust in the doctor and the health system, with or without justification.

And as I see it, one I think is the thing that was brought out before, which is sort of the sense that the profits are too high, that people are just in it for the money. I think that's sort
of a big thing in a lot of these things, where you expected them to be interested in rendering you a service, and now they're just interested in the money.

The second thing I see in this, and I think it's been pervasive in many fields, and that is there in between this basic decision maker and the client, you've introduced a whole bunch of intervening institutions, in this case the HMOs and the insurance companies, et cetera, and to address Mary's concerns, I mean, first of all, the rules and regulations, the understanding of the procedures is very difficult for the average person. If you don't understand the procedures, you cannot judge the justification of the procedures.

On the other hand, I think even where the justifications for the procedures are clear, when people are terribly much involved in it as they are in something like the medical field, where it's your life or death, procedural fairness is not going to cut it. It's got to be what seems like outcome fairness.

So while I think that in many things in
which you're less involved, procedural fairness is very important as a criterion that your things are done in the right way by which one judges whether or not one should trust.

When it really cuts to the core of your very personal experiences, even that will not do even when the procedural fairness is there.

MR. TYLER: If I could just make a quick comment, actually what's interesting is that there have been studies in this area that suggest that procedural fairness works really well. For example, if you're asking the question when a patient sue their doctor, it turns out that the extent of their injury or even the degree of bad practice or malpractice or whatever is not the issue. It's their judgment of how they're treated by their doctor.

If their doctor treats them with respect, listens to them, seems to be or is actually concerned about trying to deal with this issue, people don't sue.

Similarly, research on when do employees sue companies that fire them, it's really whether
the company seems to be following a procedure that they see is fair. If they think the procedure is fair and they're fired, they don't sue.

So I think that there is a lot of suggestion that procedural justice has legs. I mean it can be robust in situations where there's a lot at stake and where there are real issues that are important.

The trick is -- and I think your comment, Mary, brought this out -- the issue of legitimacy. When you take something like the oil companies, which is a constant problem in California, well, people don't believe in the oil companies anyway. They're not legitimate; they're not respected; they're not believed.

So when they enact procedures, right away there's a problem, and it's the same interplay that we see in government. If people think the institution is legitimate, they're more willing to defer to its procedure. They're more willing to believe the procedure is fair, which, again, reinforces legitimacy, but if legitimacy is low, procedures are suspect. Fair procedure doesn't have
as much of an effect.

So what institutions need to do is they need to build their basic legitimacy, and as that builds, then the power of procedural mechanisms will go up.

MR. GARBER: Joe.

MR. MOORCONES: I wanted to go back to infrastructures for just a moment because I've been listening, and it seems the thing that destroys trust and confidence is failures. Okay? And without failures, trust and confidence may -- given that it somehow got established, and my question would be do we have to wait to have an infrastructure failure before we're going to do something about it or if something needs to get done, or are there examples that you've seen where, by looking at, observing the institution or the infrastructures, the behaviors, the procedures, the investments, the practices have resulted in public confidence waning in that without a failure?

An example I might give, I think the number of failures were talked about. Yet everyone said computer failures are acceptable. Hard disk
crashes, whatever, all the time, yet all of our infrastructures are becoming more and more dependent on these computers.

Another comment was, well, you have choices. So maybe choices come in to give you resiliency, but in many cases in computers and communication, your choices are between different marketing agents, not fundamental infrastructure differences.

So my question is: are there examples or have you seen examples where the procedures, the way an industry, institution has gone has led the public to say, "I'm losing my trust for certain in this," as opposed to waiting until there were actual failures where they were impacted directly?

If I did okay with that question.

MR. KLEINDORFER: One can mention a number of reasons for the erosion of trust in business leaders, and that has to do I think less with failures and more with what is believed to be distributional or scandalously out of line profits or salaries or whatever.

So you could say that if you were
looking at that driver of mistrust, but let's say we were looking at something that had to do with the vulnerability of a system that would actually affect you, you know, other than, let's say, the character or the profit taking ability of the CEO. There there are what people look at when they look at, let's say, any business enterprise, but certainly in the utility industry. They would look at a number of characteristics that indicate whether this industry seems to be concerned about prudent engineering principles, about systems integrity, and so forth.

And you see this begin to permeate both through the press, public advocate, and other areas. It begins to take on a notion of its own, so that even a failure that isn't in this particular system you're looking at -- suppose I'm looking at the East or Northeast or something, and there's a failure in Indonesia or something like this or, you know, a tanker runs aground that is licensed under the Liberian flag or something. Even those remote failures that appear to have nothing to do with this system, when coupled with other driving factors that
undermine confidence, if you will, in the leadership
of a company have had very deleterious effects.

You can see it immediately in the
hearings that follow in these areas, and so there
are areas, but usually what you would see is some
correlates, something that suggests that the people
involved in the enterprise or institution you're
looking at are not being prudent, are not acting in
a way that somehow it reflects what people in your
view ostensibly act.

Then another triggering event, socially
amplified, comes to roost, and that's what
eventually ends up being the trigger. I think you
need a trigger, but it doesn't have to be in the
area itself.

MR. GARBER: Is there any other direct
follow-up here?

MR. LEWICKI: Please. Yeah, I did a
number of informal interviews before coming here to
talk to people about what affected them and their
ability to trust infrastructure, and I think it
builds on what points we were just raising.

They said three things to me:
reliability, accessibility, and voice, and reliability was that it performs as I expect it to perform, which is back to the expectations issue. I have expectations, and it does as I expected, and a lot of that was a management related problem. Do I see these people as competent in running this operation and providing it to me?

Accessibility goes back to the procedural question, and it's interesting. I was surprised how many people said I trust that not only they provide it to me, but that they provide it to everyone; that it wasn't just me who could benefit from it because I could pay the bills, but I trust it because it's provided broadly. It's encompassing. Anyone who is qualified can get access to it, and they saw it very much as a justice issue, as a fairness question.

And the third was sort of like voice appeal. If it doesn't work, I can get it fixed. I have an opportunity to talk to someone who is going to be responsive to my concerns, and that they will fulfill their commitment.

And I think those are three things that
management very heavily can control and influence. To the extent that I see the management of an infrastructure worried about those issues, I'm much more likely to increase my trust of that operation and what it provides than if it doesn't.

So that management controls a lot of the procedural dynamics that we can provide them in this service.

I also want to just briefly tag something you said, Lynne, and I can't remember exactly how you were phrasing it or talking about it, but I said to Rod that there are conditions under which you trust because you have no choice, and trust is almost a dissonance reduction mechanism.

I'm in a situation where I have no choice. I have no options. I don't know whether I should trust or not, but I trust because I almost have to trust and to not trust is to create more problems for myself than I can handle, and this is a slant on trust I've never heard anybody sort of argue before. It's like we talk about trust as very rational, calculative, weighing cost and benefit,
shaping expectations, and so forth.

But we assume that there's choice available to us. In no choice situations around infrastructure, I almost have to choose because I don't know where my options would be or how I would make different choices or whatever, and that strikes me as a different dynamic. I'd like to unpack that.

MS. ZUCKER: If I can just add to that, I think that you're right, that it can lead to trusting. Otherwise you really wouldn't because of the dissonance, but I think it also can lead to complete disaffection and kind of dropping out.

Certainly we see that in some of the African countries, for example. So, you know, you can't do anything about it. You only have one place to go. So you just don't do anything.

MR. LEWICKI: Right, and I'd love to come back to that when we talk about media issues because I see media as specializing in distrust, in other words, that the story is not in the trust. The story is in the distrust, and I'm left with increasing information about how the system isn't as good as I want it to be, and I have no idea what I
do with that in terms of my responses. Now how am I
supposed to feel?

I thought I trusted Fidelity, and now
they have a cover story in Fortune this week about
is Fidelity coming back or going down the tubes, and
that's where my funds are, right. So I mean, what
do I do about that, you know, and how do I respond
to that?

MR. KLEINDORFER: Religion is important
here.

MR. LEWICKI: You're right. I'm married
to a theologian which helps me a lot. That's when I
go to her for advice.

MS. GRABER: The big historical issue,
why did we, in the period before World War II, keep
on trusting Hitler when he said, "This is the last
country that I'm going to invade"?

We just had no choice. What are you
going to do?

MR. KRAMER: What's a failure is highly
subjective, and of course, it can be framed real
easily, and one of the things that worries me is the
difference between private and public agencies in
terms of what's a failure.

We have a lot higher expectations for public agencies and agents than we do for private agencies, and so while it might take a ship running aground or some sort of really disastrous event for us to make us question our trust in a private agency, it can be much smaller that makes us question our trust in a public agency, and I think part of that is they're just sort of held to higher standards. They're held to more values.

Michael was talking earlier about sort of private versus public in terms of, well, we expect private firms to be self-interested, but we expect public agents to act as agents and not just be self-interested. So they're held to higher standards, and we've set up a lot of procedures in government to try and help insure that.

And one of the things I think about when I think about procedural justice is that the more procedures that are in place, also the more procedures there are for somebody to trip over and for the media to catch it.

And so what happens then is when the
media starts reporting this, you know, the average TV watcher or newspaper reader sort of samples the events that are going on. It's a lot higher in the public than it is in the private, and so it seems that whatever solutions you've got through a public agency, it's going to be a lot harder because people are going to be much more likely to perceive failures, and the press is going to assist that.

MR. GARBER: Bob.

MR. BIES: Actually let me defer to Rod. Then I'll follow Rod. So I'll defer to my colleague.

MR. KRAMER: Bob, you have the floor.

MR. GARBER: You all work this out.

(Laughter.)

CHAIR CULNAN: This is holding up lunch.

MR. BIES: I think another way of thinking about the failure piece is really we're talking about the management of bad news. You're anticipating bad news to occur, and one of the things I find from my research on bad news is that there's really three phases to the delivery of bad news.
There is a phase of preparation where you sort of get people ready for the possibility, and that goes to some of the stuff you're talking about, Paul, you know, inoculating people, giving them knowledge, or in the procedural justice sense giving advanced warning notification, which we find the layoff literature to be very important in how people react to layoffs.

And then there's the actual delivery phase, how you actually communicate it, and we often focus in on that. In a procedural justice sense, do I give a justification? Do I treat them with respect and dignity?

In the layoff research that I've done with other colleagues, people are really sensitive to how it was delivered, when it was delivered. It's the whole salt on the wound. Yeah, they're upset they're losing their trust. Trust me, but what they remember is how they were handled or treated.

So there are those sort of issues, and then there's sort of a follow-up stage. What happens after that? How do you manage it after the
fact?

Also, another procedural justice principle I talk about, the privacy and confidentiality. People are really sensitive to that, particularly in these high information laden infrastructure issues. Will that information somehow expose me? Either if I'm a criminal I don't want it exposed or if I'm just a human being, some personal information about me is important.

The other one I want to add is maybe we shouldn't talk so much about failures in terms of zero defects because repeaters have problems, but what we really ought to talk about if you're managing it from a bad new perspective, it's continuous improvement, rapid response.

We know that it's not perfect, but it's better than what we were. So it's not good to talk about computers as being perfect because they're not. So the focus that we talk about, we're going to be rapid response. It will occasionally be technological failures we have no control over, but judge us by not the technology, which we're always searching for better technology, but how we respond
and whether we're improving, and that's what I judge.

CHAIR CULNAN: Small wins.

MR. BIES: And that becomes a small win.

One last thing, Rod, to say with you. It's not just enough to have the small wins, but communicating the small wins. I mean that's one of the things that politicians in this town discover. It's not enough to do a lot of neat things behind closed doors, but you've got to let people know.

PARTICIPANT: And the media does much more with that.

MR. BIES: Yeah, and to tie that to the media. Bad new sells. You don't see very many stories about mail was delivered. The mail was delivered on time today. There's no story to that.

CHAIR CULNAN: Oh, that is a story though.

(Laughter.)

MR. BIES: In this town, anyway, but the bad news sells. So we're looking for those sort of exceptions.

MR. KRAMER: Actually I don't want to
hold people up for lunch.

MR. GARBER: No, no, you have time.

MR. KRAMER: But actually this comment actually is in response to Joe's original question about failure, but it actually, I think, responds also to Tom and Bob's point about failure and the perception of failure.

Lyndon Johnson had a very interesting observation when he looked at public response to the perceived failure of the Great Society, and he thought, you know, it was so interesting that people were so tolerant of slow learning and a lot of failure in the race to the moon, a technological failure; that that's what hard science is all about, trial and error, but when it came to an experiment in society, people had very little tolerance with failure; that educational experiments were supposed to work.

And I think that's very interesting to think about in terms of trust and the erosion of trust in infrastructures. Why is it that we're so tolerant of failure and hit and miss and trial and error in the hard sciences, but we're so hard on
ourselves when things fail in the social sciences, as if it's a dramatic failure?

That's just a comment that struck me about Lyndon Johnson that posed this dilemma, but the more interesting thing, I think, in terms of organizational theory, what it has to say about response to failure, and that is that I think the evidence from organizational research is that institutional and organizational responses to events that are perceived as setbacks or failures are enormously consequential in terms of subsequent trust in the organization, and a good example of that, I think, is the success of Tylenol at managing the public confidence in it as an institution. It was actually relatively untarnished by its crisis, in contrast to Exxon in response to its dismal response to the oil spill in Alaska.

And there's a large literature that we should turn to in terms of understanding why organizations handle these things well or poorly in terms of the loss of trust subsequently in them.

And then also in response to Joe's point, I wanted to mention that there's an
interesting strategy that some corporations, recognizing this evidence, have adopted an extra strategy of building what they think of as trust banks or reservoirs of trust, and McDonald's is a good example.

McDonald's has taken a very proactive strategy of building community trust by doing things like these little child care place centers and all of these things and advertising so that then when they have even an uncontrollable or unexpected catastrophe happen, such as the person who went in and killed some people on a McDonald's site, community will is not really lost or eroded because they don't blame the institution because they've built trust, and McDonald's has called that a trust bank. I think it's a nice notion.

And then a third concept for the organizational science is related to this, is the need to sort of proactively experiment with small losses and failures and set-backs, and that organizations themselves can do this as a way of finding out what happens when setbacks occur and learning from those small, relatively low cost
losses.

And Jerry Salancik had a nice expression for this. He called them field stimulations. We ought to stimulate our organizations and see what happens for small losses.

PARTICIPANT: Turn off the electric power in the town.

MR. KRAMER: Right, for a few minutes and see, and you learn a lot.

(Laughter.)

MR. KRAMER: Hopefully, hopefully. Anyway, sorry for the length of those, but three different observations.

MR. KLEINDORFER: Just a very small comment. I found the list of what we believe are appropriate trust, confidence and answers, reliability, accessibility, voice very interesting. Just to add what is floating around here as the fourth, which is legitimacy of purpose, or legitimacy of coherence.

To come back to your point, Joe, that's what really -- when you nick away at that, when you see somebody that's supposed to be running a bank
and doing some prudent things there and they're off playing derivatives markets in a very irresponsible fashion or when you see somebody that's supposed to be doing, let's say, utilities and they're off running information systems and software and doing a number of things that also turn out to lose them money, you know, and I could go through a number of other companies, it's because their legitimacy and their coherence of purpose is just not being viewed as being in line. Their behavior is not in line with that.

So I think absent that, one also sees, just to add to this I think very helpful list of what --

MR. LEWICKI: Is that in typewriting or is that --

MR. KLEINDORFER: -- be disappointed.

MR. LEWICKI: Is that integrity? Is that different from integrity?

MR. KLEINDORFER: I think it's different. You see, I think integrity perhaps contributes to legitimacy, but I put under legitimacy of purpose that people looking at an
organization or institution say, "You know, those
guys, those folks over there, they're an electric
power company. They seem to be doing electric
power," but, you know, when they do what, you know,
NGC and National Grid Company and others have done,
which is they generate lots of cash and then they
start investing in all sorts of things that have got
nothing to do with their underlying competence, then
people say, "Why don't I have a little bit of that
in a bill reduction? What are those guys doing?"

And then you see no failures, but you
see an erosion of trust and confidence and all sorts
of repercussions that stem from this not being a
legitimate enterprise.

MR. GARBER: Ray.

MR. HIEBERT: I just want to get on the
agenda for after lunch.

MR. GARBER: You've got it.

CHAIR CULNAN: Put him first up.

(Laughter.)

MR. GARBER: All right. Well, in terms
of confidence, then I have some confidence that
there's food out in the hallway, and so we'll just
go and see if that's fulfilled or not.

So we're adjourned for at least 30 minutes, and we'll reassemble at one o'clock.

(Whereupon, at 12:32 p.m., the workshop was recessed for lunch, to reconvene at 1:00 p.m., the same day.)
MR. GARBER: There are three things I would like to try to get to here in the time that's remaining. The discussion this morning was great, and it went in a lot of different directions, which is good, and I think the first four points, the first four questions, I think we addressed to some degree or another to the point where unless someone has a particular point they'd like to make about those, I would suggest the three things we ought to look at is:

One is the elasticity of public confidence and infrastructures. In other words, how bad does bad have to be before people begin to lose confidence?

The second thing that we want to get to is the role of the media because there's been several comments about that from around the table, and we want to discuss that a little bit and kind of talk about the kind of --

CHAIR CULNAN: And also the role the media plays in helping people make risk assessments
also because I think that plays into that, or if it
doesn't, we would like to know that, too.

Excuse me.

MR. GARBER: Yeah, sure.

And the last point and probably a key
question for the members of the Commission here, and
that is what should the role of government be in
maintaining public confidence in the critical
infrastructures.

And I will artificially move to that
question about, oh, 20 to 30 minutes before we are
going to wind up here because that's the critical
one as far as I think the Commission is concerned
that we would not want to leave unaddressed.

So perhaps we can move to the question
of how elastic or resilient is public confidence in
various infrastructures. Is there someone who might
do me the favor and whatnot of leading off on a
discussion of this?

CHAIR CULNAN: Or even what's the
endpoint? Does anybody even want to hazard a guess
of at what point do, you know, people defect if they
have choices or, you know, demand government action
if they don't have choices or whatever?

MR. GARBER: When do people holler "uncle"?

CHAIR CULNAN: Yeah.

MS. ZUCKER: I was going to say I'm not quite sure the question is phrased right. Maybe that's the problem because I think it's like how big a loss would it be -- say that you don't have confidence in it. How much is it going to cost you? Because that's going to have a lot to do with both when you feel you lose confidence and how salient that is to you.

So it's that same issue we were addressing before about, well, how much is trust worth. What are you willing to pay? You know, how much is it worth to you, either time, money, whatever, some resource?

MR. KLEINDORFER: If I were running, you know, as a multi-dimensional logit study or something, you know, based on the survey instrument, then what I would try to do is to have some outcome variables that would be levels of trust or confidence, some predictor variables that would have
to do both with demographics as well as recent experience, and perhaps some confounder variables that might experience correlations across them.

Then I'd try to carefully determine on the basis of appropriately placed risk questions what were the determinants for those parts of the population that did express a strong level of trust or confidence in the government, in the infrastructure that would be different, you know, levels there. What was, in fact, driving that? For those who didn't, what would drive that?

But I don't have any data. Does anybody have any data already that they would say about this? I agree with your comment, Lynne, that you'd have to be a lot more specific about what you mean by "elasticity."

I think of it in terms of what factors actually drive people to have increased confidence or lower confidence or whatever, but that may just be my data driven aim to life.

MS. ZUCKER: I think no one has got it down very closely, but what Michael was presenting before about the banks, at least you've got some
evidence that, gee, the level changes over time, you know. This is just very general. It's a public random survey.

MR. GARBER: Doris.

MS. GRABER: I think from the standpoint of the Commission and the country, in general, it's important not so much when the individual loses confidence, but when it becomes a mass phenomenon, and I think in that it becomes a level of activity or level of analysis problem in the sense if you have, let's say, a local company or a local bank or whatever, it's very word of mouth that spreads the story that this company isn't trustworthy.

On the other hand, I think in terms of the large-scale defections, if it's at the larger level, like you take something like the Tylenol situation, I think that is generally media driven. When the driven come out and then you'll hold a number of people and then that becomes reinforced by interpersonal conversations, you know, that there's something wrong with this particular product, and I think this is where the media can do at times a great deal of harm when they exaggerate what is
really wrong.

On the other hand, if they handle it right, they can also do a good job in pointing out that this is an isolated incident and it's not likely to occur.

But sort of in terms of elasticity, if it's just your own, you know, individual thing that you have lost trust and you don't communicate that to others, a lot of individual things can happen, and when nobody finds out about it, it doesn't matter.

They tell a story about an attorney in Chicago who got involved in malpractice and was all over the major Chicago papers about, you know, what he had done, and somebody asked him and said, you know, "There must be two million readers here who've read this. What are you going to do now in terms of your practice?"

And he said, "Well, I'll practice for the five million who didn't read the story."

(Laughter.)

MS. GRABER: So this is what I mean by media driven. If the media get it all over and it then moves on, and that takes a while for that to
happen, then I think you lose your resilience. On the other hand, somebody else hears the Tylenol example, and there it's been amazing to me really how quickly Tylenol in the end did come back, and the thing that I felt restored the confidence so much, they somehow into their advertising worked something that this is the pain killer that hospitals use most, and so you got a transference from the concept of hospital as a place we trust to Tylenol after a while.

So I think the elasticity is both ways. I mean, for a while sales really dropped like a rock, but then they came up very fast, again. So it can be quite buoyant.

MR. BIES: Just a quick follow-up to that. As you think about elasticity, the socially constructed reality is socially constructed in the sense that it's just not the media giving one slant. I mean I do a lot of work under the type of explanations and accounts and excuses, just the cases people give as part of the rapid response. If your identity is attacked and you've got bad news performance, I'm going to be out front
maybe hiring one of those high, fancy, information
public relations legal type firms.

(Laughter.)

PARTICIPANT: Who's he talking about?

MR. BIES: Yeah, yeah. Because that
sort of spin in terms of giving another -- and I
don't use "spin" in a negative sense -- I mean
giving an impression because there was often
uncertainty about what actually happened.

So the whole notion of rapid response to
attacks on identity is going to shape this debate,
too, and it's going to be back and forth.

So if the media comes out with a bad
story, I immediately respond with something. Okay?

So I think you have to look at how the managers of
the infrastructures are going to defend their own
identity, and that will affect the elasticity as
well.

MR. GARBER: I'm sorry. Was there
something? Yes, sir.

MR. DARBY: One thing that Tylenol did
right, first I'm sure they helped get across the
perception that, "Look, you know. Nobody before had
ever thought of capsules as having this danger. It was an act of God, and look. Now our product will be sold only in tablets and these sealed caplets. We've come up with a technological innovation to do it."

But they also handled the media certainly very well, and I notice that the schools for executives, you know -- how are you going to deal with the media, right? The first thing they show you to convince you that you really should pay attention is like the Bhopal press conference afterwards or the Exxon after the Valdes.

And so there is sort of at least a private sector. A lot of executives are learning that they've got to be prepared, that they could go around the corner and there would be 12, 15 reporters with cameras and microphones.

So I think that's a changing responsiveness.

MR. GARBER: There was also in the case of Tylenol, having had a little insight into that, not first hand, but about second, is, you know, the company's reaction of pulling all their product off
the shelves, and that was kind of decided in a rather rapid fashion among several different folks who kind of said, you know, "What should we do?"

And on the one hand, the attorneys were saying, "Well, we may be liable for lawsuits if kind of admit this," and then you had the comptroller who was concerned about how much money the company was going to lose by doing that, and they really sort of came back down in that particular case at Johnson & Johnson to say, "What are we all about?"

And the one thing that they felt they could not lose is what this seminar or what this workshop is all about, and that's trust, and that was sort of the defining factor that ruled the day, and it wasn't like it just happened automatically because in board rooms, as all of you know, that decision does not come easily, despite the fact as we sit here in the library of Georgetown University it seems obvious, but it's not always obvious, and so it kind of came down to what do we as a company stand for, and that kind of led to, "Well, we have no choice. It's got to go," despite tremendous risk an expense to the company.
But in this particular case, combined with other things that Doris talked about, the company certainly is one of the most prestigious firms in the world today.

So, anyway, let's see. Ray?

MR. HIEBERT: Well, I think we've moved from elasticity to media.

MR. GARBER: Well, we almost did.

MR. HIEBERT: I want to say a couple of things about bad news because that's come up already. There's a real difference between bad news and inaccurate news or bad news and exaggerated news, and I don't think that good news is necessarily any guarantor of public confidence.

The best example, again going back to my own experience, is the Soviet Union where everything was always good about what they were doing, and yet nobody had any confidence in that government whatsoever, and everything was bad about what America was doing, and yet nobody had any ill will toward America.

As a matter of fact, when I go to Eastern Europe, kids there when they want to say
what's really cool, they say, "That's real America," because even in spite of 40 years of hearing that America was evil, the evil empire, nobody trusted what they heard.

So it's easy to always blame the messenger for the bad news, but remember that the media didn't do the evil things. They're just reporting on it, and I'm quite happy or I feel a whole lot better when I can get access to information about the fact that my mutual fund is not performing well from Forbes or the Wall Street Journal. If I had to trust my mutual fund for that information, I probably wouldn't invest in the mutual fund because I wouldn't believe them.

So I think that actually the media providing bad news and tough news when it is accurate and not exaggerated plays an important role in building public confidence, in building public trust in our institutions rather than making the people lose confidence.

I think in the case of the fact of people who watch a lot of television are most apt to think of themselves as victims of violent crime, the
problem is that television really does exaggerate violent crime in society. So the media can be excessive, and just the fact that we have free media is also no guarantor that we're going to get the truth.

But I think that the bottom line here for both the media and for public institutions is the word "credibility." If the institution doesn't have credibility, the media don't have credibility, then we're going to lose confidence.

I think public relations plays a big role in credibility and the way we think of institutions as credible. Unfortunately, a lot of what the public perceives when they hear the word "public relations" is what David talked about when he talked about the con game, and Bob has talked about the spin doctors and the hype meisters. They are not necessarily what public relations is all about because if public relations does its job well, then I think it does what it did at the Tylenol company, and it doesn't do what they did at Exxon.

In Tylenol, they insisted, the public relations people at Tylenol insisted that the
company be public, be open with what was going on, call in the press, answer all the questions as truthfully and factually as they could.

Exxon did just the opposite in the Valdes episode.

I think what we're talking about also when we talk about spin and hype is the role of language and how language can be corrupted, and when language gets corrupted, it seems to me that we are going to have a problem in credibility, if not immediately, over the long haul.

A lot of people, a lot of the spin doctors and hype meisters get away with corrupting the language for some quick fixes or some short-term gains, but in the long run it does harm to public perception when people find out that the spin had been corrupted.

Just a couple of examples. I think to take the term "homosexuality" and show that we're talking about alternative life styles instead of sexual deviation might not be immediately accepted by a lot of people, but, on the other hand, it provides a lot of insight into something that can
177

open people's eyes, and in time may change perceptions.

But to use another kind of way of corrupting language or reusing language, during the Gulf War when the government talked about smart bombs, it was a quick fix, and it told people quickly that, boy, we're just hitting military targets, and we're really doing our job, and we're not hurting civilians at all, and people believed it in the short term. We all thought that that's the way it was working.

In the long term, we found out that the smart bombs weren't nearly as smart as we were told they were, and now I understand the figures that are widely accepted is that hundreds of thousands of Iraqi civilians and children were badly maimed and killed by the so-called smart bombs.

As that information begins to seep into our understanding, we begin to lose trust, and so what we have here is a corruption of language that ultimately destroys our confidence. That, I think, is what we ought to try to avoid and emphasize accurate news instead of the corruption of language.
MR. GARBER: Bob.

MR. BIES: If I can sort of build on that, Dick Morris had a great saying. He who defines first defines last. I just thought I'd just throw that out. That's an important point to remember in any of this discussion, defines first. That's also good, maximum public relations, being the first out there.

The thing that puzzles me from the media because I'm not an expert on it, but as one who has listened to some talks about how certain controversies are handled in the media, take the Dow-Corning breast implant issue. Okay? What do most people think about the Dow-Corning breast implant issue? Dow-Corning made these fraudulent products that cause all of these bad things to women.

The fact of the matter is all of the scientific evidence is in, and it's not true. Okay? So two things come out about that for me -- well, three things.

One is that in order to make judgments about what caused something, it may take time to do
that analysis. Look at our impatience with TWA flight. It takes time, and we want instant answers. So we want instant sort of sound bite answers.

So the media needs to present that, and that's part of their job, but also their inability to communicate complex scientific type data, and I mean, I've been interviewed by reporters, and the media plays a very important role. The newspapers, but their inability to think in more complicated -- they're not scientists. Okay?

What's a sound bite of your research on revenge? You know, well, it's more complicated than that. So their inability to communicate.

CHAIR CULNAN: That's why there's no press on critical infrastructure protection.

(Laughter.)

MR. BIES: But the media feels, and rightly so, feels compelled to get something out there, but they may not be able to give a complete story. So it becomes inaccurate, and we end up believing it.

I mean you end up believing. There's a new book out about a woman from the journal of New
England medicine. The editor wrote it and said, "Look at the evidence," but you know, it's hard for us to understand that. So it takes time to get it.

MR. DARBY: Think about being interviewed on the Federal Reserve quarter point rate hike. Well, what does this mean to the average guy on the street? What does this mean to Joe Six-pack?

MR. BIES: It's a little more complex.

MS. GRABER: But the media, they have to deal with the readers, and even if they understand it, which they very often don't, they still have to put it down to the point where somebody with an eighth grade education can understand it.

MR. KLEINDORFER: If you really give them an answer to that, Mike, they say, "Boring."

MS. ZUCKER: Well, wait a minute. Don't be too harsh on them because remember we're writing college textbooks now that are being used at Stanford and UCLA and Harvard that are aimed at junior college students. The target market of textbook publishers now is junior college level understanding. So I mean should we be so tough on
the media?

MR. LEWICKI: I'd like to hear some thoughts from some of the journalism people here and so forth about -- I made a statement before about distrust sells or bad news sells, and I guess I think that to the extent that we use the media as a vehicle for understanding infrastructure and we judge how much we should trust or distrust the infrastructure based on the way it gets represented through the media, on the one hand, the media has a tremendous responsibility then either to give a balanced perspective or even give us a perspective that maybe we should trust the infrastructure, but that may not be newsworthy.

So for those of you who understand the way the media operates, I mean, do they talk about these issues? Do they debate back and forth sort of what sells papers versus what responsibilities they have to communicate?

And it's not accurately. It's more the role that they have for representing other complicated parts of our society to the general public.
MR. HIEBERT: The public also has a responsibility to select the media that will give them the full and accurate information, and I'd like to have a choice available in my life where I can choose those media that I think are doing a good job and stay away from those that aren't.

But there are a lot of factors that are mitigating against really good journalism these days, and I think this is widely communicated within the media and academic circles where we're concerned about the media.

There is a growing corporate journalism that's placing the emphasis on profitability rather than public service. That's a problem. There is a -- it's easy to abuse information when you have to reduce it to a sound bite or a photo op. on television, and of course that's a problem.

It's harder and harder for journalists to get full and accurate information from those institutions that don't want to give full and accurate information. That's a problem, too.

So I think it's something we all share. It's not an adequate answer, I think, just to blame
the media for these failures, but they certainly are
failing in a lot of ways.

MR. GARBER: Doris.

MS. GRABER: I've done a lot of content
analyses myself, and I think I've seen literally
hundreds of analyses of media coverage on certain
topics. Most of them are done on major newspapers,
like The New York Times, Los Angeles Times, et
cetera, and one of the things that has always struck
me is that if you're trying to talk about, you know,
bad comments, good comments, and neutral comments,
the vast majority of all commentary about things
that happened is neutral. You rarely see that
reported in scientific journals because the neutral
isn't terribly interesting. So they cut out the
neutral, and they just look at how much positive and
how much negative, and there very often the negative
prevails because after all, as somebody pointed out
earlier, you know, if the trains run on time or
something like that, that's not news. It's only
news if it's something that's errant in terms of
what one really expects. So there is a balance
towards bad news.
The thing that strikes many of us now is our local news, and I'm talking now television, that that's all full of crime, which again is true and there are people that do pay attention to that. That's also an economic decision in terms of, you know, it's cheap to go to the police station. You always find something new. You get the police blotters. So you put that on. You know you're going to have an audience for that for which you're going to get some rating.

So those are some of the systematic things that assist them.

The other part, I think, that is important to understand is that negative information is processed in a different part of the brain than positive information. It goes more into the limbic system, which deals with emotions, et cetera, which gets the hormones involved and then becomes more imprinted, and you have much better memory structure.

So compared when you hear good news and bad news, one tends to remember the bad news, and that's part of the human survival process because,
you know, we've got to be alert to bad, threatening news and so that becomes more imprinted on our brains.

So even in terms of consumption, we tend to in our own reading of things and listening to things single out the things that are negative and have an impression more of the threatening things that we need to be aware of than the things that we can just sort of pass over. "Okay. That's happening. Fine. You know, it doesn't bother me."

So I think everything points in the direction of paying attention to negative news and partially featuring negative news, but the realities are if you really look at the media, that there's not nearly as much as we think.

MR. GARBER: Dan.

MR. McALLISTER: I want to build off of Doris' comment, but bring it back to the question of trust and distrust and its prevalence. It seems that institutions of accountability are critical to the protection of trust. Bob's comment that you've got to have legitimate sanctions in place to make general belief that trust is protected in some
senses.

And then I think about kind of how do you preserve trust and how do you stop distrust from filtering and just pervading. The answer is you create institutions, groups, the roles that are specifically designed with distrust in mind. Call them police. Call them certain types of agents. Call them the CIA or organizations like that, but there's also the media, which somehow fills an institutionally informing role.

And Doris' comment is that while there's a good element of neutrality, the emphasis and the way it's read is that the negativity comes through. So the comment is it's all the more important that we understand the role of that negative because it's what's read, and it drives the distrust if anything's present.

The question is: what sort of arrangements can we have whereby we can distrust without it pervading and limiting our ability to trust in the process?

MR. GARBER: Paul.

MR. KLEINDORFER: I want to perhaps
reflect on the importance of both mistrust and trust
with respect to the media and when it's important in
the infrastructure area.

In those areas, if we take, let's say,
purely private goods like electric power and to a
certain extent telecommunications, I would say there
whatever the media wants to do, let them do it. If
they're selling newspapers and they're writing great
fantasy stories, let them be held accountable
eventually. They shouldn't print rank nonsense or
untruths, subject to the libel laws and the rest,
but I don't have a problem with whatever it is that
they do.

These are private choices that citizens
make as to what it is that they want to purchase,
how much they want to induce their utility to
provide them with various kinds of services.
They've got increasingly choices available to them.

Let me switch choices. That's no problem.

So in those private areas where trust is
easily monitored and reinforced through choice, no
problem with the media.

When you start moving out to areas where
trust is important in terms of the choices that people make, real economic of lifestyle choices they make before the fact, or where it is really public good that only is going to be provided by a private provider, but it's primarily a public good that's in question, whether it be defense or education or the security of the telecommunications system for financial transactions. Those are fundamentally affected by public characteristics.

There mistrust can have profound implications on the economic choices that are made to provide a secure existence against what one believes might be realistic and potential vulnerabilities that one faces in one's personal life.

So I would distinguish ends of the sale in which, you know, I would be very concerned if I were a government agency to distinguish, as this Presidential Commission is, what are the really strategic vulnerabilities, but also what are the strategic vulnerabilities which we cannot and should not count on the average citizen to be self-reliant and with their choices to be able to be responsible
and responsive in those choices.

In those areas, I believe that we should not play a patriarchal role in any way, not this Commission, nor anyone else. Let the market of ideas take place, but in other areas, I think that's where the public area and where trust can profoundly affect the choices that people make before the fact as to what they do with their lives, what their assets and what their investments and so forth are.

There is an area where I would say we have to be very concerned about working with the media to make sure that the right picture, the right information, whatever that may be, gets out. I would be a lot more careful about that area of the spectrum.

MR. GARBER: Any other media comments on the role of the media?

MS. GRABER: I have just a question. What are you talking about? Censorship?

MR. KLEINDORFER: No, I'm talking about, for example, in this Presidential Commission what one would be interested in providing, I believe, are some guidelines, some standardization, and so on,
for determining what really are the vulnerabilities, let's say, in respect to the number of blackouts, the probability of blackouts in particular areas.

I would be mildly in favor of that in order to provide citizens in this very important area, which is almost a public good, namely, the reliability of their power system; I'd be in favor of having an independent assessment of that.

I don't necessarily think this Commission would do it, but they should suggest that the industry, for example, through Electric Power Research Institute or through the U.S. Telephone Association or other industry associations, that they would get accredited, monitored, attested reports that for various regions of the country would say, "Here's how vulnerable you are to earthquakes, to catastrophic hazards of various sorts. Here's what will happen. Here's what emergency response methods are in place."

Now, you see, that information is something I wouldn't like the media to somehow be given full responsibility to uncover and just report what from the point of view of good journalism might
be the part they'd like to report. I'd like to see government and the emergency response agencies, in fact, be deeply involved in crafting the nature of that message, but that would be what I was referring to.

MS. GRABER: Well, just a quick response on that. There was much concern about misleading advertising during elections, and so in the last couple of years, the last two elections actually, we had this thing called ad watches appearing in newspapers, with the idea being that, you know, the media were independent, and they were going to look at this and really point out what some of the misleading things were.

And I think it has had, on the whole, some influence on the advertisers up to a point. On the other hand, audience studies show that the audiences, those who did read this sort of thing, and it was a relatively small percentage, what it did actually for them was reinforce the misleading aspects of the message.

They were reading that part, and some people who hadn't heard the ad, this was their way
of hearing the ad.

So, you know, while I certainly can see what you're saying, there's some real difficulties in doing this sort of thing and getting the right kind of result.

MR. GARBER: Ray, you're next, but let's go ahead and continue, I mean, after Ray or maybe as part of your presentation what Paul kind of began to lead us into the last, final, main question here, and that is the role of government.

So, I mean, Ray, you go in any direction you want, but let's kind of move in that direction either with you or after you comments.

MR. HIEBERT: One quick question of my own, and that is: should the media have the burden of making the people feel confident about institutions or should the institutions themselves have the burden of making sure they're doing what's in the public interest and thus will earn public trust?

And I'll just use this platform to get into government. I think that I'm a little worried about Big Brother, as the government, because of my
own experience, I suppose, but clearly, it seems to me that government also has to be trustworthy; that government, as the policeman of the trustworthiness of the rest of the private sector, might be going too far, but I think government has to be trustworthy, and I don't know who's going to police that if the media don't.

MR. KLEINDORFER: We, the people.

MR. HIEBERT: Well, if the people are misled.

MR. KLEINDORFER: It's a problem, isn't it?

MR. HIEBERT: It is.

MR. GARBER: Please.

MS. ZUCKER: I guess Michael and I in our statement wrote a bit about this, and I don't want to take -- I want to try to take explicitly a nonpolitical, you know, way of dealing with this, and so that kind of limits examples I can use.

But I think it's extremely important to look at the kinds of problems that government was supposed to be solving and, you know, our rationale, kind of the academic rationale anyway, for
understanding why we have government providing it in the first place. It's for activities that otherwise wouldn't be in individual self-interest, but are in the interest of the collective.

And it seems to me that as government has grown, that that has somewhat been lost sight of, and so we need to think very carefully and hopefully without ideology, I mean, you know, without thinking, "Well, the government must do this," or, "I personally think this is important. So, therefore, the government should be in it," but rather, really think about added value.

You know, what is the added value of having government in each of these specific areas, and then say: Okay. What would be the best strategy? Is it regulations so that you still have a competitive private sector operating, but you regulate it? And if so, what is your idea about what regulations should accomplish?

Is the regulation, in fact, meeting the standards of procedural justice? Because what we often see, in fact, as we look at the details of the regulation is that it nowhere comes close to meeting
procedural justice. There are so many exceptions, and most of them are politically advantageous to make.

And so you get a system which actually is very corrupt, although on the surface it looks like, well, here, the regulations are in place, and this is the system, you know, kind of how it's written, but how it's actually enacted is something very, very different from how it's written.

The general feeling of unease that people might have or maybe their perception of kind of a lower confidence in government may not be the really major threat to the system because in most cases, that doesn't directly impinge on their activities. It's not something that is critical to them.

I think where these institutions impinge most on activities of other organizations and individuals is where these kinds of problems really have very dramatic effect.

So that actually by kind of looking at a general overall decline in public confidence, we really minimize the seriousness of problems we have
in some areas, and we exaggerate problems we have in other areas. In other words, we don't really have a good calibration of what the problems are. We just tend to see them, okay, globally. Here you go. These are sort of in decline, and you know, what's wrong with our public institutions?

But actually it's extremely uneven. So there are some places where we have, you know, relatively good systems, and I think, you know, FDA is an example of a fairly transparent agency which actually does a reasonably good job. The drug industry will scream. I mean there are problems because sometimes it's very slow, and I guess the privatization, partial privatization of it with the idea that the -- I'm sorry. It's more of the Patent Office to deal with similar problems, might also be applied eventually to FDA.

But I'm not saying privatization is always the solution. I'm not trying to not take a particular political point of view, or what can be taken as a political point of view. I'm really trying to say that each -- each case has to be looked at individually. You have to see what the
rational is and then ask ourselves, you know, what is the best solution for this particular problem.

But to identify the problem takes really careful measurement of the stakeholders that actually involved in it, not just the public opinion survey.

MR. KRAMER: All right. I was just going to say, that from my standpoint, in terms of thinking about what should be the role of the government and public institutions in maintaining public confidence, if this was a wish list commission, in the sense, I mean, I sometimes think we take a long enough and deep enough prospective on these kinds of questions.

I mean, a lot of the concerns that have surfaced today, I think, are about how to trust and distrust wisely or prudently. Under what circumstances should we trust and under what circumstances should we worry?

And those are skills. Those are cognitive behavioral skills. I don't know if any of you saw "20/20" last night. Paul Eckman was on talking about his research on lying detection and
the detection of deception, which a learnable skill
and a useful skill. I teach it to the MBA's.

(Laughter.)

(Simultaneous conversation.)

MR. KRAMER: It depends on which course
it is.

(Laughter.)

MR. McAllISTER: But, you know, what's
apparent to a person that is involved in education,
I think in lots of ways it really a shame we don't
teach these fundamental social skills earlier in
life.

You know, we try to teach leadership to
government students and MBA's and adults when it's
really to late, not to be cynical or pessimistic,
but in a sense it's to late. You should be teaching
children about issues of trust and what it means to
have public confidence and wariness about
institutions.

I'm surprised, you know, we resist so
much bringing this into the curriculum of our
education of the young. We always wait until it's
to late. And when I grew up there was a feeling, I
think, in society, that this should be left to parents, that this is a parental prerogative.

But I think now there is a feeling that parental prerogatives have kind of failed in a lot of domains, and I think if you look at the popular book write now, *On Emotional Intelligence* by Dan Goldman, I think the real message from a lot of that research that he talks about in that book is that these social, emotional skills are very teachable and learnable, and we have a good understanding of who's good at it and who's not good at it, and it is a shame we don't get some of this into our curriculum.

So I would like to say if this was a wish list, it would be nice to get some these issues introduced into our educational institutions earlier so that people really can learn to think about these issues as they grow.

MR. HIEBERT: Just one addition to that, Dan, is I think we should all teach children media literacy --

MR. McALLISTER: Yes.

MR. HIEBERT: -- so that they will know
how to separate out the exaggerations from the realities.

MR. KRAMER: Yeah, trust them to be sophisticated consumers.

MR. HIEBER: The messages they get.

MR. KRAMER: Yeah, I think that's exactly right.

MR. DARBY: What you were saying is also saying that the government should be concerned when there is a lack of distrust in institutions that have earned distrust, or that at least we as citizens should be because it is a valuable skill, the distrust.

MR. KRAMER: That's right. Democracy was founded on the mutual distrust of the systems, checks and balances. It is a system of distrust.

MR. GARBER: Paul.

MR. KLEINDORFER: I want to raise another issue with respect to the boundary of government and private -- what should the government do, and perhaps what they shouldn't do.

With just the anecdote that I reflect on also in the little note that I produced based on
some research that we've been under taking at my
center on the environmental side, and this is a area
in which, you know, the framework that I've been
using to think through this private actions/public
actions required -- they're both public and private
actions. The public acts here are set of
standards and perhaps measurement and perhaps
publishing of information. The private actions of
individuals and companies, and so on, have a very
undeniable effect on the quality of the environment.

Now here is an example, just to evoke
something in our mind about the role of government.
In the ozone area, ground level ozone, we've seen
some communities successfully -- Tulsa is an example
of this -- implement episodic voluntary ozone
control, so-called EVOC.

Now what these do is they have citizens
and businesses on those few days of the year in
which ground level ozone is going to be a very
significant problem, a dangerous problem, arguably,
undertake voluntary actions. There is a whole list
of such actions.
And the role of government in this respect is to attempt to get a validated model and monitoring systems for what ground level ozone is in various parts of that region, or any other region, any other airshed; to monitor that and to demonstrate what those are so that one has reliable readings. You're not exercise -- involved in an exercise sympathetic magic when you go through these voluntary ozone controls. You are really responding to a real danger.

But in the process we see not just volunteerism, but a sense of a public duty as really a part of this.

What trust has to do this, this is a fundamental part, I would argue, of the environmental infrastructure. It sees the meshing of individual actions and government action in a certain way, not command and control, which would be extremely or much more expensive in this particular area, to cause everybody, everyday of the year to put in investments in, to reduce the ozone drivers, NOX and volatile organics.

That would be not very smart if, in
fact, you can do this in a much better way, essentially relying on the self-reliance and self-sufficiency of people who understand that it is their problem.

Now, I could go on about the difficulties of this respect, you know, because if not everybody involves themselves, if the businesses do this willy-nilly, if you do not have a sense of trust generated that everybody is baring their fair share in doing these voluntary controls, this is going to be a real problem, and some cities have had that.

But I do want to just with this illustration point to the fact that it's an interesting joining or coupling of individual action, and government in this case providing standards and information that in some instances can be an important play delineating where the government could and should be properly involved.

MR. GARBER: Is that an old single, Rod, there? That's okay.

What else about government's role?

Joe. I'm sorry, did I miss you?
MR. MOORCONES: Yeah.

MR. GARBER: Look at that. He's sitting right there. Holy cow. He's too close to me.

MR. MOORCONES: I was just thinking that the example of the FDA was a case, I gauss, where the government sets up something that assures adequate testing is done before products are allowed for people to cure themselves or feel better or whatever it might be.

You might say that the Defense Department, putting my former hat on, the NSA, provides assurance that we don't have foreign troops come on our soil, and we're not threaten, and we trust them to do that. It's sort of a preventative role.

What role, if any, does the government have or what role, if any, do infrastructure owners have to prevent themselves from coming under what we'll call cyber attacks? Should there be standards for that? Should there be some degree of -- I can't remember who mentions discovering of vulnerabilities. It might have been Paul.
There might be some need for people to do the assessment, look at themselves, and he was referring to natural disasters. And they probably do a good job at that, I think, from what we've been able to find. But what about those attacks or those penetrations that may active, done by knowing and learning human beings? Okay? Trying to cause some sort of damage against infrastructures that are publicly owned that we all depend on, for both defense, for both financial transactions, for medical records.

Is there a responsibility here for the public or private sector? I mean what might that division be for that particular one?

MR. DARBY: I was thinking about the financial system, and of course, it's hard to recover if it goes down, and the federal government's the ultimate Derringer, and that's sort of part of the problem of whenever we use government guarantees to create trust.

But to what extent do things like the service guarantees in utilities where you have to, you know, provide or pay up, and that provides an
incentive to protect yourself successfully against cyber attack?

To what extent is there not a similar incentive in the financial markets? I think there is a lot there as long as the capital standards are adequate, that the financial institutions will bear the cost of being unsuccessful at that system.

We're talking during lunch about how often do they actually get penetrated and what are the losses. I suppose the question is, you know, to what risk or what risk are they going protect themselves? Presumably only the ones they expect.

So it's only to the extent there is a realistic -- they see a realistic threat of a more concentrated, maybe coordinated, threat that they would try to protect against it.

MR. MOORCONES: If you're done with the question, if you looked at a bad act as being something that might be perpetrated using the network, how does the public/private responsibility roles fall out, given that their private networks, the public needs, their private networks that the government needs to even provide securance, and they
might view what's being attacked?

To what role do the owners and operators, the equipment suppliers who provide products that are put into these networks, how does that balance come out or what should it be? Should somebody set standards? Should somebody do some studies, set some norms so that we have some understanding of what our weaknesses might be?

We certainly don't allow the Defense Department to. We would expect them to keep any missile from ever hitting our soil or any foreign soldier. They have a standard of zero tolerance and --

MR. DARBY: That way we have no defenses against --

MR. MOORCONES: Huh?

MR. DARBY: You know, we have no defenses against --

MR. MOORCONES: Well, that's the question. Look into the future. Is there a role here? That's what I'm saying. Because if you look into the future, is there a role here for this vital part that we're all dependent on? And how
might that break up between private ownership, which is truly where it ought to be? Okay?

You don't want public systems because they don't work as well. They're not as robust; they're as not technologically advanced; and they may not provide us a competitive edge.

So how do balance protecting those important --

CHAIR CULNAN: And at what price, if it means you have to trade off your --

MR. MOORCONES: Yeah.

CHAIR CULNAN: -- civil liberties for sort of zero invasion or, you know, 100 percent protection in the electronic world?

See, because these are some of these things that we are trying to grapple with and --

MR. BIES: Well, if it's framed in the national interest, does it then not become at some point a governmental issue, whether it's an agency or some regulation, if it's in the national interest?

CHAIR CULNAN: Oh, but there are examples of -- I mean, just to talk about when I was
looking at the encryption debate where the government's arguing it is in the national interest; that basically if you are using encryption we have to be able to get the key and de-crypt your messages if you are a bad guy, and basically everybody and even a lot of the people in the government privately is backing away saying, "Forget it."

I mean, part of it is compounded by the fact that we're also in a global economy. and it's fine for the United States to say something, but that once you leave our borders or our jurisdiction, hey, you know, we're France. We don't care.

MR. DARBY: In point of fact, we appreciate eliminating the American competition.

It's not that they don't care.

(Laughter.)

MR. DARBY: They encourage it.

CHAIR CULNAN: Right, right, yeah.

MR. BIES: Can I ask the commission?

CHAIR CULNAN: Yeah.

MR. BIES: I mean, you've obviously grappled with this.

CHAIR CULNAN: We are grappling. Yes.
MR. BIES: What are the issues? What are the alternatives?

I mean, you guys must have some sort of staking out possibilities, states of the world. May we react to those?

CHAIR CULNAN: Yeah. We are just moving into that phase right now. We've been primarily doing a lot of data intake, and as you -- we've talked to a lot of different stakeholders, not to much to the general public, but we've been doing a lot of data gathering from business, in particular, and local governments who are again all infrastructure owners and operators and users to get a sense of what their sense of the problem is, how they framed it, what they think the government's role should be or not be, and just what are the problems.

MR. BIES: I think what is going to happen here is the prevailing political climate in this country is less governmental involvement, okay, until there is a failure. It's like the definition of a conservative is a liberal who is mugged the night before.
I mean, you could be a civil libertarian until you're mugged. Okay? And I think socially psychologically it's going to be a hard case for much governmental interference.

I mean, I've met Dick Morris and Frank Rizzo in the same day. That's pretty good.

(Laughter.)

MR. BIES: But the whole point being you can have very different effort -- huge failures can be a very different climate.

CHAIR CULNAN: Yeah.

MR. BIES: If you talk to people who live in the projects of Chicago, you know, the Henry Horner Homes, et cetera, they have no problem having police there, cameras there, checking people for guns because they're worried about their basic life thing.

Now, the ACLU goes ballistic, but if you live in that world, it makes sense because life is more important then whether or not you're checked on. So I think the issue about should government be involved or not, it's going to depend on failure experience to really define the debate.
Right now the debate will be defined: the government's bad, the private enterprise is good.

CHAIR CULNAN: And how -- and the size of the failure also.

MR. BIES: Yeah.

CHAIR CULNAN: I think.

MR. MOORCONES: But I think an example here though that you used and people who are living in as environment that's already turned very bad in there --

MR. BIES: Right.

MR. MOORCONES: -- the question is should we have made or someone have made an investment so that that environment couldn't have happened because the cameras may not be solving it?

And it's sort of this whole idea this, this dimension of information and communications, this global marketized. Who should be looking to the future? Who should be trying to identify the boundaries or set them or guide, okay, the way these things are evolving to minimize, okay, cases like that happening?
So that if things do go bad, all of a sudden since we all depend on if it's national security, it's finance, it's whatever, we'll all need cameras, and there aren't enough cameras.

MR. BIES: Why not be a joint cooperative government private industry watchdog group? Why does it have to be private organization?

MR. MOORCONES: No, no, no.

MR. BIES: That's why I looked inside of here. It says a cooperative effort between private industry and government. I mean, why not have that?

Because I can't trust corporations alone because they'll try to cut costs and -- but on the other hand, government could be -- they have their own agenda. Okay? Everybody has their own agenda. Why not cooperative?

MR. LEWICKI: That comes back to what Rod was saying a few minutes ago, and I mentioned that the notion of balance is very powerful, which is that it's not either/or because we have reasons to distrust one or the other, but to the extent that there's a check and balance in the system, we're more likely to see the system in constant dialogue.
The problem with balance is that there's a lot of room for diffusion of responsibility and stuff falling through the cracks, and it also makes it difficult to sort of figure out who screwed up when it doesn't work.

But I agree with you. I don't think it has to be either/or.

CHAIR CULNAN: But who watches the watchdogs? Ultimately at some point somebody is not being watched.

PARTICIPANT: The press.

CHAIR CULNAN: Right, the press.

(Laughter.)

MS. ZUCKER: Just compare Los Angeles and San Francisco in how quick the earthquake damage was repaired, and look at the two systems of procuring bids for the work that needed to be done, and then ask yourself what you want to end up with.

MR. HIEBERT: Can you explain what the problem was?

MR. DARBY: In Los Angeles, it was an emergency, and they quickly got out the bids before any sort of "well, you know, since we're going to
have to rebuild anyway, let's redesign. Let's do a little social engineering. Let's consider alternative." They just went out with the bids, went out on incentive contracts where the faster you got it done, the more you made, and most of the projects were done under time and essentially it was rebuilt in a year.

In San Francisco, they're just about to start letting out the bids on rebuilding some of the freeways, and that was an earthquake in what, '89 versus '94.

MR. HIEBERT: Well, what happened in San Francisco that they're so slow?

MR. DARBY: Well, you know, the government had to decide what to do, and you know, there was probably going to be --

MS. ZUCKER: Set up standards for the bids and then --

MR. DARBY: -- the usual political horse trading or whatever trading, and so nothing got done.

MS. ZUCKER: So, you know, a few things got fixed right away, but imagine Los Angeles, where
we had major freeways that, you know, were cut.

MR. DARBY: But so did San Francisco.

MS. ZUCKER: Yeah, but San Francisco still has -- they just repaired one of them now, and they just finished like a few weeks ago with one of the major ones that, you know, was hampering traffic for everybody, for the entire time the connector was down.

MR. DARBY: Years.

MR. McALLISTER: I was thinking of a little example, too, and I didn't know whether it fit with infrastructure, but right now in the Dakotas dikes around cities are seen as a good deal, and Duff Roblin (phonetic) in Winnepeg, with his nice little floodway around the city, is seen as a hero, and he die it seven years ago.

But the thing is minimizing the number of disappointments tells me it doesn't matter whose responsibility or who's blamed. In the process you've had one or two disappointments. Something gets done, and there's action, and maybe it takes one or two major cyber space type failures, and government steps in, and it's appreciated for it. I
Everyone should practice safe computing,
but beyond that --

(Laughter.)

MS. ZUCKER: But that doesn't really fit
the San Francisco-Los Angeles comparison.

MR. McALLISTER: No, it doesn't.

MS. ZUCKER: And in that case it was
kind of the courage to take action, to set
deadlines, and to say, you know, "If you're not done
by this date," you know, and to create incentives
for these contractors to really throw out every
person they could on the job to finish before and to
make extra money.

So, you know, what I think isn't being
thought through still is the incentive system that
you set up (a) to make the decision in a timely way.
I mean this is an example. You know, why should
you have to make the decision? Maybe you don't even
have to have a committee to make it because there's
no pressure; there's no incentive; there's nothing
pushing you to make the decision.

It doesn't have to be a problem. It
could also be a big incentive, you know. Someone who comes up with a solution, they can win a huge contract. Someone who comes up, you know, there'll be some benefit to putting energy into it.

MR. KRAMER: I think in Los Angeles though you have to move very fast anyway because there's only months between natural disasters anyway. So you can't let them stack up, between the fires and the floods and the earthquakes.

MS. ZUCKER: Yeah. Well, you can say that about San Francisco, too. What about the flooding that everyone had?

MR. KRAMER: We have a problem in San Francisco.

MS. ZUCKER: Yeah. There's been a whole series of problems, too.

MR. TYLER: To defend San Francisco, being from Berkeley --

(Laughter.)

MR. TYLER: -- there's two sides to this because look at the Oakland fire. We had the Oakland fire. People were saying, "Well, wait a minute. We should have commissions to discuss
this," and everyone said no. So immediately they said, "We won't make any changes," and now they're pretty much rebuilt the Oakland Hills. They didn't widen the streets, although a major problem was the fire trucks couldn't get up the hills. They didn't ban roofs that are made out of wood, even though a major reason the fire spread is that people build flammable roofs.

So what they did there is they said in order to make this happen fast, we won't consider any changes, and you might say, well, maybe sometimes considering change is a good idea, and just to redo the old immediately isn't the only obvious good.

I think it's complicated.

MS. ZUCKER: You know, it's funny because insurers in Los Angeles won't insure you in areas close to the any of the fire vulnerable areas if you have shake roof, for example. You just can't get insurance.

CHAIR CULNAN: So maybe go ahead and build your house, but if you build your house with a shake roof, even though the government will let you,
you can't get private insurance, and so, again, there's a lot of competing kind of tensions to get people to behave in a socially desirable way.

It doesn't solve the fire truck problem though. That goes to sort of the public interest versus the private good that Paul was talking about.

MS. ZUCKER: We need to make skinny fire trucks.

CHAIR CULNAN: Skinny fire trucks.

(Laughter.)

MR. DARBY: You know, I was thinking about government's role, and one place where we have a lot of this sort of experience is in the financial area. We have lots of regulations there, and they're very similar sorts of threats. Indeed, a lot of the cyber threats are just the same old financial scams done with a different technology.

One thing we had, we used to have sort of capital standards that were sort of set by a schedule, and then we got the idea, well, a sovereign government can't default, and so government officials in the '70s thought, well, you know, a wonderful way to promote development is to
get American banks to lend to foreigners, and as
long as we spread our risk, you know, they lend to
Brazil, they lend to Mexico, they lend to Chile,
there'd be a lot of diversity there.

(Laughter.)

MR. DARBY: Well, anyway, so that kind
of led to a bad test about government setting
standards for financial safety, and sort of now the
international standard, at least for the major
banks, the ones that are big enough to know what
they're doing -- and they may be a good proxy for at
least major utilities -- is you guys have to decide,
given the risk and given what you're investing in,
what's adequate capital. You have to show us your
risk model, how you're assessing how these risks are
correlated, and then we're going to audit how when
prices change in the markets when things happen, if
you will, the shocks. Was your risk model adequate?

And as long as your risk model seems to
be adequate and you're under that risk model
maintaining adequate capital there, I mean, there is
a standard in terms of how many sigmas you have to
be able to survive, but, you know, it's very audit
based. It's market based. It doesn't give you the incentive to, "Well, okay, here's the government's capital requirements. So how are we going to game them?" which is what the old system did. Basically you maximized your risk subject to these capital requirements, and there is always going to be some area where the government didn't see the risk. So that's where you put all your assets.

So now the financial institutions, at least the wholesale ones, are forced to adequately assess their risk, and that's what they're being judged on. A different role.

MR. GARBER: Ray.

MR. HIEBERT: There are two things that I think haven't been mentioned yet that probably ought to at least be mentioned that can be done, I think, on this whole problem of public confidence, and one is developing crisis management systems within institutions that will allow you to deal with the problems when they become public and when they rise.

And the second one is to develop early warning systems so that you track public confidence,
levels of public confidence, and can begin to do something when you see that people are losing confidence in your institution.

And I think both of those are roles that public relations can play for institutions.

MR. KRAMER: Can I just raise a question about that, Ray? Again, this is some sort of deviance, but do you think when you do things like that with organizations, is there a tendency for them to suffer from the very kinds of corruption you were talking about, language and stuff, where what ultimately ends up being the focus of concern is effective crisis management from the standpoint of spin control and identity protection and so forth and defensive kinds of responses, as opposed to really solving the problem?

And I'm just asking that as an empirical question. I don't know what the answer is, but I worry that these systems then get corrupted, and you have a situation where the focus is on protecting the institution.

MR. GARBER: I can kind of address that a little bit because we do a fair amount of crisis
communications work, preparedness, both after the fact and before the fact, and of course, the recommended way to do this thing is to get your ducks in a row ahead of time.

And in doing that it's much more of a careful analysis of what the requirements might be in order for you, while you are addressing the problem, to keep it from being more of a crisis than it actually is by the injection of this element that comes into play in a large situation that's represented by the media.

I mean, you know, the thing that oftentimes makes things the real crisis when, you know, the world gets involved is when the media comes in. I mean the media didn't do it, as Ray said earlier. I mean you had the problem. You spilled the oil or you released the gas or whatever it was that you did, and all of a sudden though the thing that really kind of tweaks you a little bit and your board of directors and everybody else is when all of a sudden it's on the front page of the morning paper.

And so every time we go into a company
ahead of time, as we try to get all of our clients to do if they'll listen to us is it's a matter of setting down your procedures about how you're going to insure that the correct, the accurate, the correct information is given out to the public in a timely fashion.

And the thing that you totally focus on preventing is what I might call the inadvertent release of misinformation. I mean, you know, the president of the company may be well versed in what the issue may be and have the big picture and be able to come out and articulate it, but what about the telephone operator, the receptionist who's the first person that the reporter is going to call for?

You know, the reporter calls and said, "Can I speak to Mr. So-and-so?"

"Well, he's busy right now."

And he says, "Well, what's going on around there?"

"Well, I don't know what's going on, but I can tell you there's a big fire out back here. You know, there are people running around, and I saw the ambulance coming."
MR. GARBER: And so a lot of the things that we do, you know, when you come in is, you know, yeah, we want to control it. We want everybody to know their role so that kind of thing doesn't happen, and we invariably find that companies feel after we go through a one-day crisis drill that they are just amazed at what they haven't prepared themselves for.

In other words, I mean, you know, where is the hazardous materials team if you need them, and if it's a food thing, you know, where are the FDA representative and the various other governmental agencies that you have to notify and keep informed?

Because all of these people are potential communicators and will be sought by the media to explain what's going on, and the critical thing is that what gets explained is no worse than what's going on. I mean, it's almost that simple.

And I would tell you that if we could ever get people just to kind of think through this beforehand so that when something happens, that
there is a team of knowledgeable operators that get together with the spokesperson in the war room, so to speak, to grasp the problem and keep the public informed while addressing the issue and keeping their employees informed and all of that kind of thing.

If you'll just go through those steps in a non-crisis situation, you're far ahead. I mean, in my view, it seldom gets to spin doctoring. I mean, it's far more basic than that, and I mean, we wouldn't suggest that one should come out and talk a half truth or an untruth because the fact is that, you know, in a crisis Norm Augustine, the outgoing Chairman, what did he say? Tell the truth and tell it fast.

MR. DARBY: Right.

MR. GARBER: You know, pretty darn good advice, but you've got to be sure that what goes out to the media, to the public, is, in fact, you know, what the situation is because I can assure you there are probably 15 different people that can corrupt the information that's released, and once it goes out remember all the newspapers -- we've talked a
bit about the media and I've kind of not said a lot about it -- but I don't think reporters inherently publish things that are untrue. But if you tell a reporter something, the reporter has the right to report what you said, and if what you said was wrong or if you're the telephone operator that really doesn't know and nobody has told you, "Oh, by the way, listen. Get somebody who does know," then the reporter is not to blame and he hasn't not done his job, or her, and they've not been dishonest.

Mr. Bies: Let me ask you go, to go on the incentive. Take the incentive argument. What's the incentive for the firms that are part of this critical infrastructure to engage in the civil defense preparedness training? I mean, how are we going to "incent" them to do this?

What you're talking about is the symbolic management, symbolic implications of whatever happened, but then there's the incentive how do you get them to try to address the technical problems of Joe. I mean how do you create incentives to do that unless there's failure?

Mr. Darby: Survival is the same?
MR. BIES: Yeah, but they don't see it in those terms. I mean, is everybody hiring your services or Hill & Knowlton or whoever the variation -- I mean, is very firm hiring crisis prepare -- I mean --

MR. GARBER: I wouldn't say every person is, but you know, some do, some don't, and there's not a particular type of firm that does or doesn't. It, again, oftentimes comes back to the issue of what's the cost and is a concern and we should spend the time, not just the money. It's the time because when we come into a firm, I mean, it may take two days to do a drill, and when you take the top management of a company and all the operators who may have a role to play and take them off the job for two days, that's a lot of money.

MR. BIES: Well, how does it become a priority on an agenda item for a firm in the critical infrastructure? Don't you need it for all the firms? You've got this interdependence. I'm just asking you. I don't know the answer.

MR. GARBER: Well, the simple answer to
your question is every firm in the country, to include governmental agencies, ought to have the crisis management and crisis communications plan. Every one should have that.

MR. BIES: But a government could mandate it or a government -- I'm trying to get to the sense of how do you get --

CHAIR CULNAN: I mean, one of the things that they will do, and Nancy ought to respond to this also since she's in the risk management business, but the sense we get is companies respond they will manage the risks they know about, and so one of the issues is: what's their risk model?

And if their risk model suggests to them something could happen and if it happens it's catastrophic and, you know, this probability, expected value, then they'll bring in Bill and his team, and then they'll say we need to manage this, and this is one way to do it, and it's worth the time and the money.

If they don't, if it doesn't fit into their risk model, they're not going to do it because it's a waste of money and time in their best
judgment, and they could be wrong. And so one of the issues for us is: do the companies, the infrastructure owners' risk models need to be updated? And does the government need to provide them information saying there are new risks and you should address them? And to maybe take the chain a little further, this is one way to address it. Maybe it's something.

But that's a good point.

MR. BIES: It's a bully pulpit.

CHAIR CULNAN: That's a good question. Yeah, or just it comes down to money. You know, what's the risk of this happening? What's it going to cost us if it happens? Measure those together, and if the risk is very low and the cost is very high, maybe it's not in our -- you know, maybe it doesn't make good sense as a business to do this or maybe it does, unless somebody comes in and says you have to do it because the risks are so great to the public good.

MS. WONG: Ultimately it comes down to what is important to the business.

Number one, to stay in business and
survive.

Number two, does it create a competitive advantage?

And, number there, is there a return for the investment you're going to make either in reduced costs because you may have to address the consequences of not paying attention to a threat, or that you're going to save money by doing that?

MS. ZUCKER: Part of the question is how do nonprofit or governmental organizations respond, and I'm wondering. I don't know the answer to this, but I'm wondering what universities did after all the revelations about Stanford and its fund management problems and what the reaction was to that in terms of actions, kind of preventative or clean-up, whatever, actions that other universities took to not be in the same situation.

It might be a way to understand how these risks are managed.

CHAIR CULNAN: How are we doing on time?

MR. GARBER: It's 20 to three.

Any other comments?

CHAIR CULNAN: We could go around.
MR. GARBER: Ray, is your sign up there or was that an old sign?

CHAIR CULNAN: Well, we could also go around, too.

MR. GARBER: Yeah, I was going to say -- yes, Nancy.

MS. WONG: I'd like to ask a question, and that is getting back to one of the original questions, and that was: what do you think of government's role in enhancing or supporting or maintaining public confidence? What do you think it can do or cannot do?

CHAIR CULNAN: Or should not do.

MS. WONG: Or should not do, as it relates to public confidence or trust, because what I'm hearing, what I've heard today is that there are things; there are actions that any organization can take to manage trust and to manage public confidence because your trust in something can survive or your trust or confidence can survive an incident if it has been properly developed and enhanced over time.

So given that understanding and that set of principles, what might the government's role be
as it relates to our critical infrastructures?

MR. HIEBERT: Upholding laws, and I think one of the laws that I think really ought to be upheld is the monopoly laws because the more we have monopolies -- and I think this does impact on public utilities which we've been talking about a lot today -- but rate structures and that sort of thing. I think government can play a real role in that sense.

But it seems to me it has to be legal. My experience in post-communist countries is that the heavier hand the government had, the less confidence people had in their institutions in general.

MR. TYLER: I think government itself has a problem, and that's something we've discussed throughout this. I mean, in a sense, government needs to get its own credibility in order before it can act as an honest broker in these other situations, and so I think that's one obvious thing for government to do, is to create and enhance its own legitimacy, and once it's done that, then it's in a position to act more like a referee or an
honest broker in these efforts to manage business.

MR. LEWICKI: Yeah, I guess I'm compelled to say what whoever said it, this is trust in a particular individual as opposed to trust in the systems. I think that was very accurate, which means in part, to the extent that you want to do that, some individuals representing government are probably better than the government speaking as a faceless bureaucracy so to speak.

I mean, you know, sort of finding your most trustworthy spokesperson may be one of the more critical things you can do rather than trying to get the institutions themselves to broadly try to manage or moderate that.

But I mean I was stuck on the question because I don't trust government. So if you can what can government do, then I would say, you know, stay out of it. At some point the less they tried to do without enhancing their own trust first, the better the impact they would have.

MR. BIES: But even with the current government structure, isn't the intelligence that can be gathered and shared, to share with
corporations, to highlight potential -- I mean there's -- you could say just government should do its job better, what's all on the books, but there's some intelligence things. How would corporations know unless they have their own intelligence?

So government could play that role of information.

MR. GARBER: It's probably a two-way street, don't you think?

MR. BIES: Yeah, probably.

MS. ZUCKER: I was going to say I wonder if government isn't behind right now on intelligence. My guess would be that right now industry is ahead of government because of the changing nature of the risk and who's involved in espionage activities. Just a guess.

MR. MOORCONES: I would just disagree about it.

(Laughter.)

MR. GARBER: Well, listen. Let me suggest as a close, let's just kind of go around starting with David there, and if you have any closing thoughts, wisdom, comments to share with the
group, things you've been waiting to say all day that you haven't gotten a chance to say, let's kind of hit that, and then I'll call on Mary to kind of close the session.

MR. GEDDES: I'll put in a word or two.

Talking at the break, and this reiterates just what Nancy said a moment ago about what are businesses really interested in in the private sector is they look at how to keep customers, retain customers, maintain competitive advantage, and have a long-term revenue stream to keep in business.

Companies also -- I believe there's probably a vast amount of information, probably at a slightly more micro level than we're talking about today -- that private businesses do know. They don't use the word "trust," but it is very linked to this on what they can do to build relationships.

It should be a vast amount of information to tap into and coordinate, if they can be properly accessed, but the real dilemma that we face is what about things that require a little more communication and coordination and facilitation that
we don't get because companies are focused on their own business success and not looking at areas where they interact and interface.

And this is a very big dilemma because the critical infrastructures we've all listed are either still regulated in the midst of deregulation or have been relatively recently deregulated, and in the deregulated areas we know there are problems. In the regulated areas, we sure know there are problems, and there's got to be a better solution to it all.

MR. McALLISTER: My mind is spinning, and I don't know that I can cogently put things together, but one strong sentiment or feeling that I have coming from this is the distinction between managing the impressions of trust and managing the substance of trustworthiness, which underscores that from the difficulty of maintaining that impression, if the substance isn't there.

And I guess the concern is that we move our thinking from the question of how do we maintain the presentation and the spin of trustworthiness to how do we minimize the disappointments which are
sure to stay with us much longer than the candy coating that covers copying with the disappointment that in the short run took place.

Those are my thoughts.

MR. KRAMER: Actually I don't think I have any. My head is spinning probably, too, and I don't think I have any specific observations other than to thank Mary and Bill and Joe and everyone else for organizing this. This really is a terrifically, enlightening, sort of interesting discussion. I really enjoyed it, especially as an academic thinking about trust in one perspective. It's really great to hear other perspectives and also think about the real world which is out there occasionally.

MR. LEWICKI: I would just add to Rod I have lots of different thoughts. I think one of the things that struck me, too, and it sort of picks up a little bit on what Dan said, and that is that I'm still trying to struggle with trusting the institutions, the structure itself, versus trusting all of the mediating institutions and vehicles that communicate and manipulate or spin, or whatever the
right word is, that trust, and it's so easy to
displace the second one on top of the first one, and
I think it's going to be really hard to try to part,
but important, to untangle and try to make some
sense out of it.

I'm going to have to run. Thank you.

MR. TRIPP: In the surveys that you're
going to do, I guess one of the components that
would be really important to do is just sort of
measure people's expectations of what it is that
they want from particular infrastructures, what they
predict, and what they think should be there, and at
the same time measure their knowledge of the
particular infrastructure, going back to an earlier
comment, and there'll probably be some research
coming out on this, that people may have strong
public opinions but know absolutely nothing about
the topic, and so studies that measure what the
opinions are and then also test them on knowledge of
various things often fail the knowledge tests. So
you qualify their results somehow.

CHAIR CULNAN: There was a related study
about problems in public opinion surveys that
measure people's concern, and if you just ask people, people are concerned about everything, and they actually put in a public health problem that didn't exist, and people were just -- whatever this made up thing was, people were incredibly concerned, and so the idea is you not only have to ask them have they heard anything about it, are they concerned about; if they're concerned, how concerned they are. So that's an important point.

Thanks, Tom.

MR. TRIPP: Thanks.

MR. GARBER: Betsy.

MS. HARRISON: One of the ideas that I remember well, and I think may be useful for us, is your point about small wins. I think the government hopefully can achieve some of those with some of the ideas we're considering now. Among them are certainly sharing information, the values in education and training and the areas we're looking into.

And then as sort of a counterpoint to that, I remember very early in my time at the Commission after this whole situation that we're
studying and looking into was presented to him, the staff director of a major committee said, "Well, we'll just have to wait for a couple of blackouts, a few bad events, and then we'll react to it." He said, "We aren't going to do anything before then."

Congress is basically a reactive institution, as I think we all know, and that's the usual cynical response, but I think there are probably good, preventive things that government can do, and that's what we're trying to achieve.

MS. BANKER: I think just building on that point about small wins, I think the advice that the group's giving about the government kind of cleaning up its own act and the public perception as a first step is good advice, and I just thank the group for coming together and talking about this issue.

MS. WONG: And I want to thank all of the people, everyone here. It's been a very enlightening and thought provoking session. I feel it's also been extremely productive.

As some of you have noticed, I've taken reams of notes, and it's generated a lot of thoughts
on my part in terms of risks and how we're going to manage it, what the possibilities are, and what we can't do about it, which is, I think, more practical.

So I thank you all.

MR. TYLER: Well, I would just join Rod in thanking all of you. I think we also learned a lot. This was a very interesting discussion.

MR. MITCHELL: I think one of the very things that we will see come out of today, out of our observations, is to energize the academic community and perhaps even the private sector and government around these issues and open up fertile new areas of research, and for that reason I was really looking forward to addressing the last question on our list today, which is if we were chairs of this Commission, what research questions would we like to see addressed, understanding that the Commission would only be able to address a finite number of them.

But let me tell you about one of the ways in which I came upon issues of public trust and confidence with respect to infrastructure is by
virtue of my own background as a computer crime prosecutor, computer crime, someone who engages in computer crime investigations.

My own experience has been that computer crime, unauthorized computer intrusions, computer related crime, seems qualitatively different from other types of crime because of an extreme reluctance of victims to report and to enlist assistance of the government.

And it led me to ask: well, why is that? Can we imagine a world where, say, a large percentage, if not a majority, of victims of violent crime wouldn't come to report those criminal incidents to the government?

And what I'm coming around to, and this will perhaps invigorate some criminology research out there is that maybe public trust and confidence serves in sort of a pivotal role in making those types of determinations.

I can envision, for example, where the private sector, a victim of a computer related offense, would say that, on one hand, there are expectations placed upon them, expectations to
participate as a good citizen in criminal investigation, expectations to find who the bad buys are and who is doing damage to the business, and, on the other hand, there are a whole set of dangers associated with reporting criminal violations, criminal penetrations of computer systems, dangers relating to having to air vulnerabilities, having to alert the public to the possibility of vulnerabilities, and the resultant loss of public trust and confidence that could result from those disclosures.

And so in a sense there is a calculus there that I think is really deserving of some further study, and I would certainly look forward to seeing some of that work done.

MR. DARBY: That sounds very interesting.

I was very pleased to be here. There was certainly free trade in ideas. I hope that on my part at least there was some fair trade.

MS. ZUCKER: This is my favorite topic for a Presidential Commission.

MR. HIEBERT: I think blind trust or
absolute trust in our public institutions is not
good for democracy. I think healthy skepticism is.
The problem occurs when skepticism becomes cynicism
and people stop acting and stop believing.
And so I hope that out of this kind of
Commission effort we will not discourage skepticism,
but find ways to prevent cynicism.

MR. BIES: To build on that, two things.
The Russian proverb that Reagan translated when
Gorbachev came here: trust, but verify. A certain
skeptical attitude is held, which is what
universities should do, is encourage skepticism, not
cynicism, before you make decisions to take action.
The second thing, with all of this
discussion about risk and probability, I'm still
unsatisfied for this reason. I mean, who's going to
be looking out for me? Okay?

With that aside, it's an interesting
discussion. The thing that government can do and
ought to think about is when the outcome does occur,
where there's some critical infrastructure failure,
and there will be because the mean time between
surprises and the expected time between surprises is
going to get smaller and smaller and crazier and
crazier; government's role is part of the clean-up.

So there has to be some sort of FEMA
equivalent or maybe it will be under FEMA to sort of
pick up. I mean government has got to do that. I
mean, are the corporations going to pick that up? I
think government can play a role when the outcome
occurs.

MR. MOORCONES: I thank everybody who
came. I certainly learned a lot, and after thinking
about my response to Lynne saying I don't agree with
you, maybe since this was focused on public
confidence and trust, probably what I should have
said: well, if that is the case, then it seems that
we should be having a loss of public confidence in
the government's ability to understand what's
happening in the world, and that is something it is
supposed to do to protect us, and we should mold,
okay, the public through either getting its
confidence to drop or its trust, to motivate the
government to get back in front.

So thank you for your observations.

CHAIR CULNAN: Bill, do you have any
parting shots?

MR. GARBER: Oh, gee, no. It's just been great fun, and obviously my focus is on less the sociology and the psychology of it and more on the what do you do about it either before you have the problem or afterwards from the standpoint of the media.

But it's very enlightening to me because a number of the things that have been discussed in terms of why things happen and why the particular thing that we heard about people remembering bad news, not that it's necessarily more bad news in the paper, but the fact is that there's an actual scientific reason why we remember bad news rather than good news I found very interesting and something I'll use also.

CHAIR CULNAN: I want to thank you all again for coming. We really appreciated this. I learned a lot today, plus it was just a real treat to spend the day not only with my colleagues from the Commission, who I see very day, but also with my academic colleagues whose research I read, and to see you all face to face has been terrific.
Now that you know more about what we're up to, if you have papers, other things that you have written, you've got my address and my E-mail. Please send them to me. We will read them. We will add them to our archive. We will be really pleased to have whatever you can send our way.

Steve talked a little bit about outreach, and again, that was another purpose of having this workshop. We hope this will perhaps spur some research in infrastructure issues, trust, confidence, whatever you want to do, and that maybe you'll go back and talk to your colleagues about what we're doing here in Washington and get some of them interested.

And then finally just on a personal note, I mean, this is a tremendous opportunity for me. It fell out of the sky to do this, and I would just encourage any of the academics who have a chance to do something like this, you should seize it and do whatever it takes to make it happen for yourself because there's nothing like it.

So thank you all, and I'll let you know when the transcript is up so you can check the Web
and see how we misrepresented your views.

MR. GARBER: And although we didn't go
into them in any depth, also I thank all of you who
sent forward the papers ahead of time, and we hope
that you will take the grouping of them back and
perhaps peruse them on your flight back or your ride
back or whatever the case may be, but they were a
great help and will be absolutely an official part
of this proceeding.

CHAIR CULNAN: Yes. Thank you.

And thank you also to Fleishman-Hillard
for the arrangements for this. I think we had a
terrific day and everybody appreciated the food and
the conviviality and your moderating skills, Bill.

MR. GARBER: My pleasure.

CHAIR CULNAN: And Kristin.

(Whereupon, at 3:00 p.m., the workshop
was concluded.)