FEDERAL TRADE COMMISSION

DEPARTMENT OF JUSTICE ANTITRUST DIVISION

ROUNDTABLE

COMPETITION, ECONOMIC, AND BUSINESS PERSPECTIVES ON SUBSTANTIVE PATENT LAW ISSUES: NON-OBVIOUSNESS AND OTHER PATENTABILITY CRITERIA

Wednesday, October 30, 2002

10:00 a.m. to 4:30 p.m.

Federal Trade Commission

600 Pennsylvania Avenue, N.W.

Room 432

Washington, D.C.

For The Record, Inc.
Waldorf, Maryland
(301) 870-8025

P R O C E E D I N G S

- - - - -

MR. WILLIAM COHEN: Good morning. Welcome to today's panel on Competition, Economic, and Business Perspectives on Substantive Law Issues. My name is Bill Cohen, and I'm an Assistant General Counsel here at the Federal Trade Commission, and to my left is Susan DeSanti. She's the Deputy General Counsel for Policy Studies. To my right is Hillary Greene, the Project Director for Intellectual Property.

The hearing groups we began back in February have now nearly come to their close. Today is the last day directly focused on patent issues, and the hearings will end with one more roundtable on November the 6th. The Department of Justice will not be participating in today's session of the Joint Hearings on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy. The Department will resume its participation in these hearings at the November 6th session.

Today's session will use the roundtable format. We will spend our time entirely in discussion without formal presentations. We're fortunate to have a truly outstanding set of panelists who are willing to share their insights with us. Full biographies are available

in a booklet on the table out in front of the room. What I'd like to do is just hit a few of the highlights for each of you. I'll try to do this alphabetically.

Mark Banner -- right there, okay -- concentrates on litigation of patent, trademark and copyright cases at the law firm of Banner & Witcoff. He is Chairman of the American Bar Association's Intellectual Property Law Section.

Robert Barr, right here, two seats down from Mr. Banner is the Vice President for Intellectual Property and Worldwide Patent Counsel for Cisco Systems in San Jose, California, where he's responsible for all patent prosecution, licensing and litigation. He started Cisco's patent program in 1994 and has since built a portfolio of over 700 issued patents.

Margaret Boulware is a Shareholder in Jenkins & Gilchrist in Houston, Texas. Her intellectual property practice includes patents with an emphasis in chemistry and biotechnology. She also has expertise in trademark, copyright and licensing matters, particularly in internet and e-commerce areas. She was appointed by the Secretary of Commerce to serve as the Chair of the Patent Public Advisory Committee, and she is participating today on behalf of the American Intellectual Property Law Association.

Wesley Cohen at the far end here has just joined the faculty of the Fuqua School of Business, Duke University, as Professor of Economics and Management after teaching at Carnegie Melon University for 20 years. He is also a Research Associate of the National Bureau of Economic Research. Professor Cohen's research has mainly focused on the economic and technological change in research and development.

John Duffy is an Associate Professor of Law at the William & Mary School of law. He teaches and writes in the fields of patents and administrative law. He is a registered patent attorney and the co-author, with Robert Merges, of a case book on patent law. Am I correct, he's full professor? You have had a number of promotions during the course of these long hearings.

Brian Kahin directs the Center for Information Policy at the University of Maryland. He's a Visiting Professor in the College of Information Studies with affiliate faculty appointments in the School of Public Affairs and the R. A. Smith School of Business.

Edmund Kitch, on this side, is the Joseph M. Hartfield Professor of Law at the University of Virginia School of Law. His scholarly and teaching interests include agencies, corporations, securities, antitrust, industrial and intellectual property,

economic regulation and legal and economic history, and he has written some seminal articles regarding the patent system.

Steve Merrill has been Executive Director of the National Academy's Board on Science, Technology and Economic Policy, the STEP Board, since its formation in 1991. They have the sponsorship of a growing number of federal government agencies, foundations, multinational corporations in various sectors and international institutions. He has developed the STEP program into an important discussion forum and authoritative voice on technology, research and development and other microeconomic policies.

Gerald Mossinghoff is a former Assistant Secretary of Commerce and Commissioner of Patents and Trademarks and the former President of the Pharmaceutical Research and Manufacturers of America. He has served as United States Ambassador to the Diplomatic Conference on Revision of the Paris Convention and as Chairman of the General Assembly of the United Nations World Intellectual Property Organization. He is now Senior Counsel to Oblon, Spivak, McClelland, Maier & Neustadt, and also serves as a Visiting Professor of intellectual property at the George Washington University Law School.

Ron Myrick, back on this side, is the Chief Intellectual Property Counsel for General Electric and the President of Monogram Licensing, Inc. He is also the President-Elect of the American Intellectual Property Law Association and the Immediate Past President of the Intellectual Property Owners Association.

James Pooley is a Partner at Milbank, Tweed, Hadley & McCloy's intellectual property group in the Palo Alto office. Mr. Pooley specializes in the litigation and trial of patents, trade secret and complex technology-related litigation in state and federal courts and before the International Trade Commission.

And Robert Stoner is a Vice President of Economists Inc. and a former Deputy Assistant Director for Antitrust in the Bureau of Economics at the FTC. He has testified in a number of antitrust cases and before a variety of governmental agencies, and in particular, has recently submitted testimony in an ITC Section 337 proceeding involving patent licensing.

Many of our panelists are good enough to join us for a second and in some instances even a third time, I think. We're very, very grateful to have such an outstanding panel.

Last week we had a roundtable to address some of the competitive issues raised by patent quality and the procedures employed in prosecuting and litigating patents. Today we're going to shift our emphasis over to the implications for competition and innovation of substantive patent doctrines. We will address four topics, roughly two in the morning and two in the afternoon, though we will break between noon and 2:00.

We will begin with some discussion of the goals that underlie the patent system and the extent to which consideration of those goals works its way into the questions of substantive patent policy.

Then we will turn to non-obviousness, the doctrines that some of our panelists have described as the heart of the patent system. We will address some of the issues that go to the theory of non-obviousness and then some of the more practical issues being raised in today's prosecution and litigation regarding those doctrines.

In the afternoon, we will turn to doctrines that focus directly on patent breadth. I expect some discussion of enablement, written descriptions and best mode, as well as the claim-broadening potential associated with the use of continuations. And finally, we will end with a discussion of patenting in the

context of research and research tools, trying to identify any special considerations that might contribute to our understanding of competitive implications.

During the day, Hillary and I will have some questions for you to guide the discussion. When you would like to speak, let me ask that you tilt your name tent up on its side so that we know you would like to be recognized, and then we will recognize you. With that, let's begin with our first topic.

We are going to start by discussing economic goals, and I guess the first question is a setup question to get a broad view. What are the goals of the patent system? To what extent do the courts and the PTO, when considering policy choices, consider the likely impact on innovation or economic welfare? Or stated a little differently, what role does economic analysis play in the patent system?

Does anybody want to start us off? Bob?

MR. STONER: Yeah, just by way of background, I'd like to say that I don't really think you can look at this effect of the patent system on welfare and innovation in a vacuum and that it's very important not only to look at the direct effects of the patent system on innovation through helping appropriability or

through disclosure, but also to look at the feedback effect, that the patent system and given appropriability also has implications for market structure, for affecting ease of entry or potentially erecting entry barriers, those effects, the market structure and ease of entry, feedback on innovation.

So, one has to take account both of these direct effects of the patent system on innovation and the indirect effects through market structure and ease of entry, in trying to analyze the overall welfare effects of the patent system.

MR. WILLIAM COHEN: Gerry?

MR. MOSSINGHOFF: I would say that I believe economic goals are important to look at, particularly for the Federal Trade Commission, to look at economic goals, but everyone should recognize that that's a very low level view of what the patent system does. The economic goals are just a minor part of the goals of the patent system. Despite the progress we've made, people are still very hungry: they don't have sufficient food, they still have diseases that can be cured, there are diseases that cannot be cured. Our whole quality of life, whole quality of human progress, in my opinion depends on incentives such as those provided by the patent system, and economic goals are a

part of it and probably an important part of it, but certainly not the overriding part. The overriding part is human progress, and I believe the patent system has served very, very well in harnessing human creativity to achieve human progress. And that should be the view at 35,000 feet.

My second comment on your comment would be that, when you talk about does the U.S. PTO and do the courts keep these economic goals in mind when they work in the patent system, I would submit that the main policy maker in the patent system is neither the U.S. PTO nor the courts, it's the United States Congress. And they're the ones who I think have kept these goals very clearly in mind in their enactment of the patent system in 1790 on through the current changes that are being made to the patent system.

So, I'm a conservative -- known to be a conservative -- but I don't think administrative bodies spend a lot of time worrying about broad policies. They're there to effect, as effectively as possible, the policies that have been established for them by the United States Congress.

MR. WILLIAM COHEN: Wes?

DR. WESLEY COHEN: A couple of reactions to Gerry's suggestions.

One, I don't think we should become confused semantically, okay? I would agree that the goal for the patent system is indeed human progress. Taking the position of an economist, I would say that economists would claim that those are economic goals. So, to the extent, you know, that those are reflected in social welfare, economists are concerned with social welfare. So, I don't think there's the kind of divide that you suggest between economic goals and the goals of progress and innovation.

As an economist, I've been preoccupied for almost a couple of decades with innovation. I see that, you know, and indeed other economists see that as the main source of growth in social welfare over time.

The second more specific point, does the U.S. PTO and do the courts keep these goals in mind? And Gerry's suggestion that, well, perhaps less so, but it's really Congress that you need to worry about and the nature of the legislation, statutes and their conception, indeed, we so see the goals of science and technical advance clearly articulated in the Constitution itself. And I think that's what you were referring to.

I have a question, though. Let's put aside, so we don't kind of worry about this semantic divide, the

economic goals, but just the goal of innovation, of progress, if you will. And I have a question to the panel. In the course of the work of the National Academy's Committee on Intellectual Property Rights in a Knowledge-Based Economy, in which I've participated, something rather striking has come up, which is that the courts, in particular, and to some extent even the U.S. PTO, but particularly the courts, do not seem to see as their first order mission when they think about cases and decisions to consider, the implications of those decisions for progress, for innovation, in a forward-looking way.

That's just my broad impression, and I'd be curious if that's a misimpression and if others have complementary or other views, and if that's not the case, is that a sensible situation? Is that the situation that could even be remedied given our current institutional setting?

MR. WILLIAM COHEN: Let's try Jim Pooley. We have broadened the question slightly, and that's where I was heading. There are really two separate questions here. To what extent are these considerations currently being taken into account? And to what extent should they be taken into account? Maybe any thoughts on either of them.

MR. POOLEY: Yeah, well, you know, I also have spent a great deal of time with Wes and the work of the National Academy's Committee. And, I suppose as a practitioner, it hasn't struck me as that unusual to observe that the courts and especially the PTO don't consider it a central part of their mission to resolve questions of economics in the way that the questions of economics have been designed here.

Certainly it seems to me that the courts recognize, and we can find evidence of that in many of the reported opinions, that there's a certain tension that exists between the grant of intellectual property rights, and patents in particular on the one hand, and certain other broadly stated economic notions of monopolies and so forth on the other.

But beyond that, it seems that certainly the PTO, whose primary job it is to enforce the law as written by Congress, where I agree with Gerry, that the real balancing of economic issues and the outcomes of the various standards is done, the PTO's job is to take those standards and apply them with their expertise. And their expertise is not in observing and formulating, you know, economic policy, it's in determining whether a purported invention meets the standards of the patent statute. And I think the

structure and mission of the PTO doesn't properly include economic issues of the sort that we've been talking about here. I think the same might be said for most of the trial court determinations.

Now, at the Federal Circuit level, there probably is a lot more room for input on economic issues. I know that there have been some judges that have expressed, you know, an interest or even some frustration in not getting more information in briefing, but they have to take the cases the way that they are presented to them. And, there is the other issue of how one, if you think it's a good idea that judges of the Federal Circuit take into account these kinds of issues, how you get it in front of them and how you get a broad enough array of opinions to make it useful and perhaps not dangerous.

So, I think if we're thinking about interjecting these kinds of economic issues in the way that they've been defined here into the system, we have to tread very, very carefully. And, keep in mind that the job of the PTO and the job of the courts is pretty focused and probably ought to be pretty focused.

MR. WILLIAM COHEN: I see Mark's sign is up.

MR. BANNER: Actually, Jim just said a lot of what I would have said. I remind you of the rule

change that took place some years ago in baseball where the home plate umpire would make a call of a strike or a ball, but in certain circumstances, when the batter went around, to a certain degree, there could be an appeal over to the first base umpire to see if that's a strike or a ball. Those people do what they're told to do, what the rules are given to them. And I think in this context, the rules that have been articulated are rules articulated by the Congress.

The Constitution, as Gerry said, says that Congress may provide exclusive rights in order to promote progress in the useful arts. It doesn't have to; it may. It chose to many years ago, and it said, here are the rules.

I don't see it unusual to see Congress set the rules and the agency and the PTO try to apply the rules and the courts try to apply the rules. I agree with Jim's observation that some Federal Circuit judges want to see more emphasis on and explanation of the economic impact, and I think that they might take that into consideration should they get that. But ultimately, I think even the Federal Circuit and even the judges that clamor for that the most will come back to the statutory standards of patentability. And if there's fixes to be made, that's where the fixes are, down the

hall at Congress, not up in the Federal Circuit, certainly not in the trial court, and most definitely not at the Patent & Trademark Office.

One brief comment about the semantic divide, I tend to agree with Professor Cohen that the difference between focusing on progress in the useful arts and economic welfare are often very congruent. Going at a heading of 360 and a heading of 355 degrees is often very congruent, especially at the beginning. But, I think we need to keep our eye on the actual rules and the actual goal and the actual terminology of the Constitution, and that is progress in the useful arts, which might occasionally be disparate from economic goals. But, as long as you keep your eye on the ball, I think by and large, they will be congruent, but there may be points of disparity.

MR. WILLIAM COHEN: When there are such points, can the economic goals be taken into account?

MR. BANNER: Well, ultimately I think what you take into account, if you're talking about what the Patent Office does and what the courts do, I think the things they take into account are the things that Congress said to take into account, the standards of patentability, and only in very minor ways do they include economic goals and progress. This is to

promote progress issues.

There are ways in which, you know, it is inherent that it's intended to promote progress, and it is inherent that it is intended to intend economic welfare for the nation, which presumably will also provide welfare to consumers, as well as to industry. But, I think generally you take into account what the Congress says you will take into account.

MR. WILLIAM COHEN: Let me just add, for some reason our stenographer does not seem to have arrived -- is coming soon. The session is being taped, and we will prepare the transcript based on the taping until the stenographer is here.

MS. GREENE: No, she is here and transcribing, but from outside.

MR. WILLIAM COHEN: Oh, from outside, okay, okay.

Hillary, do you have a question?

MS. GREENE: I'm just curious the extent to which the economic analysis -- this is for Mark -- whether or not economic analysis could be used to inform the ways in which those noneconomic goals are achieved. Is it instrumental to achieve the end, as opposed to defining the endpoint?

MR. BANNER: I think in some ways it is, and I

think in some ways -- and I note one of the topics is obviousness -- economic analysis is part and parcel of the equation that currently exists in patentability and validity of an issued patent. And, in those areas, in particular, I think the law is not particularly well developed. Perhaps we will get to that later on, but particularly as it comes to the nexus requirement of commercial success and so forth, I think there's a lot of room to grow and analysis there.

Obviously you have economic analysis and economic goals, when you make substantive decisions about what are the appropriate measures of damages for a patent case. Even under the statutory standards, there's an awful lot of flexibility in the way those are being applied. I know that's not part of our topic, but I think the economic analysis of those issues has been woefully neglected by the courts and by litigants. But ultimately, I think there are lots of analytical tools, including economic goals, that go into figuring out things, such as, is the patent system the way we want it?

When we talk about progress in the useful arts, economic analysis goes into it, and do we want to change it? Do we think it serves its goal? Clearly economic analysis plays a part in that.

MR. WILLIAM COHEN: Brian Kahin has had his sign up for some time and has been patient.

MR. KAHIN: I would caution against putting too much credence in congressional intent here. If we go back and read Judge Rich's own account of the Patent Act of 1952, we find out that Congress didn't really do much of anything except to put its trust into the patent lawyers that were drafting the Act. And, it's quite remarkable, given his perspective on that, how we got a decision like State Street out of the 1952 Act.

I want to say more generally that the reason we don't have an economic framework is because it's pretty hard to connect the kinds of very focused processes or particularity-oriented decision-making that goes on in the legal system with the macro perspective that one would want to be able to answer the question: doesn't the patent system, in fact, contribute to progress in science and the useful arts? And what could be done to make it contribute more positively?

I think there's not only a lack of framework here, as we discussed before, that the Patent Office does not employ, but the only time it has employed economists is to get a sense of its own labor needs out into the future. But I think it's worse than this, that there's a fundamental hostility to research, and

we see this in the disappearance of the study of business method patents from the American Inventors Protection Act. You simply can't see any realistic engagement from Congress or the PTO in any sort of economic framework.

Just to pick on Meg here, since you're close enough to defend yourself, in last year's report of the Patent Public Advisory Committee, they came out with this remarkable statement, that conservative economic estimates say that two-thirds of the value of America's corporations is in intellectual property. Now, that was a misstatement. It should have said intellectual capital, not intellectual property. Intellectual property is a particular subset of intellectual capital, but the fact that that statement could be made, when presumably the committee had at its resources a staff from the Patent Office to check these -- and this was an undocumented statement -- is pretty exemplary of the problem.

MR. WILLIAM COHEN: Ronald Myrick.

MR. MYRICK: Thank you, and just a comment, initially I'm here in my capacity personally, not for General Electric nor for the AIPLA. We have other representatives here.

The question of goals for the system and who's

supposed to take these into account is an interesting one, because goals itself is something that remains relatively unarticulated. What is the goal of the patent system? We say it's progress, and I think that's exactly correct, because the Constitution mandates that.

Does that progress reflect itself in all economic areas or does it reflect itself in improving health care? It reflects itself, I think, in the overall enhancement of the economy for the entire public of the United States. And when you make it that broad, you're dealing with some pretty amorphous things.

That brings us, then, to who handles amorphous decisions in the United States? Is it the PTO? Well, to some degree, but not at that level. Is it the FTC? To some degree, but again, not at that level. Is it with the DOJ? Again, to some degree, but not at that level. It's the Congress.

Now, I've heard some remarks about the ineptitude -- pardon me, I shouldn't say it that way -- the lack of the Congress' focus on exactly what it is doing with this. Well, I personally question whether that's really correct. Having been involved, as all of us have I think around this room, in trying to get

legislation through the Congress, which takes years, none of it goes too easily. It takes years because the Congress, I think earnestly, generally speaking, tries, in my opinion, to deal with the conflicting viewpoints of so many people in the population.

The AIPA, which is the most recent I think signed enactment -- there are more that I think may be signed soon, I hope they will be signed soon -- was a struggle that was amended time and time and time again during its process because of the efforts, earnest efforts, on the part of the Congress to handle the conflicting interests it was being presented with. So, to say that it doesn't take into account all that should be taken into account I think is just flat wrong.

The reality is in the last 20 years or so, the Congress has amended the patent statute seven times to increase the exclusivity of the right. Now, did they do that because they were misinformed all of those times? I don't think so.

Now, if you ask who should take policy into account, I think we can't dismiss the courts, because the courts do. The Supreme Court certainly does. But it's also the district courts. When they fashion equitable relief and they weigh the balances and so

forth -- we saw it in the Cellpro case, which was testified to earlier in these hearings -- they do fashion based upon some consideration of policy goals and so on.

Admittedly, however, they are in a situation where they are supposed to be focusing on the interests of the specific parties, so they shouldn't go too far with that. But, I think they do, in fact, take those interests into account.

Should the PTO take policy interests into account? Admittedly, they have to administer the law that they're given, but at the same time, the PTO is an advocate for change. Right now, the PTO is engaged in a mighty effort to change the system. And what has the Bar has been telling the PTO? The Bar has been telling the PTO, as you consider these changes that you're focusing on, that you've made, some of them quite radical and some of them quite substantial changes, make sure that they're good for the entire economy, not just for those people who get patents, but also those who face them, and you, PTO, are the major proponent behind these changes, so you need to make sure that what you're doing is good for the system, not just for patent users, not for patent owners who acquire patents.

So, who do I think should make all these determinations? Yes, I think that all of these players, in their respective areas of relevance, should be making policy-like decisions, but the fundamental policy rests with the Congress.

Now, the question I would have is this: who is it that is smart enough to make all these judgments? Well, I think the Congress works -- and pardon me for borrowing something from economics about which I know so little, my apology -- but I think it works on an invisible-hand type of theory, that it makes lots of assumptions that overall, in the main, if they make these changes to the law or if they establish a law, as it stands today, and in the main the economy will, by virtue of probably the law of large numbers, letting all these things happen, letting the system work and run, it will work itself out and improve over time.

The fact is, the innovation economy of the United States is quite healthy, healthier than any other in the world. How do you attribute that? To what do you attribute that? Is it attributable totally to the patent system? Certainly not. But what was the function of the patent system in the first place? It was to not incentivise the behavior of invention, that is going to happen. It was to incentivise the

disclosure of those inventions in a way that provides a return on the investment in the first place.

I think that's exactly what has been missed in many of the testimonies I've read and that have appeared before this group. The focus on a disclosure and on making sure that the public knows these inventions and what's in them -- we will get to some of them later on today when we talk about the sufficiency of this -- but that's really what the patent system is all about. And, we do that by getting people to make all these disclosures and spend all this money on patent applications by giving them some hope of a reward.

There's certainly no guarantee of that reward. How many patents actually ultimately produce the significant reward that the inventors hope for when they file and spend the money on it? I don't know, but I don't think it's 100 percent. I think it's somewhat less.

MR. WILLIAM COHEN: Okay, I am going to go to Meg and Bob Barr. Before doing that, let me throw out one more aspect of this, which I don't know if you're going to want to address, but some people at the table may.

To the degree that we do get into consideration

of policy goals here, how should they be articulated? Is it the advance in innovation? Is it something broader than that which takes into account potential market effects, something such as economic welfare? If it's economic welfare, is it total social welfare or is it consumer welfare, that is consumer surplus alone? That's on the table as well.

Let's go to Meg, because I know we had an issue raised that went in your direction.

MS. BOULWARE: It sure did, and I'm happy to respond to it.

First of all, I want to just mention that I was president of the AIPLA when the AIPA was going through Congress, and I want to echo some of the comments that have been placed on the table. One of the things that some of us found frustrating but, in the long run is the best thing for the system, is during the AIPA, there was no group that was not listened to, and I'm talking about small inventors, universities, large corporations, small corporations. And I am certainly not going to tread into the economic arena, but I can tell you from my personal experience of spending many, many hours working on the AIPA that the Congress, that I believe is the proper body to forge our policy, certainly had input from every source imaginable. And

I think that's the right way to do it.

Now, the other thing I'd like to say is that one of the things that the AIPA did was, for the Patent Public Advisory Committee, we are mandated to have 25 percent of our membership representing small inventors, universities and not-for-profits, which we do, and we have some very good representatives. And I just want to tell Professor Kahin they all signed off on the report, not just me, and we had consensus on the report. So, we thought, at least from our perspective, whether you want to call it intellectual property or intellectual capital, that it certainly is a substantial part of the innovation that we see in the business today.

So, I just wanted to be able to have an opportunity to respond.

MR. WILLIAM COHEN: Bob Barr has been waiting patiently.

MR. BARR: Thank you.

From where I sit inside a high-tech company that is also sometimes referred to as a bellwether of the economy, it's all about economics, certainly all about money. There are many levels of economics, and I am not trained in economics. I have learned a lot from these hearings and the STEP hearings about economics.

The only economic work I ever did was in something called discrete choice analysis. So the way I view it -- and I want to make sure it's on the table, I think it has been, but I want to keep it there -- is that an innovator, an inventor faces two issues: can I get a patent? And am I infringing anyone else's patent?

They are both economic issues, I think, but the second one is a huge economic issue. The first one is unfortunately really easy to answer. Yeah. And the second one is almost impossible, and I want to make sure that as we proceed we keep that in mind. When we look at obviousness and disclosure issues and scope of claims, it's a good chance to talk about those things. But, the risk management issues, economic issues involved in determining whether an innovator has freedom to innovate and to know the consequences of that innovation in an economic sense are a major problem.

MR. WILLIAM COHEN: How about Professor Cohen?

DR. WESLEY COHEN: A couple of reflections on the prior points.

One -- and I think your follow-up question, Bill, gets to this -- is how should policy goals be articulated? Is it innovation, the economics

associated with innovation, or is it more broadly social welfare, including in particular consumer welfare?

While I suggested, as Mark indicated, that innovation and notions of economic goals are congruent, there are places at least that the literature would suggest -- although I think the literature draws the line historically too sharply -- that there may be domains where those goals are not congruent. That is, the goal of innovation and the goal of social welfare, particularly consumer welfare, in that you have what's in the literature referred to as the Schumpeterian trade-off, essentially the notion that you need large monopolistic firms to innovate -- and we can all disagree with that and I disagree with that -- but there are elements of truth buried in there. At the same time, then, what comes with that is the cost then of monopoly-like pricing, which detracts from consumer welfare.

Now, if you buy those assumptions and that argument, then those goals cease to be congruent. In certain settings, that sort of trade-off may be evident, though again, I think it's been historically overdrawn, and my own research in this area would suggest the same.

So, I think things get interesting and a little bit more contentious then, when we have that lack of congruence. And then it really does become, you know, who is to sort of be the fair broker here in some sense to pit one goal versus the other? And I have no suggestion -- I mean, that really speaks to issues of several institutions in the U.S. other than perhaps the Supreme Court itself. I don't see any obvious venue outside of the courts at least where that might be.

Now, the question of, you know, hey, it's the Congress that makes statutes and then the courts and PTOs interpret, well, we know that in the making of all statutes, there's an enormous amount of latitude, and where you come down in that domain of flexibility can have enormous consequences for the pace of innovation and for economics, either considered narrowly or broadly.

Clearly, the recent Festo decision going one way or the other would have had some substantial consequences for innovation. Even in the PTO, absent the courts, there as well they can exercise a fair bit of latitude with important consequences for innovation and economic welfare.

Consider, for example, their revision of the utility guidelines in biotech patents, that may be

having an important effect there. So, while I would surely agree that Congress should be attentive to these broader issues, I would disagree that, you know, they lay out the statutes, that provides the marching orders, and everybody just follows thereupon and should not worry about consequences for either innovation or economics from that point on.

Finally, are we going to talk about the issue of disclosure later on that was raised by Mr. Myrick?

MR. WILLIAM COHEN: I think it will probably come up in the context of enablement and written description.

DR. WESLEY COHEN: Okay, because I have some research and so on that might speak to the disclosure role of patents in the U.S., and U.S. versus other international settings and so on. So, I'll hold on that until then.

MR. WILLIAM COHEN: Let's try John Duffy.

MR. DUFFY: Thank you.

I just want to say that, in fact, actually, one of the questions that you're asking is whether economic goals should be considered in the institutions below the Congress. I think we can all agree that at some level, Congress, in exercising its delegated powers, delegated from the Constitution, can consider

economics. Whether, in fact, it does consider economics is maybe a separate question.

But the question of whether the other institutions, like the courts and the Patent Office, should consider economic goals, is in part governed by Congress' own decisions. Congress not only makes decisions about what economic goals or what legal goals to pursue, it also makes decisions about which institutions will be making the decisions, which institutions will have delegation of power. In the patent system, unlike some other areas of economic regulation, the delegations are I think much more narrow.

The courts do not have a Sherman Act at their disposal, which most commentators who have looked at the Sherman Act -- it's an extraordinarily short statute -- have recognized that as effectively delegating power to the courts to come up with some common law of antitrust. Well, that is an enormous delegation of power to the courts, and therefore, the courts are going to be the chief policy-makers in that field. And there are some ambiguities in the Patent Act, but it is much more detailed in terms of giving the courts the marching orders than the Sherman Act, as just a comparison.

The Patent Office is another agency to examine. You can compare the Patent Office with New Deal and progressive era agencies, which typically do have, for example, one legal difference. Typically New Deal and progressive era agencies have rulemaking powers, very broad rulemaking powers, which are explicit delegations of power by the Congress to the agency with the expectation that the agency will hire economists and lawyers and experts, technical experts, and try and actually formulate policy.

The Patent Office, which was originally created in roughly its modern form in 1836, lacks a rulemaking power. That has had specific implications in that the courts have told the agency that it won't be given deference on its policy-making decisions.

So, I think Congress, to some extent, has limited the ability of the legal actors below it to make economic decisions, surely not precluding it, but definitely limiting it, much more so than in other fields. So, if we don't see attorneys making direct economic arguments to the courts in the patent area where we do see that in the antitrust area, we shouldn't be so surprised, because there's a different level of power in the courts in these two different fields.

In fact, actually, the other point is, given the detail that does exist in the patent system, the courts, in fact, I think don't really look very much at economic analysis. The Festo case was mentioned, and the Festo decision, you can go through and read all the briefs to the Festo case, and I have. There are a lot of them. There aren't very many economic reports cited in there. If you look at the Supreme Court's opinion, they cite about a half dozen of their own precedents decided over the course of about 150 years on the doctrine of equivalents, prosecution history estoppel. They don't cite much else. They certainly don't cite any economic analysis.

Indeed, they explicitly say that their view, their vision of their job, the court's own vision of its job is to leave it to the Congress to make decisions to depart, that they were just going to essentially stay the course, stay what they saw as the precedent, try and keep stability in the system and leave change to the Congress.

The final point is, of course, if we want to have the courts or the PTO or Congress look at economics, we have to be able to point to some areas of consensus in the economic field, and they are somewhat lacking. One area that I've particularly studied is,

you know, just a very basic question about, what should be the optimal length of a patent term? Well, in the literature, the literature has a range. It goes from six months to infinity, which is a pretty broad range, and those are published in peer-reviewed papers -- from six months to infinity. So, that's a pretty broad range actually. If Congress was going to choose in there and say we are going to try to follow economic analysis, they have got pretty large latitude.

MR. WILLIAM COHEN: Okay, we're going to need at some point to move on to the obviousness discussion. I want to get all these signs that are currently up, though, in, and then we will make the break, and if somebody sneaks a sign up in the next few seconds, I won't notice it.

Let's try Steve Merrill.

MR. MERRILL: Well, the point was just made that I was about to make, which is this question I think deserves some consideration of what the state of the art is, and the state of the art is pretty elementary.

One thing we do know, from the work of Wes and others, is that there's no macro answer to this question of what the economic impact is, that it's likely to vary tremendously among technologies, and

therefore over time, as new technologies become subject to patenting.

It's particularly deficient in looking at how patents are used, and particularly how patent portfolios are used, because there's extremely limited publicly available data. It's much more extensive on questions, for example, of litigation, but there's quite a vast area it seems to me that was mentioned earlier.

For example, with regard to the strategic plan, there are a host of proposals in the strategic plan that are subject to or that are amenable to economic analysis, indeed, amenable to experimentation, and that's, it seems to me, an area that ought to be pursued.

MR. WILLIAM COHEN: We have an economist here with his sign up, Bob Stoner.

MR. STONER: Yeah, the point was made that, where there are conflicting goals, like between innovativeness, let's say on the one hand, and static efficiency, losses from high prices, on the other, that it's difficult to choose or pick one goal and that maybe it's not clear how one would do that. But, it's also clear to me that one can make decisions about innovation policy and patent policy, taking into

account that there might be other effects or other goals that society has that could be impacted by that decision.

For example, you would want to then implement patent policy in such a way that, recognizing the importance of what patent policy is doing, that it doesn't take too great a toll, for example, on short-run static efficiency and that there may be ways of implementing the patent policy that would lower the toll that was taken. For example, on things that we will talk about later, you know, trying to make sure that patents are granted in situations where, without restoring the appropriability and hoped-for innovation wouldn't occur, or using the patent system less intensively when there are relatively few alternatives to the invention and the economic distortion of giving exclusivity or monopoly would be particularly high, or using the patent system less intensively when network effects already give a certain degree of protection and incremental monopoly power.

So, those would be suggestions for not choosing, you know, one goal versus another, but simply taking into account, in how one implements the patent system, taking into account other goals that in some cases might be conflicting.

MS. DeSANTI: Bob, can I just ask you a follow-up question going back to your earlier comment distinguishing between the direct effects of the patent system and the feedback effects? Obviously if you're looking at feedback effects, such as effects on market structure and ease of entry, those can have static price effects, but would you also include in there -- do you mean to include -- effects on innovation?

MR. STONER: Yes, I do, and as a matter of fact, that's a very good point, because I was thinking the way I described that, maybe it was unclear. I mean, in how you implement the patent system, it seems that you should definitely take into account what I call the feedback effects on innovation, because the goal of the patent system is to increase appropriability, increase disclosure, with the idea that innovation would be enhanced. And certainly you would want to take into account feedback effects which directly relate to that very goal, innovation.

The static effect issue is a little bit different, because that's another goal that really the patent laws are not really asked to look at. It's a conflicting goal in some sense, and so there would be some different questions with respect to how implementation of patents should take into account that

particular goal.

MR. WILLIAM COHEN: Okay, Brian.

MR. KAHIN: I wanted to react to what I thought was an overly romanticized account of the politics leading to the American Inventors Protection Act. I think it was not a true exercise in pluralistic democracy. It was basically a confrontation between two distinct interest groups. It was a bipolar struggle between the patent establishment on the one hand, and the independent inventor/university community on the other hand, and it generated a lot of noise, a lot of rhetoric and was not informed by any kind of economic analysis except for the particular issue, which was how do you manage the transaction costs in front of the system?

This is a problem that economists are pretty oblivious to. I mean, economists have for years focused on static efficiency. It's been hard enough to get them to understand dynamic efficiency, and they haven't made it to understanding the transaction costs of the system and what that does to the behavior of the participants.

Also, to respond -- I think this was something that Ron said -- on the institutional orientation, there is not an even balance between those facing

patents and those that have them. For the past number of years, the PTO has been institutionally predisposed to people getting patents, not those facing them, and neither the Bar nor the parties affected nor Congress have been able to overcome that.

MR. WILLIAM COHEN: Ron Myrick?

MR. MYRICK: I did sneak mine up, didn't I?

MR. WILLIAM COHEN: Yeah.

MR. MYRICK: On that last point, I am going to agree with Brian. When the PPAC first was formed, one of the things that PPAC first commented on was the -- what was it, the goal or -- the mission statement to help our customers get patents. And we immediately suggested that that be amended substantially, because that is not the mission of the Patent Office. Nor is it the mission of the Patent Office to sell poor quality patents at profit for the United States Treasury. So, there is a considerable amount with which I agree with Brian on that point.

But I would say this, I get lost in feedback effects and so forth, forgive me for that, but I think there is a feedback effect, if you call it that, in the fact that exclusivity is good, in my mind. I've seen many instances where the fact of exclusivity forced innovation.

Now, it may have been true that if exclusivity were not there, there would have been many more people producing the same thing at a cheaper price. But, in the end, the reason we have an innovation economy, or part of the reason -- I won't say the only reason -- but one of the reasons we have an innovation economy that's been successful is that people are constantly incentivised to find another way, and they very frequently do find another way, and in many instances it's a better way or it leads to a better way.

That's why I'm talking about this invisible-hand concept, because no one is smart enough to make the determination of what patent is going to lead to true innovation down the road. Nobody is that smart. I certainly would say that I've never met such a person.

If one were to consider Galileo's telescope and how it was perceived at the time it was developed, had it been a patentable subject matter at the time, it could not have been patented under a premise that it was something that would lead to good innovation, because in fact, at that time, that innovation was not sought. Yet where did it take us?

So, my point is simply this -- maybe I'm bringing in a social issue. Whether that's correct or

not is not the point -- the point is that the brilliance of the best minds at the time said no to that, and not because they were evil or whatever; they couldn't foresee where it was going to go, whatever.

We are in the same situation today with all manner of things. A patent on the vacuum tube would have prevented anybody from making vacuum tubes, that's true, but it certainly forced the production of the transistor, and so on and so on. This goes on throughout our economy. So, if that's a feedback effect, I think it's a good one.

MR. WILLIAM COHEN: Let's end this part of the discussion with Mark Banner, Jim Pooley and Wes Cohen.

MR. BANNER: Just very briefly, I want to agree that all of the agencies we talked about and the Congress, they all have a particular role in implementing and considering policy. But, as Ron alluded to earlier, and he just said this explicitly, the size of that role I think is different.

I don't want to imply that the courts don't think about policy at all. They do. They have to, especially in those areas that are left free or left to be interpreted by the statute. But, they aren't unfettered, and they aren't the same as other agencies, as John Duffy pointed out, they aren't as broad.

I made the comment about the first base umpire because the first base umpire has a role in balls and strikes, but it's a rather narrow role. The third base umpire, for I guess a left-handed batter has a similar role. The second base umpire doesn't have a role, period, end of story, in balls and strikes.

Because the patent statute is more developed, if you will, than some other statutes, I think the need to go to congressional intent is much more restricted than it would be in other types of laws. By and large, congressional words, the words of the statute, in many, many instances are going to be the most informative way of interpreting the patent statutes, and congressional intent is many times not needed. So, I agree with you. I don't think congressional intent usually helps very much.

My final point is, we talk about, is it good? Is it bad? Does it help welfare? Well, we've talked about consumer welfare, we've talked about total social welfare, and I think we've also brought in the concept of national welfare, because I think social welfare can go well beyond our boundaries. And, ultimately, I would suggest that total social welfare and national welfare are the two more overriding concerns. Consumer welfare -- and all of these terms are somewhat

amorphous -- but consumer welfare frequently means, does it cost less. And that isn't always good for the country, and it isn't always good in total for the system. Shirts made by prisoners may cost less, but I'm not so sure that that wouldn't contribute to social welfare. And those types of issues I think we should be careful of, which welfare are we talking about.

MR. WILLIAM COHEN: Jim Pooley.

MR. POOLEY: Yeah, in listening to this discussion, one of the things that strikes me is that, you know, the abstract notion of whether or not we should take economic issues into account here is so beguiling it seems rather obvious. But, it doesn't seem helpful to me that we approach the question by doing things like counting how many references there are to papers by economists in court decisions.

You know, let's remember that the PTO does most of what it does -- apart from the advocacy function that Ron properly pointed out -- on behalf of an individual inventor who is trying to get a patent. The public is not involved in what goes on in those decisions. The courts make their decisions based on the interests of the parties that are in front of them, and occasionally they take the interests of the public into account in deciding something like an injunction,

but it's fairly narrow, like the interest in having a particular product available.

The courts don't -- in deciding the application of obviousness principles -- don't look to feedback effects and prospect theories and that sort of thing. And frankly, I don't think they should. I mean, as we've heard, as John pointed out, one of the realities of the economic landscape -- and I'm not an economist, I've gained an enormous respect for economists and the work that they do in the last couple years -- but it seems apparent that a lot of this is theory, and there is a great deal of disagreement, and much of the empirical research is self-selected and, you know, comes up with rather vague measurements of the sort that we've heard referred to here.

The right place for those kinds of inputs is the institutions that have the broadest possible constituency and the greatest opportunity for comment by the public. And that's the Congress. So, you know, I think all of these issues are terrific. The economic issues should be examined, but where they intersect with the highest policy issues, those are things that are properly for Congress as the appropriate institution.

MR. WILLIAM COHEN: Okay, we are going to let

an economist have the final word on this subject.

DR. WESLEY COHEN: Two points. One, just a simple clarifying point: I did not mean to suggest before that it was "just hard to make a decision where there's a trade-off between static efficiency versus dynamic efficiency and innovation." It may be hard, but it's a trade-off, and one makes that decision on the basis of -- at least from an economic perspective -- total social welfare, though assessing that implication, as you know all too well, Bob, often can be a tough call.

Then that gets to Jim's point and some of what Steve had said before. Sure, as someone who has worked a lot empirically in this area as an economist, I would agree that there's a lot of theory out there. One might even call it kind of a logically based conjecture, but things can go either way. Is there a need, sure, for a lot more empirical study? Absolutely. The theory, per se, is only a rough guide to what you might want to start to study and understand empirically. And absolutely, there's a lot more work to be done. And answers may eventuate of the sort that, well, policies do have different effects in different domains and different industries and different technologies, but that doesn't mean, then,

that we can't understand those in those settings and try to conceivably develop policies appropriately or at least monitor the impacts of policy decisions appropriately.

For economic input to Congress, sure, that would be fine, but I was just saying that it has always surprised me, getting back to my earlier comment, the degree to which attention -- not just economics, but to really, as Gerry put it before, the fundamental notion of the objective of progress or innovation, the degree to which that does not seemingly inform decision-making on the part, particularly of the courts, that as John I'm sure rightly put, that there is less latitude in that setting than other policy domains like antitrust, but on the other hand, there's still a fair bit in many instances.

MR. WILLIAM COHEN: Okay, let's move now from the very global goals question and start looking at individual aspects of the patenting system. We'll turn to obviousness. Of course, our touchstone as an antitrust agency here is always competitive consequences. Maybe a place to start would be to get any thoughts or points that you'd like to emphasize as to what are the competitive consequences and the impacts on innovation that flow from the way that the

obviousness standard is interpreted and applied.

Let's start with Gerry Mossinghoff.

MR. MOSSINGHOFF: Well, I would stand on my statement back in February, it doesn't seem like it was quite that long ago, but I looked at the date on it, it was February 6th. I pointed out the fact that I think what the Congress did in 1952 was really a magnificent invention of its own, and that is to move away from this concept of "invention," quote unquote. When the Supreme Court mentioned invention, particularly Justices Douglas and Blackman, when they mentioned invention, it was awfully hard to tell whether they didn't think it was non-obvious or whether it was not the kind of thing to be patented or maybe because of economic reasons they didn't want to give the patent any enforcement capability. But nevertheless, moving away from that concept and clearly and crisply distinguishing between the types of things that can be patented and are now covered in Section 101, versus the obviousness standard in Section 103, was a very great step forward. My own view is that the obviousness test has worked very well for three reasons.

One, it was a good invention at the time it was done in 1952. Two, the Supreme Court's Graham decision was a very good decision in my view, very useful

utilitarian decision, and particularly since you have cases on both sides in the trilogy. You had the Adams v. U.S. side where a patent was upheld, among other things, for what are called sometimes secondary reasons. And then finally, the creation of the Federal Circuit Court of Appeals, where by my count there are more than 700 cases interpreting it and involving virtually the whole spectrum of science and technology.

It's used abroad. I'm not sure whether they have copied it, but they call it something different, they call it inventive step or inventive height, but it is used abroad. I don't think any international practitioner thinks that the standard used in the European Patent Office, for example, works any better. I think most feel it's virtually the same kind of test that you apply. And the word "obviousness," obviously, can be changed to clever, outstanding. I mean it's one of these things, you know it when you see it, when you go through it.

Just one last comment, that my guess is it probably dominates at least three-fourths of patent professional time dealing with Section 103. It's hard to put numbers on that, but it's a great majority of the time. Rarely do you have a knock-out, and if you do, it goes away immediately. The test is applied in

the Patent Office by examiners, and I think it's working very well.

As the Supreme Court pointed out in Graham, it's very much like the reasonable man standing on the corner, or the reasonable person standing on the corner, that's a matter of interpretation. But, in Graham the Supreme Court said that obviously the courts are capable of doing that, courts and juries are capable of dealing with that kind of a standard. And, they specifically cite the tort standard that's used in the United States.

So, I think there was some idea that maybe we ought to change it, and I think that would be unwise in the extreme and would be totally unsuccessful. I don't think Congress could even consider seriously changing Section 103. And then you get down to case-by-case, and I think it's working very well.

MR. WILLIAM COHEN: I see Professor Kitch's sign is up.

DR. KITCH: I just wanted to comment on a theme that has been heard a number of places in the hearings, which was the notion that the test of non-obviousness really should be a "but for" test, that is but for the patent system, would this invention have been made?

I think as a matter of metatheory, that's the

right thing to think about, that is, we want patents to go forward and innovations that would not have otherwise appeared. If the innovation would have been available at the same time and on the same terms to society if there was no patent, then giving a patent to that innovation has a lot of obvious social costs: The application costs, the administration costs, the costs on others who have to cope with the existence of that set of legal rights, litigation costs, the impact on the market where the patent exists.

The problem, however, is that kind of thinking lends itself to thinking that you could apply a test like that on a retail basis, that is, you could look at each innovation and ask as to the particular innovation whether or not the incentive and structure of the patent system was necessary for it to appear. And, I think that question is one that cannot be answered on a case-by-case basis.

You may, in fact, see people who are very good in innovation and do it so easily and so intuitively that it appears that their activity is cost-free. However, what you're seeing is someone who is a very low-cost and very efficient innovator, and those are the very people that you don't want to exclude from the system.

So, to the extent you're using a "but for" inquiry, you really need to ask it about a class, a whole class of inventions. I think that's what the non-obviousness test is trying to do. It is trying to draw a line between a class of inventions, where some real inputs are required to depart from the tried and true and the known and the understood and do something different -- that class of innovations from really fake innovations, imposter innovations, which although they claim to be inventions are, in fact, something that everybody has known how to do, and known how to do for a long time, and society is getting nothing for the innovation.

So, the critical test focuses our attention, asks us to inquire, what do people who know something about this area, people skilled in the art, what did they know? And, did they know enough so that it would have been obvious to them to come up with this innovation? It's I think a pretty common sense kind of class distinction and one that points the inquiry in the right direction, although in specific factual contexts, it, of course, can be quite difficult to apply and involves a good deal of judgment.

MR. WILLIAM COHEN: You've actually answered my question and the next two questions that I would have

had. That's wonderful. We have, I can see, at least three issues that have been thrown out, and I think we should try to separate them and yet get information on all three.

One is the likely competitive effects of obviousness. Then Professor Kitch introduced the so-called "but for" thinking, the thinking that as an organizing principle, patents perhaps should be issued if, but only if, they're necessary for the innovation. The question there is, is that a sensible principle to begin with? And then the third issue which I heard from Professor Kitch is, is that a practical test? Could it ever be applied in a sensible fashion? These are all different elements. Let's try to get at any of them.

Bob Barr?

MR. BARR: Let me try to tie them together. I think the "but for" test is a good policy goal. I think the obviousness standard is a good standard. I think the application of it has failed miserably, and I can prove it.

I can prove it because I know a lot of people who are very skilled in the art, and I would tell them that's what they are, they work for my company. But, by definition, some of them must be of ordinary skill

in the art, if that means average, and they independently invent things every day, or they independently come up with things every day that have been patented in the name of non-obviousness.

In other words, someone decided at the Patent Office, I guess -- well, I know -- at the Patent Office -- what I mean there is, the Patent Office decided under the guidelines given to them by the Federal Circuit that to issue this patent, because it would not be obvious to a person of ordinary skill in the art -- ordinary skill in the art at the time the invention was made -- and yet maybe the next day a person of ordinary skill in the art makes the same invention. So, I think that disproves it.

If you want further evidence, invite some engineers into the room and discuss patents with them, show them patents, tell them what's patented. I think the application of the standard has failed. I think we can go into that and I know we are going to, but I think I can prove it.

DR. KITCH: In the Patent Office or in the courts as well?

MR. BARR: Well, in my opinion, it then takes us to the issue of what the Federal Circuit has done to the Patent Office, what strictures they have put on the

Patent Office. I guess they are not represented here to speak for themselves, so I guess I'll speak for them a little bit, but they are told that they have to allow a patent unless they can point to express motivation to combine, express or implied in the prior art. As Cecil Quillen points out, that treats the person of ordinary skill in the art as a literalist. All that person can do is look at what's already there and what motivation is already there and take that and move forward. So, the Patent Office, under that rule, has to issue patents that even the examiner might feel are obvious.

MR. WILLIAM COHEN: Let's hold in abeyance some of the Federal Circuit and PTO issues and "suggestion tests." We'll get to that.

Jim Pooley.

MR. POOLEY: Actually, I think part of my remarks may touch on that, too --

MR. WILLIAM COHEN: Okay, go ahead.

MR. POOLEY: -- but I think all of these things are connected.

MR. WILLIAM COHEN: Yeah.

MR. POOLEY: The "but for" standard strikes me as a useful analytic tool to sort of check our direction in a policy sense, but not a particularly useful standard for measuring specific inventions. In

that respect, I think I absolutely agree with Gerry that the standard that's been developed under 103 actually works quite well, among lawyers, and actually it works reasonably well at the PTO, notwithstanding what Bob just said. You know, we may need more tweaking on the notion of inherency to help us through, but as a structure for judging whether a particular invention is worthy of the patent grant in relation to the prior art, it's a very good standard.

The problem that I see is the -- and this is where it affects competition -- the problem is in the enforcement system, because the way in which obviousness is actually applied in the courts is known by everyone who does transactions. And, the inherent unpredictability -- some would use even stronger words -- that is represented by the way in which we actually apply obviousness, and the way that the secondary factors mentioned in Graham have been transmuted into objective factors that are required to be considered, not by judges and lawyers who are talking about the policy issues or the formulation of obviousness, but by jurors who have, in the process of trying to do their job, been overwhelmed by the fact that they are to determine the scope and content of the prior art, and now they see coming at them an issue

that they really can get their arms around.

It's the commercial success of the product. Oh, by the way, they're also supposed to make neat divisions about whether or not the patented feature is really the cause of the commercial success, but I can just tell you that the story line of commercial success will swamp everything else. You know, everyone who engages in transactions over patents knows this, and knows that at the end of the day, if you don't engage in whatever the transaction is, you will have to face that kind of circumstance in court and, you know, with some others that are tied to the difficulties involved in dealing with jurors applying that sort of standard.

So, to the extent that those kinds of issues can be applied perhaps outside the court system with, for example, an opposition system that really works, we might be able to improve the effect of this standard on the market, if you will.

MR. WILLIAM COHEN: Bob Stoner.

MR. STONER: Yes --

MS. GREENE: Bob, could you please turn the microphone so we make sure that you're actually getting transcribed?

MR. STONER: Sure.

MS. GREENE: Thanks.

MR. STONER: As has been suggested, an important reason to be concerned about the obviousness standard is that if you have too easy a standard of patentability and you grant all kinds of obvious patents, even if individually each of these patents is of dubious importance and is relatively narrow, their cumulative effect, I think, could be to put up a patent thicket, or a web of patents, that in effect has some breadth and some ability to impede competitors. Such breadth, however, is not the breadth that one may deliberately be trying to selectively build into the patent system to assure appropriability, but rather, the careless breadth that comes from overly permissive patent standards that promote defensive patenting and large patent portfolios.

If one takes this view, then I think it becomes very important, or most important, to reform the obviousness standard not in relation to trying to turn it into some sort of a "but for" method test that has been indicated, but rather, to fashion a much more practical sieve to separate the wheat from the chaff in the patent space.

I'm not that familiar on a first name basis with the Federal Circuit decisions, but from what I've read in the record here, it seems that there is some

consensus that this seems to be opposite to the direction that the Federal Circuit is currently moving. So, I would just throw that out.

MR. WILLIAM COHEN: Ron Myrick?

MR. MYRICK: Thank you, a couple of thoughts on what was just said.

I think the obviousness standard itself, in the abstract, is fine. To some degree, I'm not totally sanguine about how it's applied. But on balance, I think most of the patents that come out of the Office are valid. We test a lot of them, and we conclude that a lot of them are valid, and we react accordingly because we avoid them.

I think carrying that further, bad patents that shouldn't have been issued by the Patent Office I think are, in fact, a drag on the economy, although I don't know how much of a drag. Many of those patents that are really bad are never going to get pushed by anybody against anybody else, because they're not going to be particularly useful -- swing patents and things like that. But, I don't know how much they're a drag because you have to ignore the fact that they did a lot of disclosure, and they provided that disclosure, and to witness the fact that software patents disclose an enormous amount that would never see the light of day

but for the fact that those patents were filed and issued.

Now, maybe they should not have been issued in some instances, but the reality is so much software is published only in object form: unreadable, unusable. But for the fact that that information is disclosed in the patent that reflects that software, that information is unavailable.

So, I'm not so sure I know how this thing cuts. Whether the disclosure offsets the fact that some patents come out that shouldn't have been issued, I don't know. I think, though, a "but for" test is unworkable. I think saying patents only should be issued when they're necessary for innovation, who in the world knows that? This goes back to my earlier remarks. There is no one that is smart enough to know that and no process that's workable enough to make it function in the real world.

Finally, with regard to an opposition system -- will we come back to that?

MR. WILLIAM COHEN: No, not directly. That was a --

MR. MYRICK: One comment on that.

MR. WILLIAM COHEN: Yeah.

MR. MYRICK: An opposition system is fine, as

far as it goes, but sometimes it goes too far, because frankly, unless you carefully construct an opposition system -- and I don't know of any that's been adequately constructed for this purpose -- the opponents paint big targets on themselves when they oppose a patent of another. It happens in Europe all the time.

So, to say that the opposition system is going to fix the problems of issuing bad patents in the Patent Office isn't realistic, because people are not going to go paint those targets on themselves. You know, it's a rare thing when I am going to allow anybody to oppose another person's patent, unless I don't care. Well, if I don't care, I'm not going to spend the money. If I do care, I'm certainly not going to tell somebody how much I care by opposing that patent.

So, that's not a necessarily good solution to this problem. I think the issue of concern mostly is how -- and we're not reaching that at this point -- how the standard is applied in the PTO, pursuant to the Federal Circuit decisions. That's a different issue from the standard itself. The standard is a good standard.

MR. WILLIAM COHEN: John Duffy.

MR. DUFFY: Yes, I just want to begin by saying, even though you want to temporarily kick off the issue between how the Federal Circuit has applied the standard of obviousness, it is important to note here that this is an area where the FTC, and particularly the Department of Justice, has some real power. This is an area where economic analysis -- this is one of the margins where economic analysis can be important and which your decisions about these issues can make a difference, because the Federal Circuit case law and the so-called "suggestion" or "motivation test" is fairly permissive. I think many people would agree on that.

That law does not grow out of Supreme Court precedent, and indeed many Supreme Court precedents -- they are quite old now -- but the post-1952 Supreme Court precedents seem inconsistent with the "suggestion test". If the Department of Justice were to file a petition for certiorari in a case where the Federal Circuit has reversed the PTO, it's likely to be granted. Or, if the Department of Justice were to, as an amicus, suggest that the Supreme Court take certiorari in a non-obviousness case, there's a substantial probability that the Supreme Court would take the case, and I think there's also a substantial

probability that the Supreme Court might actually unsettle the law. So, if you think that a broad view of -- pardon me, if the "suggestion test," which takes a fairly confined view of what things will be considered obvious, if you think that's good policy, then you would oppose granting cert. If you think it's bad policy, you would seek Supreme Court review, because I think you could probably get it overturned or at least much more likely to get the Supreme Court to overturn it than the Federal Circuit to reverse course.

I think there are two issues. I think non-obviousness is a good test, but I think applied properly, which is, of course, the key. There are two, I think, economic effects associated with the non-obviousness doctrine. One is to prevent a sort of thicket of trivial patents, which has already been mentioned. The reason that's bad is because it really doesn't satisfy the "but for" test.

I mean, in fact, actually, the cost of generating the patents is significant, probably leads to perhaps anti-competitive behavior, but it also leads to a lot of money just being expropriated for attorneys' fees, which may not be particularly wealth-maximizing.

But remember that the obvious patents -- if

there are obvious patents out there -- they are not only just economically trivial patents. When we say that obviousness is a triviality standard, we're talking about technical triviality, and some patents can be technically trivial and economically enormously important.

I actually in my presentation this summer, I gave as one example the Selden patent on the automobile, an immensely broad patent, which still covers virtually every car on the road if it were in effect as it was drafted. But, one could also think that it was a trivial patent, technically trivial, and that the combination of the various features into an automobile was something that everybody who was skilled in the art could have easily done at the time, and Selden just happened to be the first, or happened to be the first to make it to the Patent Office.

So, I think there are two reasons to have a non-obviousness doctrine. One, to prevent the proliferation of paltry patents. The other is to prevent some technically trivial patents which might have large economic effects, and the Selden patent is one.

The one-click patent, Amazon one-click patent, might be another example which perhaps doesn't have

enormous economic consequences, but did seem to have significant economic consequences, at least it was significant enough for one firm to care enough about it to spend a lot of money litigating the issue. And, that might give you something that is trivial and that is not produced by any technical leap of imagination, but simply appears in the nineties because of the advent of the new technology, which Amazon itself did not create.

MR. WILLIAM COHEN: Meg?

MS. BOULWARE: Professor Duffy touched on a point I just wanted to make briefly, and that is that the obviousness standard is a threshold, and that's a threshold for patentability. And it seems to me that when I've participated in discussions of this nature, it is the patents that kind of cluster around that low threshold where the people perceive the problems. Professor Duffy said trivial, these are the patents that just made it over the threshold. There seems to be much more time viewing those low threshold patents than the standard itself, which I think is a good standard, and the patents that are way beyond that threshold, patents on Nobel Prize winning technology and the like.

As far as the patents that are on the low end

of the threshold, from a practical standpoint that I look at them in my day-to-day practice, the low threshold patents to me, generally we can deal with them, innovating around them, winding through them, so that our clients can continue to innovate without the problem of infringement issues.

And I couldn't leave the mic without saying that it was not a romantic situation with the AIPA. I've been romanced, and that wasn't it.

MR. WILLIAM COHEN: I'd like to throw one more aspect of the question on the table, and then we'll open it up and move into some of the litigation issues as well. But, we have heard different views at different times as to the types of conduct that the obviousness standard is trying to provide incentives for.

Is it trying to provide a reward for the invention, to make sure that you get a patent and an opportunity to exclude in settings where you have inventors, and create incentives for future inventors? Is it supposed to go beyond that and take you into incentives to develop an invention that has already been made? This takes us into issues of the prospect theory.

We have had quite a bit of discussion about

this. We had a panel this summer when John Duffy was there, but we didn't have Professor Kitch available at that time. I wonder if there is anything you would like to contribute on that aspect of the discussion as well.

DR. KITCH: Well, it all depends whether you're kind of asking a question about academic theory or whether you're asking a question of positive fact about what the patent system, as it operates on the ground, does. And, it seems to me if you're looking at the patent system as it operates on the ground, it does some of both. In fact, it depends very much on the particular patent and how it's configured in relation to the technology and so on, but you see both effects at work.

MR. WILLIAM COHEN: We are well into the obviousness discussion. Let's lift the restrictions that I'd temporarily placed on talking about some of the practical application issues. Two in particular I think we want to be sure that people express their views on.

We have already heard about the operation of the "suggestion test," some of the questions that have arisen as to the need to point to a particular piece of prior art before combining references. We would like

views on that. A further issue could be, and we have heard it touched on as well, the commercial success factor, the operation of the secondary factors, potential difficulties in trying to sort out and make effective the connection between the commercial success of a product and the invention that's at issue.

If any of you would like to comment on the obviousness questions to this point or these more practical litigation-related questions, feel free now. I see Gerry Mossinghoff's sign is up.

MR. MOSSINGHOFF: Bill, just to address the topic that you raised, when you get to something like the "but for" test, either directly or indirectly, I think it has to be noted that it is very technology-specific, certainly in the pharmaceutical industry, where I did have the privilege of representing them for quite a while. There, nobody can question whether you are going to spend $800 million to develop a drug which is approved by the FDA, full disclosure to everyone, which could be copied for a tiny fraction of that, $2 or $3 million.

There is no question that a CEO would have to take leave of his or her senses to want to invest that kind of money in the development of a drug, and a shareholder would clearly be crazy to invest in that

company to do so. So, there, I think every drug that comes out in the biotech and pharmaceutical area, the "but for" test is almost prima facie established.

I think there are other industries, other technologies, where that may not be anywhere near as clear. So, I think you really can't answer it in a sweeping way. You have to get down to the technology by technology.

I know this is a patent panel, but one of my closest allies in international work when I was head of Pharma was the Motion Picture Association, because they have the exact same problems -- for hundreds of millions of dollars, develop a full-length movie which could be copied for a tiny, tiny fraction of that. So, I think you really do need to look at the specific technology.

Next, I think I would say that the -- and I think it's in line with what Jim said about the secondary test for obviousness. I would submit that it's secondary only in a temporal sense, and not in a hierarchical sense. I don't think it's necessarily below the standard that you would apply, I think it follows the standard that you would apply. And I think secondary has a dual meaning, and I would say it has a temporal meaning, rather than a hierarchical meaning.

It also, I think, is symptomatic of the jury system. Juries are asked to consider exquisite computer architecture or biotechnology inventions, and their eyes are pretty well ready to be glazed over, and all of a sudden somebody comes up with sales of an invention, what they were before or after, and it's something they understand. The average juror can get their arms around that conceptually.

I really believe that it kind of goes -- the emphasis placed on the so-called secondary considerations I think is symptomatic of the fact that we have lay jurors who, in many technologies, really can't get down to the technology-specific issues and are left with things they can understand: sales increases over a period of time.

MR. WILLIAM COHEN: Mark Banner?

MR. BANNER: The original question you asked dealt with what are the likely competitive effects of obviousness, and I would answer that by saying that the way obviousness is applied has resulted in greater competition. The primary reason for that is something that Ron mentioned about the disclosure requirement of the patent system in general and, in fact, making that standard, disclose to the world what they're doing, and companies like Ron's can make appropriate decisions

about which patents to avoid. And when they do that, they don't decide to go out of business and refund shareholder money. They design around by and large, and that is in my view a great stimulus to competition.

The next set of questions really went to whether there's another standard that could be either drafted onto, or substituted for, the current application of the obviousness standard. Now, if I had to grade, as a professor, the obviousness standard as applied over the past nearly 50 years and certainly since Graham v. Deere, I would probably give it a B-plus. It's good, but it's not perfect.

The "but for" test, which --

UNIDENTIFIED SPEAKER: That's an average grade.

MR. BANNER: Is that an average grade?

MR. DUFFY: At UVA.

MR. BANNER: At Georgetown, they don't let me give grades sometimes that I want to give, which I would give to the "but for" test, which would probably get a D. I would probably have to go see the dean and make all kinds of pleading as to why I would give a D, because apparently that's no longer permissible. But, in any event -- a separate set of hearings -- in any event, the reason for it probably goes mostly, in my mind, to the practicality of it.

As a practical matter, you would be going to something even more difficult to apply by a judge or jury than the current obviousness standard. I suggest that if you just read the court decisions or the jury instructions that are given by courts to juries, you can almost understand the obviousness standard, almost. So, I think it's probably a better standard even as applied.

There are areas where it needs to be enhanced. I think one of them I alluded to earlier, the whole idea of commercial success, which juries can get their arms around. And judges are no different in my mind, in my experience at least, than juries. They like that stuff. They understand that stuff.

But commercial success too often misses the point. And, much as I try to promote -- as a patentee, I talk about commercial success -- I at least try to find a nexus, an honest to goodness economic nexus, not just between the gizmo, but between the claims, because I know a good defendant will come up and say it was as successful as some other thing that didn't have the claim you mentioned.

I actually won a case on that exact point, by pointing out the difference between the claimed invention and the reason customers bought a particular

product. I don't think, at least patent trial lawyers, have focused on that issue enough. I think it's an area for great judicial development, because I just don't think the nexus requirement is an area where there's been enough thought given. That all starts in the courts, what the litigants present it. So I think that's an area where there has to be some additional work.

The other area that I think needs some additional work is the motivation question that came up, and what is the PTO being told to do and what is the Federal Circuit doing. And I suggest that's an area that, while there are bad patents out there, well, there's occasionally a decision that may not rise to the level of being stellar. There's a case out of the Federal Circuit, In re: Dembiczak or something, I can never pronounce it. It had to do with Halloween decorations that were made out of plastic -- basically plastic garbage bags painted orange with a happy face on them.

MR. WILLIAM COHEN: I've been trying to learn to say Dembiczak, as well.

MR. BANNER: Oh, okay. I was there when that case was argued, because I had a case slightly before it, and I wanted to see John Whelan argue in the

Federal Circuit. And he argued that case. Essentially, there must have been 50 references in the PTO, but not in the record of that case, where there was a motivation to combine a happy face with a pumpkin-colored garbage bag, but they weren't in the record. That patent never did issue, as I understand it.

So, I think it was a bad case based on the peculiar facts of the case, but I do think it's being fairly aggressively applied, and sometimes overly aggressively applied. So, I think the law needs to be developed in that regard.

Motivation is something that I think the law -- there being implicit motivation or knowledge of motivation of those of skill in the art, ordinary skill in the art -- will have to come out I think in further cases, but I think literally, if you restrict this to a literalism approach, you are going to end up with too narrow a view of what it takes to find a patent not patentable for obviousness in the PTO or invalid for obviousness in the courts.

One reason why I think the obviousness standard isn't always being well applied by the PTO, particularly in some arts, particularly in some technologies, and that has to do with resources --

resources not only of time and people and hours within which to examine the patent, but just the prior art.

There are some industries where a great deal of the prior art is not the kind of prior art that traditionally has been available to the examiner, at least equally available in the search records of the PTO. And, in those particular industries, at least when I've litigated cases in those industries, I have had to go look for prior art well outside the PTO, in such things as, you know, user lists, usernet lists on the web, and such things as technical papers presented in areas where there's no examiners and certainly no filing in the PTO.

But, I think there are areas where you get an awful lot of patents issued that would not meet -- even with the examiners we have -- would not meet the obviousness standard if the examiner had the facility, had the prior art right in front of him or her. That is a particular problem that I think the business community, as well as the patent community, need to address, in part through funding of the PTO and in part through the resources that are available to the PTO.

MR. WILLIAM COHEN: Let's try Brian Kahin.

MR. KAHIN: Well, I am going to suggest a totally radical approach to the non-obviousness issue,

which is actually also very on the ground, and it will anticipate this discussion on disclosure, which unfortunately I will not be around for. I appreciate Bob Barr's bringing in the sort of forgotten party here, the engineers, who are the ones that we actually look to to create the stuff.

I think that a very practical test, and unfortunately there is so much noise in the system because of the willful infringement problems and other things that inhibit the flow of information, you could not apply this right away, but the really practical test on obviousness would be, do engineers actually read patents? Is there enough value in the patents to make them worth reading given all the opportunity costs, given all the costs in finding them and given the alternatives in other sources of information?

The empirical literature -- Wes can certainly speak to this more than I can, and most of what I've seen comes out of Europe -- suggests that patents are considered very low as a source of information in most industries, pharmaceuticals and chemicals probably being an exception. Of course, part of this is that patents are not written really to disclose information, except what information has to be disclosed to make them legally enforceable.

So, there's a real fundamental, and epistemological problem in the patent system that hasn't been confronted. But, if you had a standard that encouraged people to read patents, and unfortunately, because the PHOSITA standard is essentially a standard based on mediocrity. So, we have a standard based on mediocrity, ordinary skill in the art, and what everybody recognizes, including the PTO, is a knowledge economy.

MR. WILLIAM COHEN: Are you suggesting a higher standard, like expert skill in the art or --

MR. KAHIN: Oh, I think we have to have a much higher standard, yes. I'm not offering a particular formulation, but I think that the test is, is the standard high enough so that patents will actually be read and that the disclosure function will be fulfilled as a practical matter, not by lawyers, but by the people who innovate?

MR. WILLIAM COHEN: Wes Cohen?

DR. WESLEY COHEN: Regarding a point that Bill and Bob Stoner and John and others point out regarding the potential of patents subject to a low application of the non-obviousness standard would lend itself to patent thickets, I think there's a point regarding that that we shouldn't lose sight of which is, what patents

do, in a very immediate way, is confer the standing to sue. That can have competitive implications when there are not perfect capital markets supporting investment in legal resources. Than immediately you have a differential between large firms able to sue, and perhaps smaller firms and possibly prospective entrants, also small firms but not necessarily, who may not have the access to the legal resources, which can be just daunting and considerable.

So, just in that immediate way, even apart from the creation of a patent thicket, but I think again, it's that standing to sue that kind of is part of the fabric of a notion of a thicket, but it's a separable issue, can have considerable consequences for market entry, for example, no less ability of a smaller incumbent to ultimately compete with a larger one.

MR. WILLIAM COHEN: Bob Barr.

MR. BARR: Yeah, let me just start there, the practical consequences of having to fight a patent in court, I'll just estimate somewhere between $3 and $5 million, and you might lose. So you're at great risk, and you're spending a lot of money. So, let's not minimize that.

You know, the other aspects of the impacts of patents that I just have to speak to, even if I do come

from another planet, the idea that we can identify patents that are problematic and design around them and invalidate obvious patents and so on, that's just -- it's even worse than impractical; it's impossible. To know that a patent is pending, even if it's published, and that somebody's intentionally trying to draft claims on your product, and then to have them assert the patent against you after it issues, after you have designed something -- and maybe not just after it issues, but a little while after it's issued to make sure you've sold a lot of the product, so you have got back damage problems, and then you have got problems of changing the design -- I mean, this is the hold-up, this is the counterpart of the thicket, is the hold-up in the literature that I've looked at. And that's a good name for it, because when you get held up, it's pretty expensive to go to court.

Just a couple of other points. On the disclosure issue, something to think about, first of all, no, engineers don't read patents. They find them hard to read. They find it hard to locate patents of interest. I have encouraged them to do that. We have cross-licenses with companies, and I like to think of them as technology transfer, but I can't get people to do that. It seems the only time they read patents is

when they write e-mail to each other in an unprivileged communication saying, oh, wow, this one's a problem.

And another thing on the disclosure point, please be aware that people in corporate patent practice -- many that I've talked to -- in part, in evaluating what to patent, we look at what we call detectability. Can we keep this a trade secret? What's the point of patenting something that we're going to disclose and then make available to others and then they will be able to infringe it and we won't know? We can't detect it. So, we don't patent trade secrets.

If something can be kept secret, we try to keep it secret. This is even in Silicon Valley, where everyone eats at the same restaurants and talks about intellectual property. But, even at the risk of losing your trade secrets, it's not always a good idea to patent them. What I'm saying is, many of us intentionally look at that aspect and say, well, let's not patent something if we're going to be disclosing it and not know if it's infringed.

Frankly, there are too many patents out there. So, in addition to the problem -- at least in my field, I speak for the electronics industry, an industry that I've worked in for 20 years -- that there are too many

patents to be able to even locate which ones are problematic. I used to say only IBM does clearance searches -- maybe GE does now, I'd be interested in hearing about that -- but IBM tells me even they don't do clearance searches anymore.

One reason for that is because of the willfulness problem, that if you go out and start looking for trouble and you find a patent -- and even if you put it over in this pile here, say, oh, this one's not a problem, later on that can come back to haunt you -- and then you do find them, as I said, it can be prohibitive to design around.

Lastly, be aware of what's happening out there right now. There are several companies entering -- there are two businesses growing. One is mining portfolios for companies that need revenue. Well, a lot of people need revenue these days, and few of us have it, so people are mining portfolios to go look for patents that even the patent holder didn't know they had, didn't know was valuable. It's hard to believe that a patent contributed to the body of knowledge if even the patent holder didn't know about it. But, the idea that some of these patents lie dormant and are not a problem, just because they're on the low end of the threshold, no, they're the biggest problems, because

people are actually looking for them these days.

The other is that people are going around buying up patents from distressed companies and dying companies. I mean, I'm offered those a lot, and I'm looking at them. So, a lot of patents that might otherwise die a peaceful death are quite alive. For those companies that have revenues, it's a problem.

Thank you.

MS. GREENE: Does Ron or anybody else want to comment on Bob's observation that the companies really don't have the ability or the incentive or the will to sort of track and follow the publications that come out or the actual patents that are issued, even if it is within, I don't know, a narrow area? Does it vary from industry to industry? Ron?

MR. MYRICK: I'm not hear speaking for General Electric today, so I'll mention a company that I have some connection with and just let it go at that.

That particular company does, in fact, encourage avoidance. In fact, it's part of that company's policy to avoid infringement of everybody else's patents. So, there's been significant training on vehicles for searching for patents that would be apposite to a particular new product. In fact, every product that gets sent out the door gets checked, and

avoidance is a prerequisite.

This is just a given, because the cost of ignorance is too high. Long runners that are out there, for which there is a latent patent problem that only appears after you've produced a million units, but perhaps there was a marking on the product that was being produced by the opponent, and so there's damages sitting right there running, it's just too big a risk. So much so, in fact, there is a significant effort.

As far as engineers reading patents, they certainly do. In fact, tools are provided to them so that they can find the ones that they need to find. They don't read them, you know, just for bedtime reading, but it's part of the job.

But I appreciate the problem. I appreciate the issue. I personally don't subscribe to everything that's been discussed here, but I think we're going to have to break for lunch, so I don't want to have to spend too much time at this point. I think it may come up later on, but I reserve some further comments on this subject, but I did want to respond to your question.

MR. WILLIAM COHEN: Okay, we've got the last two signs. Let's take Wes Cohen and give Jim Pooley the final word this time.

DR. WESLEY COHEN: Yeah, just on the issue of the role of patents in disclosure, I've done some research on that. We received survey responses from, oh, about 1500 R&D lab managers from across the U.S. manufacturing sector some years ago -- mind you, this predates the revision of the patent law to provide for publication after 18 months for those firms that are not also filing overseas -- but in any event, what's the upshot there?

In the U.S., patents provide disclosure of considerable less significance than other means of disclosing or providing for flows of information across firms, like publications, like meetings, like what we called informal information exchange. And we did the same survey for Japan, and we found an interesting contrast, which is, patents are extremely important in Japan, much more so than the U.S., at least in a relative sense, for promoting those information flows across rivals.

By the way, I don't want to say then that patents, as a means of disclosure, is unimportant in the U.S. That might still have a -- and I'll speak to that in a moment -- an effect, but it's relatively less important than, say, in Japan. But then for the effect, we have actually just finished an analysis of

the impact of -- well, to put it simply -- patenting on R&D activity across the U.S. manufacturing sector, that we are just now touching up prior to the submission. And we tried pretty hard, though I think our measures were deficient, to find an effect of information flows due to patent disclosures on the kinds of relationships that we were looking at there in that evaluation. And it did not show up.

Now, we are going to actually do the same analysis for Japan, and given our other more descriptive exercise in Japan, I would imagine or hope that it would show up there. But again, there are all kinds of caveats and qualifications associated with measurement error and so on, but we did not see a clear, robust impact of disclosure. That's not to say that it's not often important in particular settings and so on, but this is a fairly coarse aggregate exercise, and in that context, we did not see it.

MR. WILLIAM COHEN: Getting harder to knock down the final signs than I thought. I think Ron had a further thought.

MR. MYRICK: I did want to make one thought before we go to lunch so that perhaps we can have this discussion afterwards. That was just one of the concerns that Bob has mentioned, and I think it's a

very valid one, is the aberrational behaviors that are caused by the willfulness standard. So, if we want to talk about something that should be adjusted and to eliminate some aberrational behaviors, we could talk about that one.

MR. WILLIAM COHEN: Ed, and then Jim.

DR. KITCH: Well, I was just, Professor Cohen, wondering if you had looked at the question as to what kind of informal information flows, through meetings and -- would occur between firms in a world without a patent system.

DR. WESLEY COHEN: Yeah, that's a good question in the sense that the question that Professor Kitch is posing is, well, do patents provide for the disclosure of information via conferences, via even informal conversations, et cetera? Do companies, you know, say, okay, we can only do these other kinds of things by virtue of product protection? Just to keep it brief, we considered that to the extent that our limited data -- permit, and I think the paper that's coming out will have a footnote to that effect.

Frankly, we did not -- again, the evidence is indirect, and this concern has been raised before, but we don't see patenting activity as, in any sense, a kind of key to a green light in enough instances for

that to really have an effect. That's not to say that companies don't say, hey, before you go out and present this on occasion, we better make sure it's patented. You know, I would not deny that, but again, I'm talking about aggregate data and overall trends.

MR. WILLIAM COHEN: Jim?

MR. POOLEY: Very briefly, I would just reinforce the usefulness of discussing the effect of the willfulness issue, because indeed, in our observation, there are many industries and companies that specifically avoid looking at patents, which is terribly ironic. But beyond that, especially it seems to me in emerging markets, the kind of review and examination that a company needs to do is sometimes either beyond its resources or appears to be an impossible task because new patents keep popping up all the time.

The basic idea is that somebody participating in an emerging market, you know, takes on an enormous amount of risk specifically because of patents, because they don't know what they're going to need in order to operate freely in the area. And, you know, if you talk to many of them, they would say to you, if only we could know and be able to approach the people who had these rights and be able to get them resolved, you know

at once, boy, it would make life a lot simpler. You know, in that observation, I think there's a lot of issues that deserve attention.

MR. WILLIAM COHEN: Okay, let's take our lunch break, and we'll return at 2:00.

(Whereupon, at 12:15 p.m., a lunch recess was taken.)

AFTERNOON SESSION

(2:00 p.m.)

MR. WILLIAM COHEN: We're ready to begin our afternoon session. We have the same set of panelists as we had this morning with one exception. Jay Thomas has replaced Brian Kahin. Jay is a professor of law at the Georgetown University Law Center, another person who, during the course of these law hearings, has moved from an associate professorship to a full professorship, along with John Duffy. So, congratulations to both.

Professor Thomas has published numerous articles on intellectual property law, most recently in the Boston College, Illinois and UCLA Law Reviews. He has co-authored a patent law case book and a treatise on intellectual property, and we're very glad to have him join us.

Moving into the afternoon session, I think the place that we should head for is the next big topic area, which is that of patent breadth. Throughout the hearings, we've heard from some of the panelists, and particularly some of the business panelists at various times, concerns that unjustifiably broad patents could deter research and development that otherwise would take place. And, I guess perhaps the place to start on

the patent breadth issue, before we plunge into enablement and written description and best mode and continuations, perhaps the place to start is with a question, again, what are the potential competitive consequences, including effects on innovation, of overly broad or unduly narrow patents?

Would anybody like to take the first stab at this? Okay, Bob.

MR. BARR: I was just thinking about the example we heard earlier from Ron about the vacuum tube and the transistor, and I'm not sure what the reality of that was, whether there was or wasn't a patent on the vacuum tube, but I could imagine a means-plus-function claim on the vacuum tube that would cover a transistor and that would take a full jury trial to resolve. So, I think on the one hand, while it's true that patents encourage design-around and leap-frogging and new thinking, broad patents have the danger of cutting that off, and even with the narrowing of means plus function claiming, a lot of the patents that we see raise issues of fact that you really don't know the answers to until you go in front of a jury.

MR. WILLIAM COHEN: Wes?

DR. WESLEY COHEN: Okay, a couple things. One thing, in my own work and working with others and so

on, something has become -- this refers to something that Steve was talking about before. Breadth can actually have an impact, considerable impact, on the way patents are actually used. And what I mean by that is in our prior research, my collaborators, Dick Nelson, John Walsh, a number of others and myself, essentially were able to -- simplifying a complex -- invariably complex world -- find a few different patterns in the way that patents tend to get used, and they distinguish between what we call complex versus discrete product industries.

Essentially complex product industries are the sorts of industries where you see the patent portfolios, patent thickets, where it takes a lot of patents, or there are a lot of patentable elements, associated with the commercializable product that necessarily impose a lot of mutual dependence across patent holders that will often lead to the kinds of massive or broad cross-licensing that we see. Whereas in other industries, chemicals, to some extent drugs -- although the ground may be shifting here a bit in some areas -- it takes relatively fewer patents, okay, to cover a commercializable product, and then patents end up getting used in a different way, more in the way that at least economists have conventionally thought of

them being used. I had talked about this in the prior hearing.

So, breadth, what does breadth really do? Well, the greater the breadth, okay, the fewer the patents in many instances you need to cover a prospective product. So broader patents can have the effect of essentially reducing the number of patents that you need -- within limits -- to cover a product, and that might shift you into one of these sorts of uses versus another. Then you have to think about, well, what are the implications for innovation and competition, okay, of being in one regime, call this the simple and discrete product industry regime, versus the complex one. And, there we talked a bit about particularly some of the competitive implications of patent thickets. That's one thought on breadth.

Indeed, in Japan, for example, everything is a complex product industry per our research. Even in chemical industries in Japan, they use patents in the way that they get used in electronics in this country, because there tend to be fewer claims, their claims tend to be much more narrowly interpreted as compared to U.S. patents.

MR. WILLIAM COHEN: Before you go on to your second thought, just on this one, are there some

industries where the point you're making may have more relevance than in others? I'm thinking particularly of situations we have heard in semiconductors where there could just be tens and tens of thousands of patents.

DR. WESLEY COHEN: Right, right.

MR. WILLIAM COHEN: Is changing the breadth there going to --

DR. WESLEY COHEN: No, I don't think you have, if you will, a tilting effect, but you can have it -- it may have implications in industries like biotech, I mean, to the degree that -- and pharma, to the degree that you're moving toward a regime where there are more patentable elements associated with any final product, that sort of industry can be pushed to starting to resemble a little bit this complex product sort of industry. So, yes, it has I think more bite in some settings than others.

The second thing regarding breadth is obviously on an issue that Professor Kitch has written extensively about, which is the question of cumulative technology industries, that is, where technology tends to build on prior technology in a fundamental way. And then the question is there, as well, when you talk about patent breadth, consider the breadth of particularly pioneering patents in those domains and

the implications of narrower or wider breadth for follow-on inventions and competitive conditions.

Now, that might open up a whole new domain, but there, you can really get into some difficult issues. We just completed -- we think we completed -- a draft of a paper for the National Academy's STEP Board titled "The Patenting and Licensing of Research Tools in Biomedical Innovation," and there we tried to consider the questions of, well, do we have what's known as an anti-commons problem, and then we also considered the question of do we have a problem of access to upstream invention restricting subsequent development in biomedical invention, and that's where the issue of breadth comes in.

And, in fact, while we find no horrendous problems emerging in that area, we see some significant potential for problems and I think that's illustrated perhaps by Geron's patents in the area of embryonic stem cell research, where Geron wants to sort of keep these patents, restrict them to its own use for specific cell types. In a negotiation with NIH and so on, they kind of restricted the number of domains, but even the domains that were left to them were fairly broad and important. And there I wouldn't necessarily be sanguine about the prospects for Geron licensing

these things broadly, if past behavior is any indication though, there is a prospect there that the science may bypass them in some sense. But again, if that science wasn't running around, we might have a problem there. So, thank you.

MR. WILLIAM COHEN: Ron Myrick?

MR. MYRICK: Just a few thoughts.

First, just to clarify the record, I didn't intend to say that there was, in fact, a patent on the vacuum tube that stopped things. It would have done so, but the point that's being made here -- we have got several little issues here.

First, the issue you posited was undue breadth. Well, undue breadth equals invalidity, so the issue is what's due breadth, okay? And I think that's a complicated question. It may be an industry-specific thing, and I think we'll talk about that more probably in the afternoon. But, I would give you another theoretical comment, and that is that the most valuable patent is the narrowest patent that's actually infringed. And why is that? Because if you have a really truly broad patent that is questionable, you are going to be very loath to put that on the block and subject it to all the vagaries of adversarial proceedings. If you have a narrow patent that's

actually infringed, you have no fear of that, because you're going to be able to go out there and say, by golly, I'm after you, and I've got a patent here that's got 35 limitations. You go find the prior art that's going to go invalidate that thing.

So, people who really, really have an intention to use their patents appropriately, I think, cast their claims at an appropriate level where they're useful, not at a level where they've got this undue breadth virtually equating to invalidity, because then they will never be able to put that patent to a test. Again, this is the real practical world that I'm dealing with, or trying at least to deal with.

You raised also the issue of undue narrowness. Now, that's really a problem, and we're certainly finding lots of narrow patents coming out of the interpretations of the Federal Circuit and the recent changes in Festo, which may or may not help, I don't know, but we're getting lots of narrowness. So, I don't think there's any shortage of narrowness in patents and the interpretation in terms of scope as they go through the Federal Circuit.

As regards this whole business of thickets, I first suggest that there is no definition here as to what a thicket is, and it's being used broadly as a

term of art without really agreement among anybody as to what it means. But, I can say this to you, if it just means there's lots of patents out there, okay, fine, there are lots of patents, but there have been lots of patents for a long time and lots of art areas where, for example, IBM makes $1.7 billion net in a field that has lots of patents, and they have got a strategy that allows them to make all that money off those licenses to those patents. It may be a complex technology, but be that as it may, they live in the world of the greatest patent thicket, if there be such, and they do a very good job of it.

But, I would say this, here's another issue, if you want to tackle something of interest, tackle this one, tackle the fact that the Patent Office often requires restriction requirements that proliferate the number of patents when, in fact, one true inventive concept is involved. And yet, because of the way the Patent Office is funded, and that is off of fees for patent applications filed and fees for patents issued and maintained, there is every incentive for the PTO to divide patents into a thousand pieces and get those thousand pieces issued, because they all take a filing fee and they all take a maintenance fee or several maintenance fees.

So, I think the thicket issue is far, far more complicated than just glibly using a term that seems to imply there are just too bloody many patents. There's a lot that goes into that issue of how it is we end up with so many patents.

Thank you.

MR. WILLIAM COHEN: We heard a little bit about IBM, and I'm just wondering, we have someone in the industry here with Bob Barr. Do you have any comments on what you were hearing there?

MR. BARR: Well, I'd ask whether that's a good thing for anyone but IBM, that they generate all that licensing revenue, and I won't answer that, I'll just ask it.

I do think that there is a problem with the thicket and the number of patents, because it's one of the reasons that an innovator has a major problem trying to figure out what patents he requires licenses on, and I'll just put it that way, what patent licenses are required for him to go forward or what things he can't do -- I'll try not to use infringement but to understand the landscape, the more that's out there, the bigger the problem. That's one of the problems I also referred to earlier, the secrecy of pending applications, and in addition to the quantity and the

difficulty of understanding what claims will issue. But what it comes down to for me, since I'm concerned with innovators understanding the cost of innovating and the risks, is not so much patent breadth and breadth of claims, because within one patent you can have broad and narrow claims, but predictability. It's the one area -- I don't feel this way about obviousness -- but it's one area where I think we have to recognize that these are treated like property rights, and the boundaries should be just as clear as the metes and bounds around your house.

MR. WILLIAM COHEN: Bob Stoner.

MR. STONER: Yes, I'd just like to make a comment about a concern about broad patents. And, it seems to me that the debate regarding the justifiability of very broad patents on upstream pioneer innovations it seems to me to be as much as anything about the nature of the innovation process itself, about the stage at which the costs and the risks of innovation are likely to be the greatest and where appropriability can make the greatest contribution to innovation. It seems that there are at least a couple of ways to characterize the innovation process, and the description regarding broad patents is different in each of these settings.

On the one hand, there's a situation where the initial innovative act is expensive and time-consuming and unlikely to occur on its own, and the follow-on innovations, by contrast, occur rather predictably and quickly and inexpensively from that act. In this type of world, it seems like the key to the process of unlocking innovation may be to give as much patent breadth as possible to the initial innovator and to try to induce the large outlays of capital and time that are necessary to bring forth this initial innovation, because the innovation wouldn't otherwise be forthcoming.

Broad patents in this context will assure upstream appropriability, and downstream innovations won't unnecessarily be inhibited, because in this predictable setting that I am hypothesizing, efficient ex ante licensing will be more likely to occur.

On the other hand, there's the situation where the cost of initial discovery is small or is exogenously occurring, and the real time, cost, risk, unpredictability, if you will, comes in developing the initial invention into something commercially viable, and often in these kinds of settings, there are multiple failures along the road to commercial development.

In this type of situation, it would seem that broad patents for the initial innovator are less necessary for the initial invention and may be likely to block follow-on innovation. So, what's necessary in this situation is for broader patents for the follow-on innovator to offset some of the downstream risks and costs.

So, in conclusion, then, I guess to the extent that each of these paradigms of the innovation process is representative of particular industries, it seems that we have to determine patent breadth with some flexibility and cognizance of these differences, even if we don't actually apply different standards to these industries.

MR. WILLIAM COHEN: Let me throw into the mix of the discussion the enablement doctrine and some of the aspects of that, particularly undue experimentation and predictability of the art, which I know we've been talking about. I think we heard from Rob Merges a similar idea, sort of making the point that, to the degree the art is unpredictable, follow-on innovation is likely to be more costly, and you would want a greater piece of the pie to go to the follow-on innovator, and that perhaps the enablement doctrine, based on the art, might be generally getting us in the

right direction.

Does anyone have thoughts that go to this, as well as the other issues that have been put on the table? Let's start with Jim Pooley.

MR. POOLEY: I don't have a response to that one yet, maybe if I think about it a little more, but I did want to make just a couple of comments, one following on Ron's.

I certainly agree that those who secure a broad patent may be nervous about putting it into enforcement for fear of its being attacked, and it's conceivable that that could introduce some discipline into the process of claiming. But, I also have to observe that, at least in what I've been seeing recently, many, many people, especially those that are motivated to acquire or develop patents for the purpose of asserting them, and some of them because they're licensing companies of the kind that Bob described that go out and acquire patents, will actually work them over if they're still in the Office and in trying to expand as many claims as possible on the theory that they will be saved in the end either by dependent claims, and they will have many of those, or simply by the presumption -- the presumption of validity and the in terrorem effect of simply having the patent and asserting it and getting

some sort of a settlement.

Then I just wanted to comment on what Professor Stoner said, and perhaps I'm not understanding it thoroughly, but it strikes me as something that ought to concern us if we're looking at trying to identify the breadth of an enforceable invention by putting into the calculus how much investment was made in creating it. That sounds like a potentially mischievous direction to be going in, that the breadth of the invention certainly should be considered in the context of the particular industry and the particular art, but fortuitous discoveries of a broadly applicable pioneering invention ought to, it seems to me, have the same level of protection as ones that take someone a long time to put together.

MR. WILLIAM COHEN: Jay?

MR. THOMAS: Thank you. I also have just some brief comments on some of the things I've heard previously.

First, I don't think it's that appropriate to speak to broad or narrow patents for the reasons that were just identified. In fact, patentees don't have to select between broad and narrow patents. They can have very broad claims, medium-sized claims and many narrow claims within one patent. And so, in fact, they don't

have to make such a choice. All the claims can be asserted at the same time with the enablement doctrine potentially with different applicability. So, it is not as if you're ever forced to say, well, I've got to go in with a broad claim or I worry about this broad claim.

In fact, you can seek a re-issue application and get many narrow claims. Many sound firms will maintain continuation applications at the Office and simply get narrow claims on the fly as they need to present a tight seal against accused infringement. So, in fact, we're not ever putting patentees to a hard choice between narrow and broad patents. They can have as many narrow or broad claims as they wish. So, to me, that's not a very realistic distinction.

Also, the Festo case certainly is bringing narrow claim interpretations, and I think the Federal Circuit is very animated by the fact that it wants to achieve commercial certainty so that competitors can read claims and know how they can design around. But, I think what's forgotten in this mix is, again, that inventors, firms, can obtain many patents, many narrow patents, instead of just one broad one. So, in fact, the goal I'm not sure is entirely being achieved.

It's true that certainly for the body of

existing patents, there will be some unsettled expectations, but prospectively, firms will simply obtain many claims instead of one, seeking tighter claiming, and take more advantage of continuation practice. The difficulty to this approach, although it makes patents easier to read individually, you know, prospectively, it puts a great burden on innovative industry and on patent administration, because firms have to prepare and the patent administration has to process many more claims, many more patents, than they had to before. So, those create a lot of difficulties.

I think one thing I'd be interested in learning from the Commission, or one contribution you might make, is to identify to the patent courts and the patent bar what hooks exist in the patent law that we can implement competition policy through. The copyright law seems to have fair use, notions, it's got a merger doctrine, much more concern, for example, about interoperability. There are existing notions within the copyright world that can take advantage of economic learning and decide what is the most efficient market. But, in patent law, I think because it's regarded on many more formal distinctions, and I think the current structure of patent common law making doesn't promote innovation in patent law. It tends to

sequester these notions. I think enablement, written description, reverse doctrine of equivalents, these present potential statutory hooks that have so far been unexplored that could be used.

I think a great starting point for this discussion is actually Professor Duffy's and Professor Merges' case book. If you've read the wonderful materials they've put together, especially the example of the fuzz ball, which I guess I'll leave for another to explain, but it suggests, again, to what extent should we allow these broad claims that are minimally enabled, to capture later innovation. And I admire Mr. Stoner's earlier comments, I think these are the statutory hooks through which we can implement some of these policies. The question is, how do we sort of get from the policy into the formalities of the patent law?

Thank you.

MR. WILLIAM COHEN: I see Ron Myrick's sign up, but before we get to him, if you want to talk about the fuzz ball, I'd be fascinated in hearing about it.

MR. THOMAS: I didn't mean to set you off. I must say, I used a competing case book, but I did use that example, so I hope you'll forgive me for lifting that, but I thought it was terrific.

MR. DUFFY: You, of course, use your own case

book, which is a fine case book, but if you want a complimentary copy of my case book, if you want to consider switching, I'd be thrilled.

The theory of the -- this is just the basic concept of when enablement is tested. Enablement is tested as of the time of invention. At that time, the art can be not well developed so that you could say, I can claim, I've invented a fuzz ball, and this is a new thing, and I've made one fuzz ball, which is made of material A, and that's the only material we know of that can make these things. So, I can at that time claim all fuzz balls, because, of course, I have enabled everything that we know of as a fuzz ball.

Then later in time, somebody invents another material which can be used to make this product, and at that time, it will be considered infringing, because the infringement inquiry goes to an analysis of the claims and the product at the time the product is produced, and it also can be considered to have been enabled, even though it wouldn't have allowed you to build the exact product at the time it was filed. I think the fuzz ball is sort of -- it's in the case book -- a fanciful example.

A real world example would be the Wright Brothers patent, which actually was subject, as many of

you know, was subject to -- became a very famous case of blocking patents, because the Wright Brothers patent was actually not on the airplane, it was on a stabilization system for stabilizing the aircraft. Prior art aircraft tended to crash into the ground almost immediately. So, what you needed was a stabilization system, and that was their real contribution to the art. And, it's the stabilization system that's still used on all -- as far as I know -- all aircraft, certainly all commercial aircraft, maybe there are some military aircraft I don't know about. But it's basically the idea of stabilizing, using -- they actually said disbanding or distorting of a portion of the wing on their aircraft, and they described how you do that in order to achieve stability, a very useful technique that was improved by Glenn Curtis' invention of the aero log, the flap, the wing flap. And, basically after that invention, any commercially viable aircraft needed both the Wright Brothers technology -- needed to actually use the type of stabilization that they talked about -- and needed wing flaps in order to make commercially viable aircraft.

The Wrights were actually considered to encompass Curtis' technology, though Curtis separately

had a patent. So, you might say, well, how did the Wright Brothers enable these later versions of aircraft, because they didn't have wing flaps? The answer is that they enabled every type of aircraft that was then known, which was very primitive aircrafts. Then, of course, when you look at the infringement, you look at their claims, which were drafted quite broadly. And actually it didn't say warping wing, it just said orienting a portion of the wing in a slightly different direction from the other part of the wing, which the courts held that encompassed the concept of a flap as well as the actual technique that they used, which was actually to bend their wing, to warp their wing.

So, it created a very significant problem of blocking patents, because both Curtis had a patent and Wright had a patent, and they blocked each other. In fact, actually, as the United States entered World War I, the United States Government basically twisted their arm to agree to a patent pool so that aircraft could be made.

So, that is a basic problem, the temporal problem of looking at enablement at the time of the invention, looking at infringement at the time the infringing product is developed. It's nothing more really than the blocking patents problem.

I think actually patent breadth is often talked about in terms of enablement. I think it's important to realize that there's also the non-obviousness as a major component of patent breadth. And, if you have a weak non-obviousness doctrine, that means that even if you have a sort of significant invention, you run the risk of having other inventors come up with numerous, small improvement patents to your basic technology.

If one were to say, in the extreme, the non-obviousness doctrine is weaker or nearly nonexistent, then these improvement patents have two major effects. One, they divide the royalties between the first inventor and the later inventors. So, to some extent the non-obviousness doctrine is implicated here. And, if you think a sort of weak non-obviousness doctrine which creates more patents is inventor friendly, you have to realize that that's not entirely true because the first inventor, who perhaps did the hard work, who discovered what would be called the hard principle in the 19th Century, is going to have to split royalties with the improvers who are coming on and filing improvement patents.

The other effect, which is often overlooked, is that the improvement patent also, even if they are obvious improvements and we are willing to grant

patents for relatively trivial patents, it will extend out the flow of royalties that will go to that technology. So that if I patent the laser today, and then there are 15 improvement patents filed over the next ten years, my royalties might actually extend 30 years into the future, rather than just 20 years into the future.

So, that's an important effect to remember about patent breadth. It's not just about shifting around the allocation of royalties, it's also about extending out the royalties into the future.

MR. WILLIAM COHEN: Ron, you took your thing down?

MR. MYRICK: No, having been recognized, I saw no reason to keep it up.

Just a couple of points, and I really want to hear what Gerry has to say about the Wright Brothers -- you've got to tell us about --

MR. MOSSINGHOFF: I wasn't there.

MR. MYRICK: But the discussion that's been had so far has I think now begun to focus on what due breadth is, ignoring undue breadth. Due breadth is, I think, tightly pinned up with this or connected with this enablement issue. But, I am going to ask one other question perhaps to put on the table, and maybe

it's for this afternoon's later discussion, I don't know, and that is, would the concerns that are expressed about upstream patents versus downstream patents and so forth be addressed at all or improved at all if there were developed a law of experimental use as an exception to infringement? Is that going to be discussed today?

MR. WILLIAM COHEN: That will be a major topic of the last session, the research and --

MR. MYRICK: Well, yeah, that's the session --

MR. WILLIAM COHEN: Yeah, the last topic for this session.

MR. MYRICK: Because it seems to me, that addresses most of the concerns I've heard about the upstream versus downstream as far as stopping innovation is concerned.

Now, commercialization of innovation is something else. I'll stop there.

MR. WILLIAM COHEN: Gerry?

MR. MOSSINGHOFF: Just a couple comments.

I totally agree with what Ron said earlier about the due and undue breadth. If somebody says that -- I think the statement used here, unjustifiably broad patents, I know what an unjustifiably broad patent is. It's one that, one, shouldn't have been

granted, and two, will be held invalid when somebody is trying to enforce it.

In addition to the enablement, there are three things that kind of bear in upon what you get. There's a rhyming maxim that Judge Rich used to use, and that is, "The claim is the name of the game," and that really is true. You're really talking about patent claims. You're not talking about patents. You're talking about what claims 1 or 38 in the patent, that's key.

In addition to the enablement, there's prior art, and broad patents are subject to the prior art that the Patent Office finds, and perhaps more importantly, they are subject in their own due to prior art that an ambitious defendant will find and also the written description requirement. That bears very heavily I think on the breadth of the claims, and particularly so in what you could either characterize as the unpredictable arts, some people just call it the chemical/pharmaceutical/biotechnology arts, where in the other side, in the mechanical/electrical, the general rule is, you can claim as broad as the traffic will bear.

You show me a circuit diagram, and I used to be able to tell you whether it will work or not, and you

show a mechanical engineer a gear box or a turbine engine, and he or she will tell you whether it works or not, whereas in the chemical or unpredictable area, one alloy may work to do something and the second alloy may totally fail. So we disclose one, and you can't claim broader than the one you disclose unless your written description requirement is established.

So, I think that's an important distinction or an important thing bearing in on breadth of claims. Enablement, prior art, obviousness used with the prior art and written description, all bear upon that. If it survives those areas, it's not an undue -- it may be an industry-dominating patent, like the transistor patent or the microchip patent. It may dominate industry. The answer is great, we now have a really neat new invention and a really neat new industry that's going to eventually form out of this.

Finally, a footnote on the Wright Brothers, the associated --

MR. DUFFY: I knew you would have something about that.

MR. MOSSINGHOFF: Well, since we're in a semi-antitrust environment here, the patent pool that John mentions of the Manufacturers Aircraft Association, if you fast forward about 60 years, it was

held to be an antitrust violation and broken up at the request of the Department of Justice Antitrust Division.

MR. DUFFY: The Government just changed its mind.

MR. MOSSINGHOFF: Different Government.

MR. DUFFY: Different government, that's true.

MR. WILLIAM COHEN: Now, let's open things up to cover both enablement and written description, and I thought one way to approach these issues would be much along the lines of what Gerry was just talking about, recognition of the fact that although we have the same standards across the board, in application, they may turn out a bit differently, depending upon the predictability of the art, the interpretation of PHOSITA in a particular context.

I guess perhaps, again, the place to start would be to ask what you see as the competitive consequences of the choices that are made in interpreting these issues from industry to industry. For example, in biotech, we hear that you often have to give quite complete descriptions. In computer software, we sometimes hear that you don't need to reveal underlying code.

Also within an industry, at different stages,

you could ask the same kind of question. We heard at one point in the hearings the thought that as you move downstream from basic research to end products, the process becomes more predictable, and therefore, what's required to enable can vary between the basic-research and the end-product settings.

Would anyone care to delve into the contrasts that can be laid out? Professor Cohen?

DR. WESLEY COHEN: Just to return to the theme that I had mentioned a moment ago, that in our own research, again, our work that we've done, we've seen that patents are used in different ways across different settings. And, something that certainly conditions that is essentially what we might think of as the number of patents per commercializable product. And Jay Thomas I think brings up a very good point there and, indeed, as does Ron, that to some extent that number is endogenous with respect to the patenting strategy of the firms involved, but that endogeneity notwithstanding, I think we can draw broad distinctions.

Then I think that the issue really becomes one for agencies like the FTC in the sense of, well, if we're concerned about competitive implications, perhaps these different ways that patents get used, different

systematic patterns across industries might provide some guidance to you folks, right, in what you might look for, okay, in terms of particularly competitive implications, and I think that's really the key. I don't see it so much that then patent law should be tailored to different industries and different settings.

I think there's not been great experience with kind of sui generis treatments in the world of IP, though we have observed attempts. So, you know, it should provide you some guidance about what to look for if it is broad and so on, in the courts or in interpreting enablement, written description issues more or less broadly in a particular domain, like biotech, for example, versus software, then what might be the logic to that about the competitive implications and therefore the kinds of behaviors that you might want to attend to.

MR. WILLIAM COHEN: Meg?

MS. BOULWARE: Well, I turned my sign up so I would be half-cocked and be recognized here just at the time that Wes was mentioning what I was going to say, and that was that tailoring patent laws to different industries I think is not a good idea, and Wes said it very well. So, I'm not going to say anything more, but

we were going to discuss written description, enablement and best mode, and one of the things I would like to put on the table is whether best mode is serving an interest of U.S. patent law at this time. Do we need best mode?

We were discussing that during the lunch break, and I'd like to hear from the collective wisdom at the table, because it seems to me one of the reasons it's included as a statutory requirement is you don't want the patentee to hide the secret sauce. You don't want them to keep the secret sauce a trade secret, and you want to make sure that they've got the best mode in the written description. And, there's been a lot of discussion in the United States because best mode is unique to the United States, I believe, I don't think there's any other system that has best mode, and it contributes to litigation quite a bit, often I dare say as a red herring, as an attack to a patent, and I'd like to hear if there are others who have comments regarding best mode.

MR. WILLIAM COHEN: Let's go ahead and have a best mode discussion, and keep in mind the issues that are still outstanding on enablement and written description. After we're done with best mode, I'll see if anybody wants to return with any further points on

those.

Ron?

MR. MYRICK: I do want to return to that issue about how much description is in software, but we will come back to that later.

On best mode, best mode is perhaps truly unique to the United States, but I really have a concern about changing it, and here's why. We have seen recently an attack on the constitutionality of the extension of patent -- copyright term in the Eldred and an attack, in fact, upon the ability of the Congress to pass a law which seemed to be within clearly its purview. Whether or not that will -- we will be guided by what the Supreme Court ultimately decides in Eldred, but having seen that and having heard in the past few months efforts to remove best mode from our statute, I have a concern that, as easily as one could mount an argument that 70 years is not a limited term and 50 years is, one could easily mount also an argument that it is implicit in the constitutional bases for the patent law that the inventor disclose the best way he knows to practice the invention in order to justify the award he's going to receive of exclusivity.

In fact, best mode was not added to the statute until 30-40 years ago, I've forgotten exactly when, but

having put it in the statute, the concern I have is that we take it back out of the statute, and now we work for ten years before a case comes to the Supreme Court without having a best mode statute, without having best mode in our situation, and now the Supreme Court hears that attack, a la Eldred, and says, ah, yes, au contraire, it's improvident that you did not disclose the best mode you knew of practicing the invention. You have not kept faith with the public in getting your exclusivity. All patents that don't satisfy best mode are invalid. And we will have a whole half generation of patents that will be thrown into a cocked hat with all matter of additional litigation. So, while many of the bar associations are considering an effort to remove best mode, I think we have to do it with great caution that, in fact, we may create more uncertainty than we already have about best mode. Now, that's my basic position on best mode.

As far as operationally, best mode does not present any problem.

MR. WILLIAM COHEN: Wes, are you up for best mode or --

DR. WESLEY COHEN: No, no, no.

MR. WILLIAM COHEN: Anybody else on the best mode area?

Yes?

MR. BANNER: I do come to best mode from the litigation perspective, and I do agree that it can introduce a great deal of additional cost to both sides in the litigation context. But, of the $3 to $5 million that Bob was saying is the going rate, it's probably a smaller number than that, because it is a very discrete inquiry, and Ron mentioned operationally, he doesn't have a problem with it.

As a litigation aspect, except in cases where you have very complex inventive entities, teams of people, best mode, at least in my practice, has not been too difficult to evaluate in the overall context, at least as compared to claim breadth, which is completely unpredictable, claim construction, and some obviousness issues, which are very difficult to predict.

Best mode is one of those things that I find you get a little information on, and then you decide whether it's a red herring, because you really don't want to press it too far if it's just a waste of your time and energy, because it also loses your credibility and, the most basic of qualities, the attention span of the trier of fact.

MR. WILLIAM COHEN: Jim, I know you've got some

thoughts on best mode. Are you happy with the discussion where it is or do you want to add anything?

MR. POOLEY: I don't think there's anything particularly useful to add. Among the people that we have talked to about it, clearly best mode, although it interjects issues of state of mind into the process which always increases unpredictability and to a certain extent expense, because we're focusing on what it was that the inventor had in mind, as what he thought was the best or she thought was the best mode at the time, yes, as Mark has observed, most practitioners see this as a lesser problem than, for example, willfulness, which was raised earlier, which is almost universally, you know -- not universally condemned, but certainly there is a universal concern.

MR. WILLIAM COHEN: Let's use that as our segue back to enablement and description, the thought being here to talk a little bit about the value of the disclosure. This is something we had started into a bit this morning, and from there we can move into the roles of the willfulness doctrine in affecting the value of the disclosures.

Would anybody like to start us off on disclosures? Wes?

DR. WESLEY COHEN: If I can just speak briefly,

add a little bit more detail to our research that I reported on previously, why, for example, do disclosures seem to have more of an effect in Japan than in the United States, okay? I think when you think about disclosures and their impact, you need to put disclosures in the context of a broader incentive structure, that what is the incentive of other firms to really examine in detail the patents of firms, of their rivals and so on? We heard a bit about this, that engineers, you know, don't really worry about other patents.

In Japan, the incentives were much stronger, which is back when we originally administered our survey, you had what was called a pre-grant opposition system, which meant that opposition to an application could be brought even prior and much prior to the grant of any patent, and that was the restricted time for that, and that was a firm's best shot in Japan at essentially getting a rival's patent thrown out, okay? That's incentives. That provides very strong incentives to be looking very quickly and closely at rival patents.

Also, there you had a priority with first to file rather than first to invent, which also had the effect of getting patents filed sooner, and then they

had an 18-month rule before we did, and so that even got them issued sooner.

But in any event, my main point is that it's not simply a matter of what's in the patent, but what are the incentives on the part of other firms and engineers and so on to really look at it carefully. And our sense is that at least drove, at least as much the disclosure impact of patents as what was actually contained in the substance.

MR. WILLIAM COHEN: Gerry?

MR. MOSSINGHOFF: I would just comment on the enablement. The issue was raised in the two-page sheet you turned on about why you don't have to disclose source code in a computer software application. And I agree totally with Wes and with Margaret, that to have some kind of a requirement that you do would be contrary to general patent law. General patent law says you have to enable someone skilled in the art to make or use it. Many times, just a detailed flow diagram would give an ordinary programmer the ability to use C-Plus-Plus or whatever the programmer wants to use to write the program.

So, I don't think there would be any support for a provision that says, somehow for software patents you have to disclose the source code any more than for

a lathe you would have to disclose the exact tolerances that it would be machined by, or with a pharmaceutical you would have to disclose the pharmaceutics involved. That's never required, not required in other arts, as long as you enable one skilled in the art to make and use the invention. I think that's exactly the same test that should be applied in a software invention.

MR. WILLIAM COHEN: Ron.

MR. MYRICK: Thank you.

On the issue of willfulness, I've already stated my position earlier today. I think it's a terrible deterrent to the use of the patent system to its full extent. I honestly cannot see what purpose it serves. One could analogize it to the deterrent to violation effect that is achieved by the treble damages in the antitrust laws, but that's a different kind of situation.

In this situation, patent laws or the patent system is intended to serve another purpose, and that is education, disclosure, advancement of the arts and so forth. And, it is perverse to make it less desirable that people read what it is the public's paying for. So, it is beyond me how it is that ever got into the system, and it is beyond me still why it's still there, but that leads to a couple of other

thoughts.

Assuming you're willing to take the risk of knowing something about what the patents are of your opponent or of your competitors, there is a definite incentive to acquire that knowledge and to use it. Again, I re-emphasize the fact that if you have large running product lines and you prefer ignorance, you risk terrible embarrassment, damage to the trademark, damage of all manner of issues. So, it is far, far better, if you're willing to take the risk on this willfulness thing, to avoid that by staying abreast of what's going on in the patent field and avoiding those patents and inventing around and so forth. You actually can learn that's beneficial.

But that leads to another issue that's presently alive in the patent reform strategic plan, and that is deferral. It is antithetical to a system which is intended to disseminate information rapidly and then also to disseminate the innovation that comes from that rapidly, to have a system that also defers prosecution, defers examination and so forth. So, one of the reasons that the Bar has been so adamant in opposing deferral -- not universally, by the way, I'm speaking for myself personally -- deferral of examination is because it builds in even more delay in

the system in determining what it is that will actually be patented, what those claims will actually say in the future, and therefore, what it is you actually have to avoid.

So, I would emphasize, then, that these things are all tied together. Getting rid of willfulness is goodness because it helps to disseminate the information. Having the Office make its decisions rapidly is goodness. Publishing all applications is goodness, and so forth, to make the system really function as it's supposed to and provide the incentives that you're looking for.

Thank you.

MS. DeSANTI: Yeah, I just want to ask if there's anybody at the table today who would like to defend the willfulness requirement. We find so few areas of consensus.

MR. BANNER: I won't defend it, but I have seen numerous instances where despite a finding of willfulness, a district court judge -- willfulness by a judge, the district court judge -- despite a finding of willfulness by a jury, the district court judge did the right thing and did not enhance damages, and the only practical impact of willfulness is the in terrorem effect of the fear of treble damages, which is a

reasonable fear, especially when you're representing a defendant.

But I have not seen it have as bad an impact as it could have, but by the same token, I agree with Ron to the extent I'm not sure it has as significant a positive effect as perhaps treble damages has in the antitrust laws. So if that's a defense, that's the best I can offer.

MS. DeSANTI: Jim?

MR. POOLEY: I think it's true what Mark says, that there aren't that many judges that actually take a finding of willful infringement and then enhance damages, so that the fear is a fear in the abstract. Nevertheless, it's a fear that animates decisions earlier in the process, including transactional decisions before litigation, and it also animates decisions, as Ron has pointed out already, in some industries not to look at some patents at all, as we've discussed.

There is also the cost in the litigation itself of all these collateral issues relating to having to obtain opinions, and the cottage industry that's grown up around that, and the rules created by the courts, creating presumptions that if one doesn't get an opinion, there's a good reason why, and there's a

negative reason there, and all of the issues around the attorney-client privilege scope and so forth. In short, it's a very, very high cost in the actual processing of litigation.

So, in the end, I think the justification for it is to put a cost on infringing, so that it's not just, well, I may as well infringe, because if they don't catch me, then I'm Scot-free, and you can go through that calculation. But, given what Bob has observed, which is correct, about the average cost of litigation, you know, one would only go knowingly into infringement having made a pretty hard calculation to begin with.

MR. BANNER: Can I follow up on that?

MS. DeSANTI: Yeah, Mark and then John.

MR. BANNER: I agree entirely. I think most judges, the smartest judges who deal with enhancing damages don't deny enhanced damages, they just give you 10 percent. Then they know they won't get reversed. I think a major difficulty with willfulness determinations is those transactional costs that are just built in, not only to the decision-making process and the cottage industry of opinions, but also to the trial management issues, to the unseemly impact of calling every lawyer in the world as a witness and just

generally to the disqualification which was -- there's all kinds of things, and I'm not sure they are costs that are justified by this benefit of deterring infringement.

I think there's an awful lot of good deterrents for infringement to begin with, one of which is the fact that the low end may be reasonable royalties, but there's always the possibility of injunction, and the high end is a damages theory that is limited only by the creativity and sincerity of very highly skilled economists.

MR. WILLIAM COHEN: Let me ask is there some way to vary the threshold which could trigger the treble damage exposure, to preserve incentives to avoid infringement. For example, rather than triggering it merely from having notice about a patent, by trying to find out what's out there in the field, what if the requirement would be that you were given notice by the patentee? Are there other thresholds that could be used with better results?

MR. POOLEY: If I could respond to that, I think there are other thresholds that could be used like that, for example, but not with substantially better results, because most of the cost would still remain. Most of the consequences that we've been

talking about, even with a notice system, an express notice system, would remain.

I mean, one of the issues that's been thrown out in this context is to replace, if we do away with willfulness, perhaps replace it with a lower bar on the recovery of attorneys' fees, you know, as another disincentive. You can tweak the system a number of different ways.

MR. WILLIAM COHEN: John?

MR. DUFFY: I just think that if you want to approach the issue of willful or treble damages in patent litigation, you should look generally to the theories as to why we enhance damages or apply punitive damages in any kind of litigation. There's a fairly extensive, long economics literature on that.

I think the general theory is that one very good reason why you want to enhance damages is, you definitely want to enhance damages if you think there's a category of cases where, in some instances, the guilty party gets away. Then you need to have treble damages or multiples of the actual damages when you do actually catch the person.

So, one important variable to figure out when you are deciding whether you should have multiple damages or punitive damages -- multiple damages is just

a class of punitive damages -- is to decide whether or not it was likely that this person was likely to get away with their infringement, with there being perhaps two issues there. One, whether they could hide the infringement in some fashion, which I think is important. The other is, of course, whether they could in some fashion strong-arm the other party.

There's a small inventor who has a patent and a company says, well, you can sue us, but we are going to drain you of all your capital before you can actually complete the litigation. Then if you think that's a realistic story, then that might be another situation where you think that treble damages or willful damages are appropriate when, in fact, actually people are successful in bringing the guilty party to heel.

So, that literature that exists for general punitive damages should be considered, and I think in many instances it's not applicable to the patent context. In many instances where there's patent infringement, it's going to be adjudicated. The parties are actually going to litigate it, and therefore, the number of cases where the infringement won't be caught, won't be remedied if it, in fact, is infringement, are relatively small.

The other variable is, of course, the integrity

of the patents at issue before the Patent Office. There is a legal presumption of validity, and academics have talked about whether or not that makes sense. Actually, Jay Thomas has talked about that. Obviously, to the extent you throw willfulness on there, you're demanding more from your Patent Office. You're demanding that the patents that issue from it not only are going to get this legal presumption of validity, but that you really do have to avoid every patent.

You really do have to worry about avoiding patents because they're supposed to be fairly rigorous documents, and you can't just come into litigation and say, well, I knew the opponent had a patent, but so what, lots of patents issue from the Patent Office, lots of patents get held invalid. That's not sufficient under current law, but perhaps that should be. Perhaps if we think that the Patent Office is nonperforming, it doesn't have enough resources or technologies to perform well, then stripping away willful damages makes more sense.

MR. WILLIAM COHEN: Gerry?

MR. MOSSINGHOFF: I'll just comment on that, I was personally involved in several cases where willfulness was alleged -- it's in the word processor, so when you push the button for complaint, you get the

willfulness paragraph -- and there's a real dilemma on the part of the alleged infringer where a host of patents are called to the infringer's attention, and they have a patent attorney who looks at it, and they say, well, this obviously doesn't have an A, B and C, and that's required in all the claims, sets it aside. That may be precisely the one that causes the problem. He did not get an opinion on it.

I mean, so it really is -- there's a dilemma on the part of potential infringers that I think ought to be avoided. I fully support the abolition of willfulness, even though several of my cases will go away.

MR. WILLIAM COHEN: Okay, I see three signs up. Let's try to get them, and at that point, we are probably going to move into continuations and finish this portion of the day. Let's try Steve Merrill.

MR. MERRILL: I'm going to change the subject.

MR. WILLIAM COHEN: Well, let's finish up this one. Tell us what your subject's going to be, and we will see where it fits.

MR. MERRILL: I was going to get back to the question, Wes' question of whether there's something problematic about the content of patents and disclosures as distinct from incentives to consult with

one another.

MR. WILLIAM COHEN: Okay, let's take you up last in this section.

MS. DeSANTI: I'd just like to ask Bob Barr to speak to the issue, and also, Bob, I'd be interested in the extent -- you had talked earlier about the patent thicket problem. Could you talk about willfulness as it relates to that patent thicket problem and the extent to which, if you got rid of willfulness, would it ameliorate your problem, if so, to what extent?

MR. BARR: Yes, thank you, that's exactly what I wanted to address, because I'm once again the contrarian, in this case maybe in a surprising direction.

Changing the willfulness standard to where you have to be notified, logically that does help the problem of patent clearances, wanting to do patent clearances and patent searches. So, you raised that question, Bill, and I just wanted to answer it that way.

There are certainly all these other issues with willfulness that -- I don't disagree with those issues -- but the most important issue to me is getting rid of it or at least changing it to the point where doing a patent search does not subject you to the risk

of willfulness, because that really makes it impossible in my mind to do, because everything -- you know, you're at the risk for each one, you have to get an opinion and so on.

So, I think it does help that. But then that gives me the opportunity to return to that just for a moment, the idea that infringement can be avoided, because I -- and maybe this is something for people to teach me offline, but I don't see what can be done about the following problems in addition to the -- well, now I am going to look at every issued patent and spend all the money, but I don't have to worry about willfulness. That's fine.

Then I've got the issues of uncertain scope of issued patents, which I brought up and which was just raised in the context of willfulness, where you go through all the patents -- and I have had this experience, as have others -- you go through a stack of patents, say, well, these are not a problem, these are a problem, these are in the middle, but it's the stuff from this stack that you didn't think it was a problem that comes back to haunt you later.

So, that to me is just an issue of claim uncertainty and the incentives for litigating or for demanding damages, less than $3 to $5 million, that

some people find a good way to make a living. So, the point is that you still have claim uncertainty, and I'm not sure of all the ways to fix it, but we have discussed some of them today.

Then you have the unpublished patents, and to the extent you have the published patents, you have an even bigger problem of claim scope uncertainty to deal with.

Lastly, at the risk of repeating something I said earlier, at least in my business, I think it is very difficult even to -- you know the date a patent issues, and you look at it, and you go, oh, that's a problem, you're looking at a design-around effort or, excuse me, an effort to change things and to avoid that patent or to invalidate it, which if doable -- or let's say it's not doable. Let's say you decide it's valid and you have to change your product. When we start changing our routers to avoid that patent, don't send any e-mails for a while, because it's not going to get there until we fix the problem.

So, please don't underestimate the problem of redesigning the product, and some of the literature in this area spells it out better than I can, that you are kind of trapped, and that's when you're held up.

Lastly, one word that hasn't been mentioned

today -- and I'm not going to go home without it, because it's right here -- standards. There are some patents you can't avoid.

Thank you.

MR. WILLIAM COHEN: Ron.

MR. MYRICK: Thank you.

As it respects standards, I think that's exactly correct, but most internet providers require them to be licensed under reasonable terms, so hopefully that solves most of the problems, and we won't go into that further.

Now, with regard to the transaction costs, I think those are the ones we're talking about here. Implicit in having a willfulness standard, is all the transaction costs that get you to trial. You're sitting there in your office and you get a letter, and now you have got to do something about it, and whether that case ever sees the light of day, you still have got the cost of dealing with that letter or of a patent you're filing on your own or whatever.

As far as incentives are concerned, injunctive relief is enough. That's enough to incent me to do whatever is necessary just to prevent that exact same situation that Gerry talked about -- pardon me, that Bob talked about.

I would distinguish, though, one thing, and that is treble damages should be distinguished from attorneys' fees. Those are two different things, and they should be handled potentially differently. So, when we talk about willfulness, we're talking about perhaps dealing with both of them in the same way -- I wouldn't deal with both of them in the same way necessarily -- and that will address the issue of having the big boy who is going to drain the little guy of all his resources. I think it could be possible to still get his attorneys' fees in appropriate situations. I think that's another issue for another day and another discussion.

Thank you.

MR. WILLIAM COHEN: Let's hear from Steve Merrill, and then we are going to have to deal with continuation between now and 3:30, because we do need to get into the research tools and research issues. We have got a couple panelists who have to catch planes, and we want to hear from them before they have to go.

MR. MERRILL: Well, Bob has asked -- I am simply asking the question, which is, we have had a lot of discussion about incentives and disincentives for consulting patents, less discussion about whether the content of patents is problematic in terms of

disclosure, and the principal example that was thrown out in the advanced material was in software, and Gerry just dismissed that as the lack of underlying code. So, I am wondering if there is a problem, and if there is, whether it is more pronounced in software than other areas.

MR. WILLIAM COHEN: Well, we have heard views from a number of panelists throughout the sessions on that. Is anybody here who particularly wants to take that on? Otherwise, we will just have to go with our record in its entirety.

Okay, Ron Myrick.

MR. MYRICK: I'll just treat it for a second.

When we all started down this path of patenting software, and we were going through mental steps and all these other things back 20 or 25 years ago, we did have to file code at that time, at least there were many of us who thought we did. I was at Bell Laboratories at that point, and we were filing code. We were doing everything under the sun to make sure that we had sufficient disclosures and so forth. We didn't know what they were.

I think with the maturity of the industry and with the maturity of the profession, we evolved away from that to a point where it's probably true today

that most programmers can take flow charts and implement the flow chart if the flow chart reaches the point of novelty. And, I think the issue is, do you have any steps in that flow chart which are themselves requiring experimentation to implement. Most flow charts I see don't, they are relatively good. But, I think that the mere fact that some flow charts might have steps in there that are too gross and actually require some development and experimentation and so forth to produce a particular implementation, that doesn't mean you have to do it for all. That doesn't mean you have to change the standard for all patent applications in that area.

What that means is that particular patent application is defective, and the law on that is pretty clear. You have got to teach, and if you didn't teach, bingo, you didn't make it. Nothing stands for the principle you have to disclose the code. Frankly spoken, disclosing the code may be the best way to obscure the invention. I mean, frankly, if you're looking at 500,000 lines of code, who in the world wants to do with the patent applications on software, what they have done to biotech patent applications, start filing those with disks? So, I don't really see that there's a problem there that needs to be

materially addressed by systemic change. Applying the law as it stands to patent applications as they arrive and are or are not sufficient of and by themselves, should be sufficient for the handling of the problem.

MR. WILLIAM COHEN: Let's let Bob Barr respond on that.

MR. BARR: I'll just be very quick on that.

I disagree on the need for disclosure, but I do want to raise in passing the issue of means-plus-function claims in trying to understand the scope of the means-plus-function claim when you're only looking at a flow chart. I don't think the courts have figured that out yet -- maybe I'm a few weeks behind. I don't know that code would help, but in theory, it would.

MR. WILLIAM COHEN: We have got a few minutes to talk about continuations, and the issue here is that some panelists throughout the hearings have indicated that continuation practice could raise competitive concerns based on patent breadth. They contend that some patent applicants have used continuations to expand the breadth of the original claims after markets have developed and competitors become exposed to what are described as hold-ups.

I'll throw out three questions, and we can take views on any of them. Are these matters of competitive

concern? What are the patent applicant's legitimate needs to broaden claims after the application was filed? And what would be the likely consequences of imposing time limits or other restrictions on broadening claims through continuations?

I see a few signs up here. Why don't we start with Gerry and work our way down.

MR. MOSSINGHOFF: I'll just say that one thing I think people here could agree with is that there ought to be some data and there are no good data now on continuations. There's a lot of speculation. There was an article -- we had a presentation from a former general counsel of Kodak that said something like 80 percent of the cases were continuations. That's not true. I think the article is actually published in the -- was it the AIPLA Quarterly Journal? No -- oh, the Federal Circuit Bar Journal. I think those numbers are not valid, but I don't have any numbers to say there are. No one kept data.

Now there should be data. With the 20-year time of filing, there ought to be very definite data at the PTO on how many continuations there are, because they expire based on the expiration date of the patent, and they ought to be able to break it down both with continuations in part and continuations. So, I think

one of the things I would urge is that the PTO put this data out in some reasonable form, which I don't believe they do now on continuations.

Secondly, there has grown up in several cases I've been personally involved in, an issue of laches, and that is going to -- it's all over the place now. People are now talking about prosecution laches, rejuvinated obviously by the Lemelson case, and so that is going to be a break until we start getting some closure on what that law is, that's going to be a break on these continuing applications, because there could be laches on when you thought your claim ends. Five years seems to be kind of the magic number that defense attorneys are using.

Then finally, several people have said, what do we do post-Festo? Whichever way Festo comes out, it's not going to be all that significant, post-Festo, what do we do. And, I think a lot of prosecuting attorneys say what we do post-Festo is keep a continuation pending until we see exactly what our competitor comes up with, and then we'll nail him or her with literal infringement, and we won't have to worry about doctrine of equivalents. So, Festo, if it did anything, it certainly increased the desire to keep a continuation pending until you find out what your competitor is

actually doing, and you don't have to worry about doctrine of equivalents.

So, those are just kind of random thoughts. At this point, I would put myself down as a hard-line neutral on the issue of continuations.

MR. WILLIAM COHEN: Bob Stoner?

MR. STONER: Yeah, I just observed that the issues that come to the fore in analyzing continuation, i.e., was there a strategic attempt to tailor claims to what has developed in the market and use this to submarine later developments, but that inquiry is very much the same as the inquiry that the antitrust agencies have used in looking at analyzing Dell-type issues, that is, whether firms have strategically misled standards-setting bodies into adopting a standard that infringes one of their claims and whether this has had an anti-competitive effect.

In fact, it would seem possible to use continuations to spring a new patent claim on firms that are producing products pursuant to a standard where no disclosure to the standards-setting body was necessary at the time that the standard was adopted. And thus, it seems to me that continuations could conceivably undercut the antitrust agency's ability to deal with behavior, such as that alleged in Dell. And,

if this is true, then there may be some need for coordination between the antitrust agencies and the patent authorities in dealing with strategic manipulation of continuation.

MR. WILLIAM COHEN: Bob Barr.

MR. BARR: Let me start with the legitimate use of continuations. One legitimate use that comes to mind that we use, and of course, we say the best patent is a pending patent, and, you know, sometimes you've missed your own product, or your attorneys have in their haste to put limitations in, that the Patent Office will allow the patent for. So, sometimes I'll use a continuation once I know a little bit more about our product, can actually put in different limitations and get that done.

But that said, it should be clear from my previous comments, and all day, that one of my great concerns is being out there with a product while somebody else has a pending patent that I don't know is about to cover my product, and the difficulties that that causes for our attempts to innovate. So, certainly the continuation practice, as it exists, increases the likelihood that someone will do that.

Maybe it comes down to what you think of Lemelson. You know, my alma mater made him a hero for

a certain sum of money. I can't afford it, so I -- but, you know, maybe it does, and I'll take this opportunity to get my last word maybe.

Gaming the system is wrong, and I don't see anything in creating patents that you will license for revenue to people who unsuspectingly infringe your patent. I don't see anything there that promotes innovation or that does anything good except for the people who get the revenue. And, I think that the extent of gaming the system is a lot more than anyone wants to talk about. I think that patents have an extremely useful role to play in our business and everybody else's, to protect our R&D, but there has to be a better balance between that and what I really would call gaming the system.

Thank you.

MR. WILLIAM COHEN: I'm going to do something a little bit strange. I see that we have three signs up right now. I am going to write your names down, and we're going to return to this at the end of the session. Hold in your minds anything you want to say. We'll see if you still want to go into it.

We need to shift over to the research issues just to get an opportunity for a couple people who would otherwise have to leave and I know may wish to

talk about this. So, we will return to continuations at the very end. We'll continue it at the very end.

The last topic we want to take a little bit of input on is research and research tool issues. I would divide it normally into two sections. First, to talk about the research tools. I understand Professor Cohen may have things that may flow from one to the other, so I am not going to limit the discussion at this point, but the thought is that some panelists have expressed concern about the effect of the patent system on basic research and the applicability of patents to research tools used for additional research rather than for final commercial applications. I know you've done some work on research tools. You've also dealt with the difficult problem of defining them. And we'd like to hear what your research has led you to.

DR. WESLEY COHEN: Thank you, Bill.

This is research done under the auspices of the STEP Board, the National Academy of Sciences and the Committee on Intellectual Property, was done in collaboration with John Walsh and Ashish Arora.

The object of the study was to consider the impact of patenting and licensing of research tools on biomedical innovations. So, the impact of patenting and licensing research tools actually on research

itself in the area of biomedicine.

A couple of concerns have been raised in the literature, at least we distinguish between two concerns. One concern falls under the rubric of what's called the anti-commons, where there's a concern of a proliferation of fragmentation of property rights associated with a particular commercializable biomedical product, and that concern became more salient once gene fragments, SSNIPs and ESTs and so on became patentable.

In that area, we have actually -- and this speaks to a broader issue that I'll mention in a moment. The concerns that were quite legitimate and raised previously, particularly by Heller and Eisenberg, we have found after conducting 70 interviews of folks in industry, the academy, government and so on, that those concerns have gone largely unrealized. Why they have gone unrealized is an interesting point.

We have basically found parties in universities and -- well, there are a variety of working solutions, as we call them, that's gotten around there, and partly it's been these working solutions have taken off in the form of infringement, okay? It goes on in firms as well as universities, but people are just a little bit more public about it in universities.

That comes to the second concern which has been raised, which -- sometimes these things are lumped together, but I choose to distinguish them -- which is the issue of -- particularly salient in the context of cumulative development, a field which develops cumulatively as is the case with biomedicine, where it's not a matter of having a lot of property rights. It could be just one patent that can block subsequent -- and it might not just be improvement, it might be subsequent basic research that requires access to some offspring IP.

There again, the same working solution has been used, which is -- and this isn't the only one, there are other work-arounds and so on, but often, again, particularly academics get around this by infringing. And by the way, I want to -- though I realize that I've skipped over a critical point that you asked: How do we define research tools? And what are some examples of research tools? Let me roll back a moment and address that.

Essentially it is a pretty amorphous notion. And, we defined it appropriately as any tangible or informational input into the process of discovering a drug or any other medical therapy or method of diagnosing disease. Okay, that's pretty broad, but the

notion of research tool is quite broad. What are examples? Examples could include targets, like target receptors that might be implicated in disease. It could be PCR, an example of another one, microarrays, Crelox and the Onco-Mouse technology that was developed. These are all instances of research tools.

Now, returning to the point of where we think it may be a problem, I return to the issue of Geron and their patent position on embryotic stem cell research. You can break up research tools into several categories. You can think of some which are nonrival in use, okay, like the Onco-Mouse technology or combinatorial libraries and largely PCR, and those which are rival in use, and by that we mean, is this a patent which has fairly clear market implications, and will one party's use of that IP diminish another party's use with respect to the profitability and market impact of the use of that IP.

We don't see a big problem with access, even to upstream foundational IP when it's nonrival, because it's in the interests of the patent holder to have this sort of technology used as widely and broadly as possible, to provide licensing terms that promote that and, though we find some departures even from that practice, though typically not -- it's when you have

the rival-in-use problem, the foundational discovery, upstream discovery, that may well be rival in use. And that's the example, again, of Geron.

I don't think the problem is enormous thus far, but I think the potential for any problem is indeed there. Also, I should mention, on a question that was identified in the list of questions that were distributed to us. We may have an emergent problem here with the -- we were talking about it over lunch -- with the recent Federal Circuit decision which, in a very public way, has now narrowed what was already an extraordinarily narrow statutory research exemption. And, the fact that this may now become very, very public, the work-around solution that I talked about, which is informal, if you will, but nonetheless infringement, may not be as viable, particularly on the part of universities.

There may be a chilling effect now in university settings, and I think that that potential is there, and that's a concern. It's hard to know which way that will go.

And then finally, I just want to add, because I want to just keep it brief, a lot of these discussions, say, for example, the proposal of the anti-commons a few years ago and discussions of the implications of

broad pioneering patents and so on, often they take the form of conjectures, and then conjectures sometimes, and often, substantiated by particular stories and anecdotes, by history, if you will, historical anecdotes. In many of these cases, we have to get beyond raising these conjectures. Some of these conjectures actually can be fairly alarming, okay, and justifiably so.

What I'm doing here is putting a plug in for my business, which is research. And the suggestion that in light of conjectures and concerns that get raised in these settings, there is a clear need to go beyond that, to go even beyond the salient exemplar of a conjecture, and to try to develop some broad systematic basis for evaluating the importance of those possibilities in practice. And for that, perhaps the FTC can serve a useful purpose in encouraging research, empirical study, in fairly systematic ways at the interface between a particular intellectual property and competition policy.

For that, it would be useful to have certain research infrastructures put in place regarding the collection of just basic data and information on R&D and business activities upon which particular studies can then build and focus more precisely on, you know,

the question of conjecture of the moment.

MR. WILLIAM COHEN: Meg? Before you begin, two questions that I want to try to get at is, any help you can give us as to what are research tools? How you separate them from other products, what are their distinguishing characteristics? And secondly, after you've helped us define them, do they raise special concerns for competition and innovation policy?

MS. BOULWARE: The question of what is a research tool, it's a term that I think Professor Cohen and I can say really doesn't have a definition. I think it means different things to different people, and the National Academy of Sciences is trying to fashion a definition for a research tool that they want to look into.

When this was brought up, I looked at what the National Institutes of Health defines as a research tool, and their term -- they call it a unique research resource or a research tool is used in the broadest sense to embrace the full range of tools that scientists use in the laboratory, including cell lines, monoclone antibodies, reagents, animal models, run factors combinatorial chemistry and DNA libraries, clones and cloning tools, such as PCR, methods, laboratory equipment and machines. Databases and

materials subject to copyright, such as software, are also research tools in many contexts. So, I think the point is it's really hard to draw a bright line on where a research tool is.

Now, the reason that I went to the NIH guidelines is because this discussion involving policy, including the different branches of the Government and different agencies, I think is particularly relevant to research tools, because we have a government agency, the NIH, that has looked at the patenting of this type of technology very seriously, and I think very carefully, and has guidelines for recipients of NIH money, and that's a lot of money in basic research in the biotech area. I ought to know the right number of billions of dollars, but I don't right off the top of my head.

But at any rate, this was something that was thought through by our Government and Bayh-Dole the Bayh-Dole Act. And there is a policy issue and a policy implementation, I think, that could in many instances foster our creativity on innovation, because according to the NIH guidelines, those institutions who receive money and get patents on what is called a unique research tool, is guided to make that available on a commercial basis -- on a nonexclusive commercial

basis.

This is a pretty big carrot and stick. And one of the things that -- and these guidelines went into effect in 2000, so it takes a little while to keep things rolling. But, in my practice, we review a lot of research tool patents, and more and more are being issued. And I couldn't guess the number, but I'm going to guess that the majority of them were funded by NIH dollars. And according to the guidelines, those institutions receiving the money who also have private contributions and private collaborations are to let the private donors of money to the research institutions know that these guidelines are out there, and that the research tools are to be made available, and where the subject invention -- I'm reading from the NIH guidelines -- is useful primarily as a research tool, inappropriate licensing practices are likely to thwart, rather than promote utilization, commercialization and public availability of the invention.

My assumption is that when you're applying for an NIH grant, you would have as part of your application process, your compliance with the guidelines. And I think that's going to free up -- well, it should make available for reasonable commercialization on a nonexclusive basis a number of

research tools that are very important for pharmaceuticals.

Now, why are biotech patents different? Well, they're different because they involve drug development, and that saves lives or improves quality of life. It's not making a better cell phone, which is important, or a better computer, which is important, but it's life. It's life, and these issues tend to have, justifiably, more emotion around them, and I think that that's one of the reasons, when I was looking at -- you know, we've got very broad discussions here, and then we get down to research tools, and that is a very small part of a growing biotech industry.

I think what has happened, as Professor Cohen may be alluding to, is that in the economic bubble or boom, there might have been unrealistic expectations of compensations for the discovery of certain of these research tools, even some of these research tools that were funded by NIH money. And, I think the economists around the table should be able to help me with the norms, that once you have an unreasonable economic idea, you sometimes adjust your thinking. What I'm hoping to see is that more of these research tools are going to be made available, because that's the way

they're going to make money. I mean, they are not going to get any money asking for a large price and not getting a nickel. That doesn't get you anywhere.

Now, one of the areas that we are dealing with right now is there are private industries who have discovered a particular gene and they have, I'm sure, expended significant resources discovering this specific gene that is important for a specific disease. And they have gotten a patent on it, and they are going to use it, and they are not going to license it. That is the way the patent system has been going pretty much for many years. And patents do expire, and at some point in time, all of these genes are going to be available in the public domain. We're at the infancy to adolescent stage of the biotech business, and these things will be rolling into the public domain.

Now, one thing I would like to mention on disclosure vis-a-vis biotech patents, the Federal Circuit is looking at written description and enablement very closely in the biotech area. And, the supporting information to get a valid patent in the biotech area does include putting out in the public domain the gene sequences and the protein sequences and the assays, et cetera. So, not that they wouldn't have been in the literature already, because there's a lot

of non-patent literature in the biotech area, but the patent literature in the biotech area is very significant, it is looked at every day.

I have spoken enough, Bill, on biotech. Thanks.

MR. WILLIAM COHEN: Okay. Anybody else on research tools? Yes, John.

MR. DUFFY: I agree exactly with what Wes Cohen said, that we do need more empirical work in this area. And, one thing that you might look at, is look at the law of other countries, in particular, because some of them have recognized a much broader research exemption. That might help you define exactly what should be, or what at least other nations have defined as a research exemption.

The other thing to look at is to actually figure out whether the U.S. law is a drag on research. You might want to see if there's any flow of research overseas, in other words, companies or firms relocating their research wings to countries where they do have a research exemption.

DR. WESLEY COHEN: We had found some movement overseas.

MR. DUFFY: It is very significant to see that, because then that does say -- that's something that you

can point to and suggest that there is a difference in law here, and it does mean that research is being affected, the difference in the law is affecting it.

Now of course, that doesn't actually tell you whether it's a good thing to have the research exemption, because what you might actually think is that, of course firms are going to go overseas if they want to do this research, but the arguments in favor of not having a research exemption -- which perhaps Professor Kitch would defend, I'm not totally sure about that -- but if you believe that you should not have a research exemption, the theory would be that the basic invention would not be invented unless you're guaranteed exclusivity and you can coordinate future research downstream.

So, but at least looking at flows of research overseas, you should see if there is an effect, and then the next question is, what lesson should we draw from that?

MR. WILLIAM COHEN: Can we broaden a bit to research in general -- I think we do want to talk about research exemptions or experimental use defenses and particularly any comments people want to make on the Madey v. Duke University case, a number of signs up here. Wes is about to leave when we come to Duke

University, but that's understood --

DR. WESLEY COHEN: Well, I'm new to Duke University, but it's a slippery -- research exemption has come up at length at the Academy committee meetings. It's a very slippery slope. The difficulty is when you talk about a research exemption, which is already on the books exceedingly narrow, and the Madey v. Duke has just made it all the more narrow by essentially taking off the table, in essence, anything that's done in a university, because it is part of the business of a university, unless you do it on your own in your attic, you know, or as Jim was saying, for amusement or idle curiosity or something of that sort.

But getting back to the point, the research exemption, even as it stood kind of a little less narrowly conceived, turned on the question of commercial intent, at least that was the prior understanding, and even that's a terribly slippery concept. We actually looked at the exemption of other countries, and one of the committee members put a list together briefly that, statutory characterization for the basis of such exemptions overseas, they didn't really provide -- yes, there's more latitude, but it didn't really make the problem go away.

The Madey v. Duke, I think the story's not

over. I think my understanding is that Duke is not going to stop here, but what they do subsequently -- I think it's one of my assignments to actually call up a couple of people and find out what they're going to be doing -- but it is not transparent. And, I think the effect of the case, if it stands, is not really to make the statute more narrow. I don't think that that's going to be the key effect, okay?

I think the key effect will be making the statute more visible, and so that folks who are de facto infringing, who thought they weren't before, were in saying, oh, I qualify under the research exemption, now, because of the light that's shining on this we'll know that they are, in fact, infringing. And more to the point, the university administrations will know, or have some broad sense. And then the question is: will the administrations then tighten restrictions? Will technology transfer and licensing offices then begin to serve sort of a policing function in the Academy? To some extent they already do, but only when somebody comes to them and says I want to patent this. Then they go around at that point and look to see if there are other patents in the area, as opposed to knowing whether the research in their research itself were already infringing.

So, that's the concern that I have right now, will there be this sort of chilling effect, particularly in the Academy and particularly where this has been most salient as an issue, which is the area of biomedical research? And there it's an empirical question. So, you know, the possibilities are there, but I'm not sure how it's going to turn out. Certainly it's an issue of immediate concern.

MR. WILLIAM COHEN: Let's hear from Professor Kitch.

DR. KITCH: Well, I'm sure everyone knows about this, but Becky Eisenberg had a piece in the University of Chicago Law Review in 1989 discussing the research exemption, and it was quite a good piece, and I was quite sympathetic to it. And she was sympathetic to the problem of researchers. It's the same Eisenberg who wrote the Eisenberg and Heller piece.

But she brought out a basic dilemma which I think occurs to everyone who thinks carefully about the problem. And that was, well, a lot of equipment and devices that are used by researchers are provided by commercial firms who develop them because of the incentives in the marketplace. A lot of the fancy machines to be found in laboratories are available because they're produced on a mass basis by a single

manufacturer who has produced them, and it would be impossible for the researchers to create, independently and separately in their labs, all of that equipment and machinery.

So, she pointed out that if you had a research exemption that said when you use a patented device in research, that it was not infringing, that there would be no incentive left for firms to generate equipment for these markets. And so she concluded in that article that whatever the scope of a possible research exemption, it couldn't just simply apply across the board to use by researchers, any device or whatever.

Now, that brings me to the Madey case, and I would just like to offer another reading of the Madey case which is -- I think has a kind of different tilt to it than that offered by Professor Cohen.

First of all, of course, it's an extremely odd case. It involves a custom-built machine by a member of the faculty on the premises of Duke University. Now, if you moved it to kind of a different context, and if Professor Madey had had an instrument, a company, building the machines for sale to Duke and the machine had been built by the company with the patent rights that Madey had, and Duke had purchased the machine for use in the laboratory, then one would

presume that they would have acquired, along with the machine, an either express or implied license to make use of the machine in the laboratory. Certainly if they paid money for the machine but didn't get the intellectual property rights to enable them to use it, somebody made a mistake.

Well, in this context, I assume that nobody ever bothered to negotiate the terms and conditions under which Madey was building the machine. And, the issue of what rights he might have implicitly transferred has not yet been litigated in this case.

The University seems to be very unwisely trying to go in and sort of get an easy, early win by asserting a research exemption position, which was basically, well, if it happens at a university, what we do is research, and that's very important, and therefore, it doesn't infringe. For the reasons that Eisenberg it seems to me spells out quite clearly, that kind of very broad position it seems to me is simply a nonstarter. And I'm sure that very much put the Court in a frame of mind to dismiss the defense out of hand.

I think it's very unfortunate that Duke took that position, and those of us who have studied litigation know that you can get really very damaging results by taking unwise and thoughtless positions.

I don't get any leverage out of the courts saying that the defense is narrow. I'm always frustrated when the judges tell me that something is narrow or broad. I always want to say narrow or broad in relation to what? And since we really don't know what the dimensions of this defense are in the first place, the fact that it's narrow, in relation to what I don't know.

Finally, I think you should realize the facts of the Madey case are basically the same ones that bothered Eisenberg, that is, a patent on a machine to be used for a certain kind of research procedure and the very kind of patent on which she concluded that the research exemption should not apply.

So, I'm left completely uncertain as to how the Federal Circuit would deal with the question if it were faced with a more appealing and more targeted assertion of a research defense. And so I don't get a strong sort of set of conclusions from the case of a future likely direction of the Federal Circuit.

MR. WILLIAM COHEN: Taking you up specifically on your reference to a more targeted assertion, I would like to go back to the definition which we raised earlier on. What if instead of talking about a machine used in research, we were talking about something like

a target in biotech, which could be patented, something which would never be sold in commerce directly, but is useful for further research. Does that change the analysis?

DR. KITCH: Well, the only thinking that I personally have to offer, and I'm glad to know that Steve and his group are working on this definition of the problem, which I think is a real hard problem, is it does seem to me clear -- it seems to me clear, it may not be clear to anyone else -- that everyone ought to be able to do work related to the subject matter of the claims, insofar as they're proceeding to understand how the patented subject matter works, to understand the science or technology behind the subject matter and to sort of get the full disclosure from the patent, and in the process, verify whether or not the patent is valid, because if they attempt to follow the teaching of the patent and can't make it work, you've learned something very important about the patent.

Now, exactly how far beyond that a research exemption could go and how it could be defined, I really don't have the answer.

MR. WILLIAM COHEN: Gerry?

MR. MOSSINGHOFF: I'm sorry Wesley had to leave. I was going to congratulate him on the amount

of business he came up with at this meeting today. And I had comments exactly in line with Professor Kitch, he did it more eloquently than I could, but this looked like a pretty sticky employment case kind of thing. And, it was certainly the big pharma and the established biotechnology companies don't go around suing universities. That's not part of the deal. So, I think that part of the problem is you can't get a real problem here. I think this is a really unique set of facts involving a claimant firing and things like that that would not be -- certainly not be there if Pfizer or Merck or somebody had the patent. They are not going to sue a university. So, I don't think it's guidance for much of anything. I think it's a good case, I like the case, but I don't think it's a guide to anything.

Finally, I think in the studies that John recommended about environment, my experience is that -- as indicated by Wall Street Journal articles about once every two or three months -- is that for academia and for companies, the institutional and intellectual property environment in the United States for biomedical experimentation is the envy of the world. Everyone looks at the United States as being the absolute leader. With NIH and the university systems

we have and the IP systems we have and the patentability rules, we're the envy of the world.

So, in any study that's done, I would think it would, at the end of the day, document that fact, that we are -- forgetting the little researchers, this issue, the Duke case, forgetting that -- we are the envy of the world in biomedical research and development, both academic and industrial.

MR. WILLIAM COHEN: Let's try Steve and then we'll go back to Meg.

MR. MERRILL: I was just going to say, I'm not quite so sanguine about the effects of this case, because I think increasingly universities are suing companies and companies are going to be suing universities or threatening to do so, as universities -- as the distinction erodes further it can only erode further. But, I did want to second what Ed said about -- my understanding from our informal survey is research exemptions abroad are precisely of the nature he described; namely, they are exemptions for research on the patented item itself and how it works, not on its use to derive some other product. So, I don't think that that's either an incentive to go abroad, nor is it a solution to our problem, if there is a problem here.

MR. WILLIAM COHEN: Meg?

MS. BOULWARE: I did want to mention one other area of the law that's developing in the research tool usage for pharmaceutical development, and that is an exemption under 271(e), which allows an act not to be an infringement if it's done solely -- I'm trying to read the statute -- for uses reasonably related to the development and submission of information under the federal law which regulates the manufacture, use, sale of drugs or veterinary biological products. This is a Roche v. Bolar amendment. And, there is at least one case currently going through the courts, Hausey v. Abbott, it's in the District of Delaware, and I believe there was a dismissal filed by -- Bristol Myers is one of the companies that's involved in it -- under Rule 12 saying that there's no infringement. That case is going to be working its way through, and there is some school of thought that if you are using one of these research tools, and your ultimate goal is to have a drug that you would submit to the FDA, that that would be an exception to infringement. And that case is making its way.

MR. WILLIAM COHEN: All right. John?

MR. DUFFY: I think there are three different kinds of research exemptions -- okay, two. I'm wrong

about that, I suppose. Well, I think there's three, but I may be incorrect.

The first is research to see how or if -- if or how the technology works, which I think is the kind of research that Professor Kitch was discussing, and I agree with Professor Kitch, that one, it's hard to see why the law should not allow that. Two, it's hard to see why actually a patentee would not allow that. If somebody comes to a patentee and says I want to test your device because I'm thinking of licensing it or I want to understand how it works, and the patentee says, no, you can't do that, but I'd like to license you anyway, one would have to question why the licensor wants you to buy essentially a pig in a poke, why they won't let you figure out whether, in fact, the invention works as it's claimed. So, that I think is -- it's hard to see why the law wouldn't allow that, and I do believe the Duke University case doesn't go to that issue.

That first issue is allowed overseas, but again, it's hard to see why research would migrate overseas just to merely see if the technology works, because patentees should encourage people to confirm their results.

The second I think is much more sticky, is the

research on the claimed technology to improve it, with the goal being that you are going to claim new intellectual property, which will create a blocking patent situation. Now, I think that if you subscribe to a prospect-type theory, you would hesitate to grant such a research exemption. I'll take notice that Ed Kitch is nodding, so I think that that's right, and I think that the prospect theory article actually does take that position.

I think foreign exemptions do allow that kind of research, and that would be an incentive to locate research wings overseas, because if you were in the United States, the broad pioneer technology holder would say, no, I don't want you to engage in that kind of improvement research, we're doing that. We don't want you racing with us to do the improvement research. We want to do it. We're going to do it here in the United States, and we want to stop you. We want injunctions against you doing that kind of research, because we know that if you do succeed in getting an improvement, you can certainly file an improvement patent application in the United States. That won't be considered an act of infringement, never has been. It's expressly allowed under the statute. Then we are going to have to negotiate the split of royalties over

the improved product.

That I think is the crucial policy issue, and I think it is allowed overseas. I think it does give an incentive for research to migrate overseas. I think if you believe in a prospect theory, you would not allow that kind of exemption, but overseas, one does.

The third one is using merely a tool in research. So, for example, if I'm investigating new types of dyes and I'm using a certain type of laser that I've purchased or I've constructed, I don't care at all about laser technology. I'm interested in working on dyes or on something else.

In that situation, Eisenberg and the foreign research exemptions would not extend, would not protect, would consider that kind of use infringement. So, I think that the third possibility, just using it as a research tool, is not allowed under any law and not allowed by the commentators. I think it's that middle ground that, in fact, actually holds the sort of significant policy issue.

And as far as my conclusion, I'm sort of an open mind, actually. I think it's a hard question about follow-on research, whether it should be allowed. It seems to me that our patent system does actually try to encourage continued races for improvement, which

means that perhaps the research exemption for improvers would be consistent with the overall thrust of our patent system. Certainly other legal systems seem to allow that, and de facto, there is a research exemption like that in U.S. law. It's called Europe. If you don't like U.S. law, you simply put your research wing overseas, and then you can file U.S. patents on the improvements that you discover overseas.

MR. WILLIAM COHEN: Anybody -- oh, Steve.

MR. STONER: Can I just say one thing?

MR. WILLIAM COHEN: Yes.

MR. STONER: On research tools, in addition to the problems associated with defining research tools, which people have talked about, in determining how the exemption would be applied, it seems to me there is the additional problem that I think has been alluded to, of trying to distinguish situations where it would indeed be wise to give a broad research patent.

For example, the hearings previous to this have pointed out that there are major costs and uncertainties associated with downstream commercialization that sometimes are as great or greater than what are associated with getting the initial upstream invention in the first place. And in those cases, it seems to me that granting such a broad

upstream patent and having that upstream patent, in a sense, manage the downstream flow of innovations could easily lead to a situation where you got less commercialization, less quick commercialization downstream.

MR. WILLIAM COHEN: Meg.

MS. BOULWARE: I wish Professor Cohen was here. I've got another study for him.

MR. DUFFY: Well, I'll take it.

MS. BOULWARE: Okay, very good. I've got a taker.

One of the very -- well, it was a broad patent, the PCR patent, which is the patent that was used to replicate identical strands of DNA, which is used -- we all know after the O.J. case -- and it's used in many, many, many areas. That invention was made by a scientist, Kary Mullis, at Cetus, and you did have Bob Blackburn from Chiron here earlier, and they acquired Cetus, and from a biotech standpoint, it was a very broad patent developed by a private company, and at least to my way of thinking, I would like to know -- you know, perhaps the same can be said of this particular patent, it was really proliferated. And, I think the owners of that technology found that putting that technology out in the marketplace and having

others use it was economically beneficial to everyone, and also beneficial from a technology standpoint to everyone.

The other broad patent that people mention in the biotech area is a kind of broader patent on gene splicing, and Stanford made, I don't know how much money on that, nonexclusively licensed it to virtually everybody that would come and ask for a license. These are two very basic biotech patents that have I think contributed very favorably to the economy, to research, to innovation, et cetera, and would be good test targets to look at, if you will, or good test cases to look at.

I have had my sign up, but Gerry made the points from the biotechnology area and the pharmaceutical area -- this country has got to be doing something right, because we are the leaders so far, and away from any other country. We are doing something right here, but thanks.

MR. WILLIAM COHEN: Okay, unless I see further signs on the research issue, we have a few minutes left before our scheduled closing time. I did cut off a few people who were interested in making a contribution on the topic of continuation. Bob Stoner and Gerry and Ron all had their signs up at that point. I'll give

each of you a chance to do that. And I'll also give anybody at the table a chance to make any closing statements or get at any points that you weren't able to fit within the confines of our artificial divisions of the discussion.

Should we start with Bob?

MR. STONER: I think my time was up, because I just spoke.

MR. WILLIAM COHEN: Okay. How about Ron?

MR. MYRICK: Okay, just a few more remarks about continuation. I don't think I actually intervened on that issue yet, so I do think the continuation practice we have today is not good. It's out of control. I think the fact that it's almost malpractice for an outside law firm to let your patents issue without keeping the case pending, is a sad statement on the system.

At the same time, there is no easy solution. The Patent Office has proposed a number of solutions in its strategic plan, and they were roundly trounced by the Bar because of the excessive costs of some of them. The Bar is still wrestling with this, because I think the Bar now recognizes, well, that there needs to be a solution.

But as you look at continuation practice, don't

ignore divisional practice, because divisional practice is equally distorted. Now, one can file an application and have the Office force a whole raft of divisions and proceed on them seriatim, and the laches defense won't apply, because the claims would have all been sitting there. And they can sit there for years. So, while there is hope that the laches defense arising out of Lemelson and the more recent case -- I can never remember its name -- while the laches defense has some hope of helping to fix the continuation problem, it won't fix the divisional problem where people will rapidly learn to game the system by filing cases that are quite omnibus and knowing full well that the Patent Office's propensity for restriction, excessive restriction perhaps, depending upon your viewpoint, and then allowing those cases to be proceeded over years and years and years, with all the same disclosure base so they can be adjusted along the way and so forth.

I would also add one more thing, that the Office has an emerging issue as well, with regard to something called "reasons for allowance". Now, "reasons for allowance" -- we've been conducting a Six Sigma quality study on "reasons for allowance". And we'll be publishing the data on this, which says that in not an insignificant number of cases, the reasons

for allowance that are being put in the record after the closing of the record are erroneous, and it's not quite clear why.

The problem is that the experience we've seen in a number of cases, five of my firms have studied this issue for us and are preparing an approach to handle this. The reason is that, in some instances, and this is not a general indictment, just in some instances and in some art areas -- the reasons that are stated in the final document, that is, the reasons for allowance document, don't comport with what happened during the prosecution and are not there necessarily because there was an oral interview, which maybe would be a reasonable reason for them to be there, but rather, a reverting to arguments made by the examiner before the case was allowed and which the applicant had thought had been given up by the examiner to get closure and to get the case through its allowance phase.

The problem with it is that the law -- the rules have been changed to reflect what the Federal Circuit had determined to be the law, that if you don't comment on these things, you get a negative inference, and so you're forced to comment upon them. But, in being forced to comment upon them, that does not fix

the problem, because the record has now been permanently tainted with this poor "reasons for allowance".

Now, why do I bring that up? It's because it is another vehicle by which examiners who are too strapped for time, find a way to close prosecution and then hopefully they think they're doing a public service perhaps by going back and retrieving what was given up during their closing of the prosecution. And, if that truly pans out to be the case, continuation may be the only solution you have, although in this case, I'm not sure a continuation solves it, because the record has been tainted already.

So, there is no easy solution to continuation practice, and if you ask what I would propose to solve it, I don't honestly know, except maybe perhaps developing some kind of intervening rights or some such thing that would protect the later entrant in the marketplace against these patents that show up so tardily. And there I completely agree with Bob, this is an exceedingly troublesome thing, because the marketplace develops and then the applicant can continue to develop his patent applications to capture what was never in his mind, was never truly his, shouldn't be -- there is perhaps some undue breadth.

So, I think that that's a serious problem for which we don't have an immediate solution, unless it be something, for example, like an intervening rights doctrine.

That's all I have to say, thank you.

MR. WILLIAM COHEN: Gerry, you had your sign up previously on this. Do you want to say anything on continuations or --

MR. MOSSINGHOFF: It was so important I forgot it.

MR. WILLIAM COHEN: Okay, let's try Mark.

MR. BANNER: While sitting here, the question kept coming back to my mind, and I put it on my notes, it says Bob's Q-2, Bob Barr's second question that he posed at the very beginning. The second question was, am I infringing? And he said the answer is almost always impossible to answer. And that, I think, is one of the largest unjustifiable costs on the competition, or drains on competition, posed by the current state of the intellectual property law.

I believe, it is my view at least, that it is impossible to answer, not so much because of the breadth of patents or because of the number of patents and the thicket of patents or even because of the unknowability of these continuation patents, which I

agree is a problem. I think the biggest problem is the unpredictability that surrounds the scope of the claims, which is a direct result of the Markman decision and its application by the Federal Circuit.

That is where I think the majority of those patents are in this third pile we've talked about. When the patents come in to the counsel, whether it's inside or outside, and they say, well, these are clearly a problem, these are the ones we have to look at, and these are just so stupid I am going to put them over here because they're really not a problem. That third pile does come up an awful lot later down the line in litigation. And, I think it comes up because there is an industry of buying patents or acquiring them in other ways or just representing people who own them where nobody reasonably would ever think they would be of such a scope or could be interpreted to be infringed by the particular product.

Whether that's actual companies that do this or contingent fee lawyers that do this, there is, in my view, an increasing number of patents that are being asserted as a result of the uncertainty that surrounds claim scope. And, it is precisely because you don't know whether those patents are going to have a particular claim scope until after the Federal Circuit

rules on the question, that gives the opportunity to form this drain on our system.

I don't have an answer to this problem. I raise the question, and the question I raise is, has Markman worked as intended, or has the law of unintended consequences come into play? Are we better off now than we were before Markman, and is it good? Is it good for the country? Is it good for our industry? Is it good for the consumer? Is it good for the patent system? This is an area where I think there needs to be significant academic, association and agency study to see the impact on competition.

MR. WILLIAM COHEN: Jay?

MR. THOMAS: Given the lateness of the hour and there's another commentator, I'll try to speak quite quickly. I certainly observe the demand for empirical work here at this table, at our roundtable. And, I also note that this is a hot trend in patent law scholarship right now. But, I would caution the FTC not to be over-enchanted with empirical work and to think that empirical work is a predicate for policy judgment. My view of such posture is a prescription for paralysis. Empirical work can present some small pieces of the puzzle, but ultimately economists have not told us so much that's incredibly useful about the

innovation experience.

I think there remains room in patent law, just as there are in every other area of the law, for sound judgment and reliance upon our experience. So, certainly make use of economic studies, empirical work, but I don't think you need to have to solely rely upon them in coming to conclusions.

I would also note with regard to claim scope, just back to that very briefly, Professor Duffy rightly noted Section 103 is also part of this puzzle in addition to enablement and written description. I would also note statutory subject matter has been a major determinant of claim scope. It is no coincidence that the recent ambitions of the patent system for software, business method and post-industrial inventions takes the patent system out of the traditional hardware and apparatus framework that has traditionally been the ambit of this field, and it's when you reach that point, you get to the patent claims that are almost self-enabling, because, in fact, they are very abstract, they deal with behavioral protocols. There is no hardware. Description of the behavior is enough. I think that goes back to Steve's point that was raised but not much discussed. There's one reason people don't look at it that much, it's because there's

not that much worth learning from them in many fields.

Thank you.

MR. WILLIAM COHEN: Ron.

MR. MYRICK: I think Bob was up first.

MR. WILLIAM COHEN: Okay.

MR. BARR: Thanks, because I don't really have something worthy of the last word, and I hope you do, but because I just couldn't resist on the Markman question.

Just for the record, I thought it would work. I thought it would help expedite litigation, and I thought it made sense, I thought it would help encourage settlement. In my experience, it hasn't worked. It's increased the cost of litigation substantially and has not led to settlements. And even stranger, and I'm not sure why because theoretically this shouldn't have happened, but looking at claims in the abstract, independent of the accused device, has in my experience, in my reading of cases, has produced some very strange results and results that would not have been predicted. And in that, they take away the idea of looking at what did the applicant invent, and did this person use it. So, I think it's a problem.

MR. WILLIAM COHEN: Ron.

MR. MYRICK: Thank you.

I think I've been following this today, and I would say this, perhaps carrying on with some comments that were just made. I think what we've done is we've highlighted a number of problems in the system. And at the same time, I'm not sure that we have identified enough of the solutions that require us to dictate new policy at this point in many of those areas. In some areas, such as willfulness, I think we did.

But I would say this, with regard to the comment with regard to subject matter, I think we have to be careful about moving too quickly to remedy things where the problem is not well defined. Frankly spoken, I don't have any particular concern about the subject matter situation as it sits today. We are going through a maturation process with regard to some of these new subject matters, and we did that with regard to software 25 years ago. There was all a matter of waiting and gnashing your teeth, the world was going to come to an end if the software patents didn't -- well, it didn't come to an end, and it's doing very well.

As far as behaviors and so forth, I understand the concern. At the same time, I think there's a solution to that. And, I think the Europeans have gone too far with that solution. The Japanese are doing a better job with it and that's approaching it from a

realistic perspective of a technical content aspect to an application or to a claim. How far that goes, I don't know. We have got to grow up a little bit more in this whole technology to be able to understand what is the right solution. I think the Europeans have it wrong. I think the Japanese might have it right, but I'm not sure.

The point is, I think the strength of our system is that we do allow it to grow, we do allow it to adapt and so forth. And, I still firmly believe that most of the changes that we've talked about today should be done in the Congress and not by the antitrust laws.

MR. WILLIAM COHEN: Thank you, and a much broader thanks to all of you. That was an extremely useful panel. I want to thank you for having borne with us through this long process of a full day, and again, for giving me a little bit of leeway to try to channel the discussion in ways that I think we could cover an awful lot of ground in the most effective way. I just want to thank you all.

Before leaving, I want to point out one further point. The record in the proceedings will stay open until November the 15th. If any of you want to say anything further in writing and submit written

comments, we certainly encourage that and would love to see them.

Steve?

MR. MERRILL: Two quick questions. What do you contemplate happening on November 6th, and what do you contemplate is the product of this whole effort?

MS. DeSANTI: Let me take the first question first. November 6th is going to be a discussion in the morning of a problem that was actually raised out in Berkeley in connection with standard settings. One of the issues that was raised was whether firms would be able to negotiate royalty fees ex ante to avoid the potential for hold-up problems once the standard has been set, without violating the antitrust laws or whether there was a price fixing issue there. And so that discussion will address that issue and try to parse when and when not to set royalty fees ex ante.

In the afternoon, we'll be talking about grant-backs, portfolio cross-licensing, nonassertion clauses and reach-through royalties. Those are topics where we've had some discussion before but not a lot, and this is in the nature of sort of making a comparison among those different approaches to clearing the patent thicket, to try to understand possible competitive effects among the different types of

approaches.

In terms of the ultimate product, the Chairman of the FTC has said from the beginning there will be a report. I am quite sure there will be a report. When that report will issue, I'm less certain. You know, in the best of all possible worlds, it would be nice to have something in the spring, but I'm not issuing any guarantee.

As you all know, there's been a wealth of information put forward on this record. There's a lot to assimilate, and we are working on that, but, you know, especially as you get farther into these records, you can often find yourself sort of overwhelmed by the wealth of information that's there. So, we're not making any guarantees, but there will be a report.

MR. WILLIAM COHEN: Thank you once again.

(Whereupon, at 4:35 p.m., the hearing was concluded.)

C E R T I F I C A T I O N O F R E P O R T E R

DOCKET/FILE NUMBER: P022101

CASE TITLE: IP WORKSHOP

DATE: OCTOBER 30, 2002

I HEREBY CERTIFY that the transcript contained herein is a full and accurate transcript of the notes taken by me at the hearing on the above cause before the FEDERAL TRADE COMMISSION to the best of my knowledge and belief.

DATED: 11/5/02

KAREN L. GUY

C E R T I F I C A T I O N O F P R O O F R E A D E R

I HEREBY CERTIFY that I proofread the transcript for accuracy in spelling, hyphenation, punctuation and format.

SUSANNE BERGLING