OFFICIAL TRANSCRIPT PROCEEDINGS

COMPETITION AND INTELLECTUAL PROPERTY LAW AND POLICY IN THE KNOWLEDGE-BASED ECONOMY

FEDERAL TRADE COMMISSION

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Reported and transcribed by Deborah Turner, CVR

P R O C E E D I N G S

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MR. COHEN: Good morning. I'm William Cohen. I'm an Assistant General Counsel here at the Federal Trade Commission, and I want to welcome you to today's session of the FTC/DOJ hearings on competition and intellectual property law and policy in the knowledge-based economy.

This morning we're fortunate to have an introductory speaker who will talk to us before we move into the first session of our day-long panel.

Our speaker is Kenneth Frankel who will be addressing us on behalf of the American Intellectual Property Law Association, the AIPLA.

Mr. Frankel is a partner at Finnegan, Henderson Farabow, Garrett & Dunner in Washington, D.C. His practice focuses on patent litigation, client counseling, and intellectual property antitrust matters.

He came to private practice following 16 years as a trial attorney in the Antitrust Division of the U.S. Department of Justice. Mr. Frankel is the Chairman of the AIPLA's Antitrust Law Committee. So I'll start us off by letting Mr. Frankel give his introductory remarks.

MR. FRANKEL: Thank you very much, Bill. Good morning. On behalf of the American Intellectual Property Law Association we welcome this opportunity to provide

our association's views on antitrust and intellectual property protection, promoting innovation and competition.

We offer our views on several specific topics that pertain to the interface between these two sets of laws: the roles of antitrust law and intellectual property in fostering innovation, unilateral refusals to license intellectual property, settlement of intellectual property disputes, the role of the Federal Circuit in developing antitrust law in the intellectual property area, the scope of patents, the lack of market power of intellectual property, and the use of different types of licensing.

While we have submitted our written views on all these topics which should be printed for everyone to see, today I'll focus on really the fundamental one, the roles of antitrust law and intellectual property in fostering innovation, and also the very important topic of not diverting funds from the PTO.

Initially, let me give you a little bit of background about our organization so that you can better understand the basis for our comments.

The AIPLA is a national bar association representing a cross-section of the intellectual property bar in the United States.

Our membership includes attorneys who are in-house, private, government, academic, and who represent a wide range of clients in all aspects of intellectual property licensing and protection.

Our members, who number over 13,000, regularly work with diverse issues involving patents, copyrights, trade secrets, trademarks, unfair competition law, the full range of intellectual property, as well as other fields of law affecting intellectual property.

They advise large corporations and small corporations, individuals, institutions, government agencies.

Our members represent intellectual property owners seeking to enforce their intellectual property rights as well as those sued for infringing intellectual property rights. And they represent parties that allege antitrust violations and misuse of intellectual property as well as those who defend against such charges.

Our members' clients are among the most innovative companies in the world. They are vitally interested in continuing to promote innovation in the United States and increasing the number of United States jobs based on technologies without violating our antitrust laws.

As a result, we believe that we have a balanced

view of the role of intellectual property protection and the competition processes. We also believe that this balanced view extends to the respective roles of antitrust enforcement and intellectual property.

First, I'd like to talk about the roles of intellectual property and antitrust laws in fostering innovation. Our members have learned that business competition spurs innovation, and they seek to preserve it. But they do not want to stifle innovation by making it harder or less rewarding to innovate or to compete in the United States.

We believe that intellectual property protection is essential in promoting innovation and investment in new technologies, and that licensing this property is pro-competitive.

The core element of intellectual property rights is the limited right to exclude others from carefully circumscribed areas. Patents and copyrights protect investments in innovations and expressions respectively for only limited, specific periods of time.

Trademark rights similarly protect marks from identical and confusingly similar uses by others, and state common law trade secret rights protect proprietary information such as know-how only until the information is no longer secret.

All are limited in scope to specific inventions, expressions or information and only in the exceedingly rare case do they encompass an entire antitrust relevant market, and all protect against only limited types of infringing activities.

Intellectual property rights give the owner no right to make, use, sell or copy the technology or expression that is protected by the rights. For example, inventions very often are improvements on earlier basic inventions made by others. If the owner of the intellectual property rights to the basic invention wants to exercise its exclusivity, that owner can stop the owner of rights to the improvement from making, using or selling the improved invention. Likewise, the owner of the rights to the improvement can stop the owner of the rights to the basic invention from making, using or selling the improved invention.

The intellectual property rights thus give only the right to exclude not the right to use. That exclusivity is the powerful driving force behind the incentives to innovate, to license, to compete.

Intellectual property protection encourages investment in development and use of innovations. Moreover, patents encourage disclosure of inventions so that others can learn from them and expand upon them.

By affording exclusivity and protection intellectual property laws spur competitors to innovate around the protected invention and to make advances in alternative and often superior technologies. Further promoting competition, intellectual property rights very often are licensed to others.

We view the antitrust laws as providing complementary protection of competition and fostering innovation at the same time. The antitrust laws in our view serve their proper role by stepping in to curb excesses in the marketplace only when the restraints on competition exceed their reasonable bounds. In so doing they allow existing and would be competitors the freedom to develop and to market innovations to better compete.

Consequently, we view the two sets of laws as fully sharing common, not conflicting, goals and acting together in balance.

Now, we have some views also on the unilateral refusals to license intellectual property which has taken a forefront in the debate in recent years. We recognize that the antitrust laws provide limits on what people can do with their property when restraints on competition in the marketplace exceed reasonable bounds.

As I pointed out, however, the essence of the intellectual property right is the right to exclude

others from using or copying the intellectual property. Without that exclusivity the intellectual property right is essentially meaningless.

Consequently, the AIPLA does not believe that the unilateral act of refusing to license intellectual property should be the basis for imposing antitrust liability as long as the competitive effect of the refusal is not extended beyond the scope of the statutory grant and the refusal is not accompanied by fraud or sham litigation.

We also have views on the settlement of property, intellectual property disputes. Obviously, settlements are a form of an agreement. Depending upon the terms of the settlement and the relationship of the parties in the marketplace, they could raise antitrust issues similar to those raised by any other form of agreement.

At the same time, settlements are an efficient means of resolving litigation and eliminating risk for owners of intellectual property and their potential competitors.

Moreover, litigation settlements serve other public policies including conservation of judicial resources. We believe that the antitrust rules relating to settlements need to accommodate all of these policy considerations.

A few courts have recently held settlement agreements illegal under a per se rule. We believe that applying a per se rule to litigation settlements is unwise and inappropriate absent fraud or sham litigation on settlements.

Per se liability should be reserved instead for practices that lack any redeeming value. The potential benefits to efficiency and to innovation from litigation settlements suggest that bona fide settlements should not be subject to a per se rule. Indeed, it would seem to be particularly inappropriate to apply a per se rule to conduct that the courts explicitly encourage.

We also have views on the role of the Federal Circuit in the intellectual property antitrust area. In reviewing antitrust issues in patent infringement cases the Federal Circuit normally applies the antitrust precedent of the regional circuit court of appeals for the circuit in which the district court rendering the judgment is located. However, for issues that the Federal Circuit believes clearly involve its exclusive jurisdiction, it applies its own precedent rather than that of the regional circuit.

In the latter category the Federal Circuit includes conduct in procuring or enforcing a patent and determines the antitrust liability of such conduct under

its own precedent. And this has raised questions amongst the antitrust and patent bar.

The AIPLA believes however that the Federal Circuit's approach is correct. This approach can provide uniformity in application of the antitrust law for patents that have nationwide scope and conduct that's not limited to one region of the country. By applying a uniform standard in infringement cases, uncertainty is reduced for patent owners, and that fosters innovation. Moreover, applying its own precedent does not insulate the Federal Circuit from developments in antitrust law from other regional circuits.

The FTC has also been focusing on the scope of patents and the procurement procedures. In our view, the scope of patents raises competition issues, for it can affect the degree to which patents spur innovation. But we believe that the scope should be left to the courts to develop as a matter of patent law.

Patents that are valid have a scope that covers only new, useful, and nonobvious inventions. The scope should not be artificially altered to meet concerns of other bodies of law such as antitrust law.

Working within the scope of valid patents we believe that the courts can balance the two complementary goals when they interface in the particular cases.

We do not view the procurement procedures for patents as having antitrust significance or needing correction for antitrust reasons, but we do have substantial concerns about the diversion of funds from the Patent and Trademark Office, which affects its ability to conduct a rigorous review of all patent applications.

The PTO shoulders a tremendous burden and responsibility in annually reviewing huge numbers of patent applications and deciding which deserve the patent award. Over the years, the PTO has demonstrated its responsiveness to the changing needs of examining different types of subject matter.

Unfortunately, recent executive and legislative actions have severely undermined the ability of the PTO to meet the growing challenges it faces. Since 1992 the President and Congress have combined to divert over $700 million of PTO fee revenues to other federal programs.

This diversion of revenue from the PTO has increasingly inhibited the PTO from routinely and promptly performing high-quality search and examination of patent applications and establishing electronic filing and processing of patent applications as demanded by U.S. industry.

Ensuring adequate support for the PTO to carry

out its constitutional mission could be one laudable outcome of these hearings. If it obtains proper funding, we believe it would have the ability to conduct a rigorous review of all patent applications.

And the last topic I just want to point to is the lack of market power of intellectual property. The AIPLA believes that no presumption of market power should exist for intellectual property, in accordance with the position that the federal agencies have taken.

A blanket presumption of market power for intellectual property bears no valid relationship to the real world. In all but the rarest cases in our economy, products and methods compete with other products and methods that affect their market price.

In conclusion, the AIPLA appreciates the opportunity to contribute to the FTC's and the Antitrust Division's understanding of the dynamics of intellectual property and its benefits for promoting competition. Thank you.

MR. COHEN: Thank you very much. Your statement and the written statement that underlies it provides some comprehensive insights into many of the issues that we're discussing not only today but throughout the rest of the hearings.

For the rest of today we will be engaged in a

panel discussion covering substantive standards of patenting this morning and patenting procedures, presumptions and uncertainties this afternoon.

This builds upon a session that we held early in these hearings where we heard three excellent presentations which were designed to depict, in entirely objective terms, the current state of the substantive and procedural law of patenting.

Today, we're going to free the panelists to present their opinions in offering normative assessments of these subjects. While we expect to hear opinions, we're going to be particularly interested in the analysis that underlies their thinking because we hope to draw from today's session a better understanding of the legal and economic principles that underlie today's patent practices and the various changes that have been suggested.

We have an outstanding set of panelists who have offered their time to help us with these issues. First though, I want to be sure to introduce the other participants from the government who will be joining me.

To my left is Hillary Greene who is our project director for intellectual property in connection with these hearings, in the Policy Studies section of the General Counsel's office here at the FTC.

Down toward the end of the table is Bill Stallings who will be joining us from the Department of Justice. And right next to him is Magdalen Greenlief who is going to be helping us from the Patent and Trademark Office.

Now, as to the panelists who have joined us, I think what I'll do is give very brief introductions to each of them. We can just move around the table.

At the far end of the table we have Suzanne Scotchmer who is a professor of economics and public policy at the University of California, Berkeley. She has published extensively on the economics of intellectual property and other topics, and she has appeared before several committees of the National Research Council, mostly regarding intellectual property.

Immediately next to her is Jay Kesan, who is an Assistant Professor of Law at the University of Illinois, College of Law and also holds positions in the Institute of Government and Public Affairs and the Department of Electrical and Computer Engineering. He holds a Ph.D. in electrical and computer engineering, which helps explain the latter appointment. He is a registered patent attorney and teaches and writes extensively in the areas of patent law, intellectual property law and regulation of cyberspace, and law and economics. Professor Kesan

serves as the faculty editor in chief of the University of Illinois Journal of Law, Technology and Policy.

Next to him is Salem Katsh, the head of the Intellectual Property Group at Shearman & Sterling. He is a partner in that firm and an experienced trial lawyer with a practice focused on patent, trade secret, trademark, unfair competition, and antitrust litigation. Mr. Katsh has written extensively on intellectual property and antitrust matters as well as related litigation topics.

Now, moving just two seats to my right we have F. Scott Kieff. If you have noticed a pattern here, we have a great many panelists whose names begin with K. He is the John M. Olin Senior Research Fellow in Law, Economics and Business at Harvard Law School and an Associate Professor of Law at Washington University School of Law. Before taking up his teaching posts he practiced as an associate with the firm of Pennie & Edmonds in New York and as an associate and counsel with the firm of Jenner & Block in Chicago. He has written numerous articles about obtaining and enforcing intellectual property rights and he is a co-author of the treatise and casebook, Principles of Patent Law.

Now, moving two seats to my left, we have Mark Janis, a Professor of Law at the University of Iowa,

College of Law. He teaches and writes in the field of patents, trademarks, unfair competition, and intellectual property/antitrust. He has published several articles on domestic and international patent law and is a co-author of a treatise, Intellectual Property and Antitrust, as well as a forthcoming casebook on trademarks and unfair competition. Professor Janis is a registered patent attorney and practiced law with Barnes & Thornburg in Indianapolis prior to his appointment at the University of Iowa.

Skipping Mr. Frankel we move to Arti Rai who is an Assistant Professor of Law at the University of Pennsylvania Law School. She has taught at the University of San Diego Law School and the University of Chicago Law School and was a faculty fellow at Harvard University. Professor Rai has written numerous articles on patent law and biotechnology and health-care regulation. Before teaching she practiced law with Jenner & Block in Washington, D.C. and in the federal programs branch of the Department of Justice.

Next to Professor Rai is Professor Jay Thomas, an Associate Professor of Law at the George Washington University. He also serves as visiting researcher in entrepreneurship and economic growth at the Congressional Research Service and instructor at the U.S. Patent and

Trademark Office Patent Academy. He is the author of numerous articles on intellectual property law and also authored a patent law casebook and intellectual property treatise.

And at the far end of the table on my left we have Stephen Kunin, a Deputy Commissioner for Patent Examination Policy at the U.S. Patent and Trademark Office. In that capacity he participates in establishing patent policy including changes in patent practice, revision of rules of practice and procedure, establishment of examining priorities, and classification of technological arts. Previously he has served as a patent examiner, a supervisory patent examiner, Director of the Manufacturing Group, Director of the Electrical Communications Group, Deputy Assistant Commissioner for patents, and Acting Assistant Commissioner. In 2001 he was named by Intellectual Property Today magazine as one of the most influential people in intellectual property law.

That's just an outstanding panel, and we look forward to hearing from them.

And I skipped right over, and I'm being pointed out here -- I'm sorry. My apologies. Roger Parkhurst, president of the American Intellectual Property Law Association. He is a name partner at the law firm

Parkhurst & Wendel in Alexandria, Virginia. He comes to us with extensive experience as an author, speaker and expert witness on aspects of patent law. And we're very glad to have you even though I skipped you.

Let's begin now. We have three presentations this morning from our panelists. And I understand that Professor Rai will talk to us for a few minutes to lead us off. Professor Rai.

PROF. RAI: My comments this morning will be directed to issues of patent scope in the context of cumulative innovation. And I will note the interaction of patent scope with the nonobviousness and possibly the utility standard.

Now, when one is speaking about cumulative innovation, determining the scope of the initial or pioneer patent is obviously a very difficult problem. And many scholars have written about this problem, one of the most prominent being Suzanne Scotchmer, who is here with us today.

We have to calibrate scope in a manner that provides adequate incentives for both the initial innovator and for follow-on innovators.

Now, an initial patent of broad scope will no doubt provide useful incentives for the first innovator. However, there may be difficulties associated with

licensing this patent of broad scope to subsequent follow-on innovators.

It's particularly true ex post, again as Suzanne Scotchmer has pointed out, when the follow-on innovator has already invested and the first patent can be used as hold-up.

But it can also be true ex ante because the parties may have divergent valuations of their respective contributions or potential contributions in the case of a follow-on innovator and other transaction cost difficulties.

The Merges and Nelson article in the 1990 Columbia Law Review catalogues a variety of historical contexts in which a pioneer patent of broad scope could not usefully be licensed and therefore at least arguably hindered subsequent innovation.

More recently, I just want to call your attention to a case that involved a somewhat similar set of issues in the biomedical arena, and this is the Johns Hopkins versus Cellpro case.

In that case, Johns Hopkins had a broad patent on a class of antibodies that could be used for purposes of producing stem cell separation. Hopkins received this broad patent even though it had actually identified only one of these antibodies. However, nonetheless it

received a patent on a class of antibodies.

It licensed its patent exclusively to a company called Baxter. It turned out, however, that Baxter was not nearly as creative or efficient in figuring out how to use this technology to produce a marketable stem cell separation device as was a competitor called Cellpro.

And even though Cellpro used an antibody that was actually different from the Hopkins antibody, Cellpro's work fell within the scope of the very broad Hopkins patent.

In any event, the purpose of bringing that story to our attention today is that Cellpro and Baxter in that case could not satisfactorily conclude a licensing deal on the Hopkins patent. And so when Cellpro marketed its device, Hopkins and Baxter, as the exclusive licensee, sued for an injunction.

And there might, in fact, have been a quite serious delay in the introduction of a potentially life-saving stem cell separation technology had the District Court in that case not required, as part of its determination of what the relief should be, that Cellpro's infringing device actually be continued to be sold until Baxter eventually came up with a product.

So the court designed some relief that was peculiar to the characteristics of the case, and had the

court not done that we would have seen a substantial delay in the introduction of potentially life-saving technology.

Now, granted, unlike the patents studied by Merges and Nelson, the Hopkins patent didn't necessarily cover research we might consider truly foundational. But presumably the effect on innovation might have been even worse had the patented research been truly foundational.

In this regard I think that one patent to watch, again in the biomedical arena, which happens to be my area of focus, is the very broad patent that has been granted to the University of Wisconsin on stem cell lines, which the University of Wisconsin has licensed the most important uses of that patent exclusively as well.

So that's a problem, a possible problem, with broad patents in terms of cumulative innovation. Of course, by the same token, we want to provide incentives to the initial innovator particularly if the initial innovator is producing an invention of some significance.

In addition there are contexts, particularly in bio-pharmaceuticals, where patents serve not only the traditional incentive function but also serve the function of incentivizing further commercialization and development.

At the margin, however, though, I would argue

that we probably want patents of relatively narrow scope on upstream invention. And I just want to spend a couple of minutes thinking about how we go about achieving relatively narrow scope on upstream invention while not necessarily having such narrow scope for more downstream invention.

And by the way, I just want to note that when I say narrow scope for upstream patents, I don't necessarily mean going as far as the Federal Circuit has gone in some of its cases involving the use of the written description requirement, in particular such cases as Eli Lilly and a case that was just decided a few days ago called Enzo Biochem.

I think the PTO's approach to written description is more suitable for creating relatively narrow scope, and it's more moderate than the Federal Circuit's. It has tried to moderate the Federal Circuit's approach in such cases as Eli Lilly.

Now, how would we go about achieving narrow scope on upstream patents while not necessarily having such narrow scope for more downstream patents? Well, this is where the nonobviousness doctrine might come in.

As research moves further downstream it may become more predictable and certain. Given that possibility at least, as a doctrinal matter, patent scope

can become broader as research moves downstream because patent scope is dependent on how predictable the research is. In other words, the more predictable the research, the wider the claim scope allowed.

So the nonobviousness doctrine might provide a simple doctrinal mechanism for the PTO and the courts to allow only relatively narrow scope upstream and broader scope downstream.

Of course, that presumes that research will get more predictable as one moves downstream, and that won't always be true. So are there any other levers by which we can restrict upstream scope without adversely affecting downstream scope?

Well, one rather definitive way to do it would be to have a high utility standard. That way it would be difficult to patent upstream invention at all. And no patent at all obviously means not just narrow scope but actually zero scope.

So using the lever of utility to eliminate patenting in certain areas might be a way to go. It is, however, a fairly dramatic lever. We don't necessarily want zero scope for upstream patents. Probably a more cautious approach would be narrow scope rather than zero scope. So we should be careful about raising the utility standard too high. And once again, it seems to me that

what the PTO has done in its recent utility guidelines is an appropriately cautious approach.

Now, we don't know what the Federal Circuit is going to think of these utility guidelines, and if the Federal Circuit's interpretation of the PTO's written description guidelines and the recent Enzo case is any indication, the Federal Circuit may not be paying much attention to what the PTO does in this arena.

But nonetheless I do applaud the PTO for setting up a utility standard that might be useful for eliminating patent scope in certain narrow areas but allowing patent scope, a narrow scope, for upstream patents in other areas. Thanks very much.

MR. COHEN: Thank you. Our second presentation is going to come from Salem Katsh.

MR. KATSH: While they're getting that going let me just comment on Professor Rai's discussion because I think it points out one of the major questions that confront this Commission, the Department of Justice, the Patent Office. And that is the question of whether and how the patent system can be fine-tuned.

The ability to fine-tune the patent system I think is seriously in doubt, and it either operates as a large blunderbuss one way or the other. But I think that the economic impact of patents which can be brought out

by studies like you have done and the others here have done are extremely important to know which way to tilt the system.

I am not here as a representative of Shearman & Sterling. I am here solely in my individual capacity as someone who has practiced for -- this is my 30th year -- I know I don't look that -- in antitrust and the last 15 years in the IP area.

I'm not going to go through all these slides but I think that I would not agree that the patent laws and antitrust laws do not conflict.

I think the means that are used to promote competition by the antitrust laws, which is to intervene in the marketplace, and the means used by the patent laws, which is to grant exclusivity, can and will and perhaps inevitably will conflict from time to time.

Now, the notion that the patent law, or patents, should not be considered as conferring market power, is one that I have heard many times. And it has always struck me as rather curious because one of the foundations of the patent system is to encourage people to innovate by holding out the prospect of being able to charge a supercompetitive price when they have obtained a patent. That is as the heart of the patent system.

And I find it curious that so many people are

defensive about that. There should be no defensiveness about the fact that the patent is granted to give an above competitive return as a reward for innovation.

Now, people don't like to use the word monopoly and I certainly agree there should be no presumption that any given patent will confer market power.

But that then again raises the question of why so many patents are granted that don't confer market power. Why are we flooding the system to the extent that, as Mr. Frankel said, you never know? And maybe it's only the rarest cases where patents can confer the reward that the system is intended to confer generally.

There is a tremendous philosophical divide -- and I'm here, in a sense, as a protagonist or a provocateur, if you will -- I think there is a tremendous philosophical divide between the patent approach to antitrust and the traditional approach that the courts have taken.

This is one example where the Federal Circuit in 1997 basically took the position that a patent is inherently what it is and it should be allowed the full exercise of whatever value can be extracted to it regardless of who would hold it.

Now, we don't have that rule with respect to private property. IBM is not allowed to buy the next

biggest computer company. But it appears that the Federal Circuit is suggesting that patents somehow should be considered as immune from examination under the laws regulating acquisition of patents, the laws regulating acquisition of market power.

Now, in that case, obviously, the patent did confer market power and that's very good. The fact that it was acquired by a company that could incrementally add to its current position is what the court was confronting.

And I think it reached a conceptual result, a conceptual framework, that is not shared, certainly, by other courts or by the FTC/DOJ guidelines. I'm not commenting whether the result was right or wrong. I'm simply commenting on the concept. I'll skip these.

I want to mention one point here which I think it's appropriate for the economists in particular, and I know they have studied it, to balance what seems to be a very basic notion of rewarding invention, to balance that against some of the contraindications, if you will, as to the question of whether the patent system is the panacea that we rely upon for innovation. Is it the driver that people say it should be?

I sponsored a National Institute's program in 1984 when I was active in the antitrust law section of

the ABA on the interface, and I was amazed that there was no consensus that society was better off having had a patent system than it was if it didn't. But there was no empirical way to tell because there was no control. I mean, we've had it. And it is supported.

But the reason that the Supreme Court upheld state law on trade secrets from a constitutional challenge as being in conflict with the patent clause was because there were so many areas that patents could not cover.

We're told that patents are necessary to prevent free-riding. It's certainly true that that is a concern. But that's also a concern in a host of other areas such as industrial design, mail order houses that take free rides on manufacturers that invest and make new products, and the fact that trade secret protection is not absolute.

So free-riding per se is a factor, but I don't think it's the only factor that can be said to justify the patent system. I think the reason that the patent system is under question these days is because of a number of factors.

As I read the Graham v. Deere decision it assumes a relatively high bar to patentability. The whole tenor of its discussion of the views of Thomas Jefferson as

they evolved from being anti-patent to being pro-patent to writing the first patent code, to upholding talking about the Hotchkiss case, all went to the fact that this was an exclusive right to be granted to a true invention. And they were grappling, of course, with what invention or nonobviousness meant.

Let me go back for one second here. There are questions that have not been answered about the fact that the PTO is completely underfunded. How can people come and say that the patent system is working properly or adequately if it's working minus $700 million that it said it needs to operate properly? You can't have it both ways.

The system is suffering dramatically because the examiners don't have enough resources. There aren't enough examiners. There's not enough expertise brought to the system.

I live in the real world of counseling clients and litigating for clients with claims that are drafted on the cheap and then get asserted in litigations, with patents, as the Supreme Court said in Graham -- I don't think it's on this slide -- they said, quote, we are at a loss to understand what the Patent Office did. How many of us day-to-day ask ourselves that same question? So the underfunding, you can't make the argument that you're

underfunded but everything's fine. Everything is not fine.

The Federal Circuit's inability to define the scope of a Doctrine of Equivalents, the impact of the long time lag between filings and final actions, the fact that all patents have the same term, the fact that business method patents can be introduced in 1998, the fact that Festo can wipe out billions and billions of dollars of prior investments that were based on the fact that companies were willing to pay for certainty against the uncertainty of the Doctrine of Equivalents.

That case wiped out billions of dollars of investments that people made. And I know because I'm involved in counseling on big mergers.

And if there's a patent out there that has to be considered in due diligence, you can quickly tell if there is a literal problem. But then you have to consider is there an equivalents problem.

Prior to Festo there was an equivalents problem, if there was an equivalents problem. After Festo, if there was an amendment, there's no equivalents problem.

Now, prior to Festo, people paid a lot of money when I would tell them that you've got an equivalents issue and therefore it could go to a jury. And if it goes to a jury, you can't predict the outcome. People

paid a fortune to be free of that uncertainty.

I think the Federal Circuit frankly has not been the success that it was intended. I don't think the venue, the forum shopping argument, had any merit. Frankly, I have great respect for the judges as judges, but that is not an expert court. There are only a handful of judges on the Federal Circuit that have any patent experience. There are less than that that have any prior judicial experience.

We're not dealing with a court, in my view, of the same caliber as the Second Circuit, the D.C. Circuit, and yet we're vesting in this court with the issuance of patents which we want to confer monopoly power, legal monopoly power.

Now, I agree that the real issue is one of obviousness. What is obvious? Did Graham erect a high bar? Has the Federal Circuit lowered the bar? In any event, what should it be and who is qualified to judge? And how can the Patent Office make a real determination without help from outside experts?

You can't take an engineering student and put him into a position where he is evaluating whether somebody should be granted a patent. That doesn't make sense.

And I want to just point out the second quote from Edison intrigues me because the patent disclosure

tells you how to make a product or how to use the disclosed process. It doesn't tell you everything that went into the successful result.

And it's that 10,000 ways that didn't work that the company will know about but that the public won't know about that represents the true technology of that company that will stay there as trade secret, as its infrastructure, and that will allow it to continue to improve and innovate.

So the patent does not represent all of the technology by any stretch that went into the final result unless it were to tell you the 10,000 trial-and-error experiments that were done, which it doesn't have to.

From my point of view as a practitioner I can tell you that the underfunding of the PTO, the changing of standards by the Federal Circuit has created a crisis of uncertainty. And it's a crisis for investors. It's a crisis for attorneys. It's a crisis for managers and something really ought to be done about it.

Bill's looking at me and I'll stop, all right, but I just want to read one thing -- well, I'm sorry. What I wanted to read to you was from the presidential proclamation in 1965 or 1966 following Graham or prior to Graham that established the presidential commission to study the patent system.

And if you read that executive order it has findings signed by President Johnson to the effect that, and I may find them and point them out later, that technology is exploding. The number of applications is exploding. The PTO is underfunded. It writes about the technological explosion of innovation in a way that one writes about it today.

And it writes about the problems in the system the same way that we're talking about them today, whether one thinks they're more or less severe. And it looked for improvement.

The Commission came back with 35 recommendations. Some of them, over the years, have been adopted but in general that effort never seemed to take root. So I would hope, as somebody that practices in this area and confronts these issues day to day, that this Commission and the Department will seriously consider the need for strategic reform and not mere tinkering. Thank you.

MR. COHEN: I think our panelists have been gnawing at the bit to get into the discussion. And probably what I think we ought to do is to begin with some of our general discussion, move on, take our break and come back for the second half, start off the second half with Suzanne, if that's all right with you, and then we'll move into some of the more detailed items item by

item.

What I'd like to do is give you all an opportunity to join in. When you have points that you would like to make, what I suggest you do is that you just turn your tents up on their sides, and I'll recognize you in turn.

Perhaps a good place to begin would be by trying to think generally about what principles economics can help provide for assessing the patent system.

And what I would suggest is that maybe we can try to lay out a framework. I'll start with a framework that was suggested by Kenneth Dam in one of his articles, tinker with it a little bit, and put it before you.

And I think what he suggested was that on one hand with the patent system you have a method for creating incentives to innovate by enhancing appropriability while simultaneously disclosing what has been invented.

And I'll add in here on this side of the equation that the system can also serve as the basis for raising capital in some instances.

On the other hand though you have potential problems. One potential problem is the possibility of market power. Another is the possibility of inefficiencies from rent-seeking activity. And another

would be the possible impediments to follow-on innovation.

I'll add still another which we'll probably spend some time on this afternoon which is the potential for generating uncertainty as to the existence or reach of patent rights.

I'd want to throw out to the panel just generally whether you think this provides an adequate framework for discussion of the issues, should anything be added, subtracted or modified as our framework that we can return to as we go item by item later. I see Suzanne has -- is your tent up?

MS. SCOTCHMER: Yeah.

MR. COHEN: Yeah.

MS. SCOTCHMER: Actually, I had a narrower question so maybe this isn't the right time to ask it but I had the narrower question for Mr. Katsh, I think, with respect to uncertainties that have been generated or are generated by changes in law in judicial decisionmaking, rulemaking always has retroactive effects on previous right holders and so on. And that can be extremely harmful from the point of view of equities and so on.

Economists usually think about rulemaking though from the point of view of the prospective view, which is to say, what effect does it have on incentives for

innovation which is being contemplated rather than thinking about the equity effects and harms it may have on innovators who have already completed their task, which I don't want to minimize.

But I would like you to address the question, for example, with respect to Festo, not from the point of view of harms rendered to previous innovators for whom the rules changed but rather with respect to the prospective question of its effect on the incentive implications of the patent system.

MR. KATSH: Well, I think to briefly respond, I would note a case I didn't have time to discuss which is the recent en banc decision in Johnson and Johnston, leave the trademark issue aside for a minute, where the court held that something disclosed in the specification but not claimed in the patent could not then be claimed under the Doctrine of Equivalents, even though it was clearly within the scope of what would otherwise be considered an equivalent.

Now, the reasoning of the court was harkening back to a case in 1881 where the Supreme Court had held that things that are disclosed or that are apparent on the face of a patent but not claimed are dedicated to the public.

Well, talk about uncertainty. Here's an en banc

decision with all sorts of opinions, a strong dissent by Judge Newman, resurrecting now a doctrine of public dedication as a new argument that injects further uncertainty into the ability to counsel and will create much more litigation as now people will argue that whatever was disclosed cannot be considered equivalent, and even if it wasn't disclosed if it was obvious at the time of the invention, it can't be equivalent.

So it's going to be a mad house because people will now argue that only things that were not obvious should be within the scope of a claim that was granted at the time when this alleged equivalent was not obvious.

So Festo is a manifestation, if you will, of the fact that it's not one case or one decision. It is being confronted with a court that seems internally paralyzed to create and maintain a cohesive and consistent body of case law.

And it's more than simply wiping out past investments. It's what do you tell clients about the future patentability of an invention, whether to keep it a trade secret or not. That's my response.

MR. COHEN: I see Scott.

MR. KIEFF: Thank you. I guess a couple of the usual disclaimers. Unlike Suzanne Scotchmer I'm not an economist so I need to be careful what I say since that's

not my -- I'm not a doctor and I don't play one on TV.

And, Salem, you talked about your 30th year. I'm now just past my 30th year. By the way, that's in life. So I defer to your great experience.

With those two disclaimers and deferences on the table, the J and J case you mentioned, Johnson and Johnston case you mentioned, raised an issue that I think is nicely connected to the point Suzanne raised.

It seems to me it goes like this. We could have a clear rule that says what's disclosed is an equivalent. We could have a clear rule that says what's disclosed is not an equivalent.

The decision between those two rules will allocate wealth between plaintiff and defendant. But it is not clear to me that it has for society any greater or less social cost or social benefit.

Indeed, maybe the uncertainty generally associated with what we do with the Doctrine of Equivalents has some cost. Those could be in different types.

There could be general uncertainty cost. There can be specific rent-seeking or social choice costs where parties in any one case try to articulate a rule that sounds crisp in their case but turns out to be quite soft in application downstream.

Those would be social costs. Maybe a solution then is to say no Doctrine of Equivalents. That might indeed eliminate a lot of those social costs.

Indeed, I thought the point you were going to make when you discussed the billions of dollars sacrificed by narrowing the scope of the Doctrine of Equivalents I thought you were going to say, gee, look at all these rational folks choosing to spend that much money to get certainty.

That's what I thought, and that's at least one way to look at it, which is to say, sure by decreasing scope in that sense you are sacrificing some wealth for some folk who got it at that time.

Prospectively, that might do a great deal for the system downstream. Patentees and those who need to negotiate with and around patentees -- around is a big part of it -- they will all know where the fences lie and you don't have the uncertainty of the hidden fence or the shifting fence. Just some thoughts to blend those two sets of comments if that's helpful.

MR. COHEN: Roger.

MR. PARKHURST: Thanks, Bill. I was going to comment also with respect to some of Salem's ideas. Some of us started litigating patents before the Federal Circuit existed. And my question would be are we better

off today than we were before 1982 in terms of a patent system?

Salem mentioned that in work like due diligence work that today the scope or the effect of patents on such considerations may be huge, and no doubt I would suggest to you, and maybe I should ask a question not suggest it, was that the case before 1980?

I suggest that today patents are a much more material asset on the balance sheets of patent owners than they were in 1980.

Skipping backward to the outset of your presentation, you focused upon what is the reward that the patent system offers the patentee and you focused primarily upon the super-market-price possibility.

I'd like to harken back to what Ken Frankel was saying this morning in talking about the simple right to exclude which, in effect, while not affirmatively giving the right to practice, does provide some exclusivity for some period of time depending upon how the patent owner may or may not choose to exercise his right to exclude.

So the patent owner may not need to be seeking the super-market price if he simply has a market. Just some thoughts on some of the things you brought up.

MR. COHEN: All right. We're going to be devoting most of this morning to taking a look at the substantive

criteria for issuing patents and determining infringement.

What I'd like to do with you is to explore some of these basic patentability criteria as applied and compare them against what might be the ideal.

And we're going to get into asking ourselves have we been asking the right questions in fashioning the various requirements and in applying the various statutory requirements.

I guess perhaps a starting place would be to get some views as to the degree of discretion that is likely to reside in the PTO. Does the PTO have meaningful discretion in applying these standards, in applying nonobviousness and applying utility, written description, enablement, et cetera? Or are we necessarily speaking this morning to the courts and to Congress? Arti.

PROF. RAI: I think Scott was first.

PROF. KIEFF: I've already gone. I'm happy to wait.

PROF. RAI: As somebody who has spent some time recently, and who doesn't pretend to be a scholar of administrative law, but has spent some time recently studying it because I've been very disturbed by what I perceive as the apparent lack of power of the PTO from an administrative law standpoint, it seems to me that given

the current Supreme Court jurisprudence on when courts have to defer to the PTO, in particular a case called Mead which came down last year, it's probable that the Federal Circuit's position of not deferring to the PTO is the correct position as an administrative law matter because the PTO does not have adversarial proceedings.

And Mead suggested strongly that adversarial proceedings of some sort would be necessary as a prerequisite to deference to an agency determination.

Now, that strikes me as a real problem because it strikes me that an administrative agency is the appropriate place to place the sort of power of determining how these particular substantive criteria should be applied because they, in theory at least, should have the resources and expertise to engage in the sophisticated economic analysis necessary. The courts simply cannot do that.

Whether Congress can do that is another matter but it seems to me that the courts clearly cannot and the courts, and the Federal Circuit in particular, seems to be the place where this is supposed to be happening. I'm not sure they're doing it, and I'm not sure they could do it if they wanted to.

MR. COHEN: Scott.

MR. KIEFF: If it's okay maybe to back up to a

slightly more general level on these standards. Is that all right?

MR. COHEN: Yes.

MR. KIEFF: I do think the point Arti is raising here is a really important point. I suspect you guys are going to want to explore that more this afternoon, kind of where we fight these battles. Do we do it in the Patent Office? Do we do it in the courts?

But by no means by talking about this other thing do I, or could I, devalue the importance of that point. It's a very good point. But if I may talk a bit more generally about some of the substantive standards.

And we hear a lot. We heard it today that times are changing. Technology is changing. Maybe the law needs to change too. We heard it in the '60s during the President's commission. We hear it again today.

Again, you're absolutely right. The language, the rhetoric are remarkably similar. The notion that law needs to change to catch up with technology, I guess, could make some sense. It has, I think, great initial appeal.

I don't know how it maps onto a law designed to deal with new technology. And, in fact, as the Supreme Court said in the Chakrabarty case, the role that unanticipated inventions are without protection would

conflict with the core concept of patent law, that anticipation undermines patentability.

So, in fact, patent law has got to be the best candidate. If we had to pick a law that doesn't need to change to address new technologies it's probably going to be patent law because that is a law that was written to encourage new technologies. It's the law that has new technology on its mind. That's its raison d'etre. It probably doesn't need to change.

So that's an important thing to keep in the back of our minds as we think about what types of shifts we would want to make, whether the system is so fundamentally broken that it needs to be really amended in important ways.

Again, this is the system designed to encourage new stuff. In fact, the more unanticipated, the more unobvious, the more patentable under the patent system, not the more strange under the patent system.

So let's, I think, at least keep those standards in the back on our mind as we think about obviousness and as we harken back to the Graham case.

And remember Graham and Section 103 were an effort to give predictability to patent law; 103 was written to create an objective standard to replace the vague concept of invention with an objective standard for

nonobviousness.

And let's think about whether that type of approach can work. Maybe it doesn't. I don't know. But at least that's the fantasy. That's the goal.

MR. COHEN: Stephen.

MR. KUNIN: Well, standards of patentability is probably my favorite subject. There are a couple of points I'd like to make. First of all, I'd like to maybe build on a point that Arti was making with respect to the question of deference.

Certainly, one of the debates I think that has been going on for some time is the debate over what is a matter of fact versus what is a matter of law.

And particularly what happens in many of these cases is that the Federal Circuit will essentially call something a matter of law which in essence means that they get to look at everything de novo.

And even when the Supreme Court dealt with the Dickinson v. Zurko case, deference in that respect had to do with fact finding. And of course no good deed shall go unpunished.

And if you look at what has happened post-Dickinson v. Zurko with cases In re Gartside and others, you will see that in essence all that does is it raises the level with respect to getting deference on

fact-finding because now you've got to do substantially express fact-finding, much like a district court judge does, in order to get that level of deference.

It's interesting on the issue of Mead deference, and before that Chevron deference, certainly I agree with Arti that the Fed Circuit in Merck v. Kessler said that we don't have substantive rule-making authority only interpretative rule making and therefore we could not get the kind of deference that perhaps some of us would like to see happen.

And, of course, interesting for those of you who had the opportunity to be at the Cal Berkeley conference that many of the panelists here were able to be on a number of the panels. The keynote speaker was Judge Michel.

And it was quite fascinating to me to sit there in the audience, and this was later reported in an interview that Judge Michel gave, that he said, well, maybe we're doing the wrong thing in terms of having all of these hearings and the like.

I'm not sure that that necessarily is going to lead to the right outcome, and if I were asked one of many things to do, I think that Congress ought to consider giving the Patent and Trademark Office substantive rule-making authority.

I kind of almost fell out of my chair because Hillary and I had talked about that maybe an hour or two earlier. And I was shocked to hear the Judge say that. But that leads me to my next point. I think there is an interesting issue with respect to PTO influence.

First of all, the long history of, certainly I would call the common law on patents in the states, has been in many instances a graveyard of In re cases where the law has changed because first CCPA then maybe the Fed Circuit has essentially overturned decisions of the Board and changed the law.

And in recent times in the area of official notice in Section 103, I'm sure that some of the panelists will talk about cases like In re Kotzab, In re Sang Lee and so forth which, in essence, makes it extremely difficult to satisfy a 103 standard.

I recall even in my own progression, as Bill Cohen was mentioning in my introduction, is I remember examining cases at the time when we used a standard where you could say you had the collective suggestions of the references, entering the block with In re Keller-type of standard, and now with cases like Dembiczak and Kotzab is like it never existed in the law.

But what we have done, and of course I was pleased to hear in some of Arti's presentation the aspect

of what attempts we have made in terms of the examination guidelines approach, where we do public notice and comment and we try to fill in the gaps.

Certainly, the Federal Circuit, or even any District Court, has only a multitude of cases on a case or controversy, and as was mentioned, we have to deal with hundreds of thousands of cases every year.

So there are a lot of ways that we can deal with, I'll call it, hopefully advancing the law because we have to fill in the gaps. And I think we do that through examination guidelines.

Sometimes the court finds favor with our guidelines. I can give you a number of cases where they have been quoted favorably by the court. And I have seen cases where the court has said, well, in the majority we agree. And here's the section from the guidelines. On the dissent we used the guidelines. And you can use the guidelines for any position you want to reach.

I think Enzo was a very recent example of where both Judge Lourie and Judge Dyk were quoting from our guidelines in terms of once again not saying they were given deference but just to bolster their own perspectives.

So I think this is an interesting issue in terms of how we deal with many of these things, both from a

judge-made law perspective as well as administrative rule making.

MR. COHEN: I see a couple of other signs up. What I would like to do is sort of enrich the discussion by throwing out another issue which you can deal with either now or in combination with what's already out there.

And that's the issue of the degree to which there's likely to be any ability to tailor substantive patenting criteria to take account of differences of various types, differences between industries, differences between the stages in the research process as Arti alluded to, differences between different types of competitive settings.

We have had some who have suggested that perhaps you might have a different optimal result in a network context than in other contexts.

One of our speakers has suggested that there already is some tailoring of this type going on, although not directly acknowledged. I think Professor Burk suggested there may be a higher standard for nonobviousness in software than in biotech but a more stringent standard for disclosure in biotech than in software.

How much room is there for flexibility within the

system? How much is necessarily one size fits all? With that set of issues out there I think Professor Scotchmer had her sign up first.

PROF. SCOTCHMER: I have two questions. I would like to ask Professor Rai at some point to revisit the question of why she thinks that upstream patents should be narrower than downstream patents, just to articulate very clearly for the record why you think so.

But my second question, as well, which is unrelated: implicitly if not explicitly, comments that we have had at this table this morning have gone to the fundamental question of why intellectual property, of what is the objective of giving intellectual property?

And I think Mr. Frankel raised the issue, for example, that sometimes comes up about whether we should give intellectual property or strengthen it or tailor it, to use Mr. Cohen's language, to cost or sweat of the brow, the old sweat-of-the-brow standard, how should we think about that, as opposed to rewards for creativity, rewards not for the cost invented or compensation for the cost invented but rather rewards for the value contributed, socially?

Those are two distinct and different fundamental views of what should be rewarded. And the issue of anticipation, it seems to me, as represented by Mr.

Kieff, embodies the idea that to the extent that anticipation means you knew you could get it if you invested sweat of the brow and a lot of money but that bars patentability, argues on behalf of rewarding value created regardless of cost as opposed to rewarding creativity only, in fact, when you needed to reward it in order to reimburse the cost. All of which goes to the question of should we think about intellectual property as simply a reward for value contributed or should we think about it more as an economist would like to think about it, which is we want to reward creativity and value contributed, but we don't want to reward it more than is necessary to get it, but to make the latter calculation one has to consider sweat of the brow and costs.

So how do those two views of what fundamentally we're trying to accomplish fit together? And I believe we have heard, at least implicitly, two views of that in the panel this morning.

MR. COHEN: Anybody have a response to those questions? I see lots of signs up.

PROF. RAI: I don't know if I should go out of turn.

MR. COHEN: Arti, you have the first part of it.

PROF. RAI: Yeah, just briefly. The reasons that I think that upstream patents are better left narrow than

downstream patents is basically based upon my position that when you have broad upstream patents for the reasons articulated by Merges and Nelson in their piece, it's often difficult to get the downstream development that you would like to get.

In addition, one point that was not articulated by Merges and Nelson which I think is interesting is that with upstream patents there's always an incentive for further development because there's the possibility of downstream patents down the line whereas with downstream patents, and let me give you a concrete example, a patent on a drug, for example.

At that point that patent has to serve in and of itself as the incentive for further development, commercialization, specifically going through the FDA approval process. There is unlikely to be another patent down the line that will serve as that incentive.

So I guess in brief it would be reasons articulated by Merges and Nelson basically that it's the transaction cost difficulties of licensing upstream broad patents can be serious.

And two, that by definition, upstream patenting means that there is downstream patenting to be had to provide an incentive to move further down the development path.

MR. COHEN: Mark.

PROF. JANIS: A variety of comments here and they start off from the theme that you raised just a minute ago about whether tailoring in substantive patent standards is possible, whether it's a good thing.

You asked whether there was room to do it. I would say it certainly is going on and I think probably it's always been going on in the patent system every time a judge had to decide a case in a particular technical area.

So I think when we talk about this issue of one size fits all, what's embedded in that question is really the question of the process by which this tailoring is going to proceed.

And to that point I wonder about the efficacy of trying to impose large-scale, legislative reform to accomplish this tailoring, for example, passing particular statutory standards for business method patents or particular standards for biotech patents, or whatever you might imagine because I wonder if that leads us to a kind of Balkanization of the patent statute. And so I throw that out for comment. I just think that's a matter of concern. I think you can see that happening in the copyright statute, for example.

Another point, I think this relates to Scott

Kieff's earlier point about how the patent law changes with changing technology or whether it's necessary for that to occur.

Again, I suppose I have a similar observation. I think we ought to be cautious about getting too caught up in concerns about exploding technology and a view that what's happening today is unique, that technology is moving so quickly and this has never occurred before.

Salem Katsh mentioned that there was similar rhetoric in 1966, and he could have said that there was similar rhetoric in 1866, literally. In 1866, many of these same objections were raised. Many of these same solutions were proposed.

So that really leads me again to say maybe when we look at this choice between strategic reform and tinkering, which is how Salem Katsh put it, maybe we ought to speak in favor of a little tinkering and in favor of going a bit slow. Well, maybe I'll leave it there.

MR. COHEN: I see two more up and then we'll take those two and then go to a break. Jay.

PROF. KESAN: One quick point before I address the issue of disclosures and divergence in different technologies and so on. To the extent that the J and J case that Salem Katsh referred to suggests that you have

to be careful about policing the line between what you claim and what is publicly dedicated, I think whenever you sort of have this kind of realignment by the courts it could be really beneficial.

For example, it could really invigorate, reissue and continuation and all these other practices, so that some of the same uncertainty that Mr. Katsh is concerned about might actually go away.

And so you may actually have a reduction in overall social costs of patents because now you've got a much clearer property right. In other words, police that boundary more carefully. Be careful. And you've got some chance within the statute to fix it even after your patent issues. And that may not be a bad thing. But that was just one minor point.

The issue of applicability of these standards in different contexts and they're not being done uniformly doesn't bother me as much as the fact that it's not being done properly in the individual technologies themselves.

In other words, to the extent that there is good policing of enablement, if you will, at least if we look at the case law in biotechnology and no policing is what I would say in software patents, that sort of divergence does not bother me as much as the fact that there is no policing in software patents per se.

And I want to spend just a minute or two on software patents because I think this is a very important issue, and it's an issue that I follow fairly closely.

I do agree that there is some heavy policing on obviousness in software patents. This is in keeping with what Dan Burk had mentioned. And the problem in this area is that very high-level functional descriptions have been found to satisfy enablement in software cases.

In other words, if you look at MPEP Section 2106, they are perfectly happy with what they call reasonably detailed flowcharts. And what does that amount to? That just amounts to a function and nothing else.

The Federal Circuit in the Fonar v. GE case and the Northern Telecom v. Datapoint cases has basically said that anything beyond very broad functional descriptions is just mere clerical function and so a lot of software, the innovation lies in how you execute that function.

So what ends up happening is that it really amounts to essentially giving patents to ideas is what it comes down to. It's sort of like saying I have an idea for a washer and a dryer in one machine. You don't get a patent for that. You get a patent for exactly how you're going to make that washer and dryer.

And this is a serious problem in software because

what ends up happening is that you have patents that use different terminologies because companies use different terminologies they're patenting the same thing, numerous examples of that.

There is no prior art being built up and that's why -- because once again the knowledge, the disclosure is not there. That's why we end up with patents on things like option pricing that's been known for decades, because you say things slightly differently.

And, finally, the same problem is the reason why we don't have a good perception of the so-called business method patent, which is really a disservice to the software community, I think, because most of the so-called business method patents are commercial, are software implementations of commercial transactions.

Not all of them but a lot of them are your engineering and software, a commercial transaction, and a patent should be given for the innovation in the software. And to turn around and call it a business method is sort of not doing justice to the underlying technology and the underlying innovation. I'll stop right there.

MR. COHEN: Salem.

MR. KATSH: Just a few quick points. I'm not sure of the fact that reforms have been advocated since -- I

appreciate the correction -- 1866 along the same lines necessarily is evidence that the reforms should not have been implemented. One could argue that we wouldn't be here.

The second point is that I think that the '52 Act was meant to change the law. I think the Graham Court was very clear in '65 or '66 that there was no change in the law. What there was was in the Court's words a, quote, unquote, notorious difference between the standards applied by the courts and the standards applied by the PTO.

And that continued subsequent to Graham. It was true before Graham. And you had an enormous percentage of patents invalidated in those time periods. So from the certainty point of view, if I'm a businessman and I'm looking at a patent problem in an acquisition, although I didn't do that kind of work in pre-Federal Circuit, I'm sure that patents -- people did not pay as much for certainty in those years because there's a greater chance the patent would be invalidated.

Finally, in my mind I think the rule-making proposal is something that should be seriously looked at. To me obviousness is a quintessential value judgment. I don't know how you can get around that.

And it's like Section 7 of the Clayton Act. It

was never changed, but the Justice Department and FTC decided to change how it would be enforced. That was a value judgment. The words of the statute didn't change but it was a value judgment that there wouldn't be Von's Groceries.

That can be done from a policy point of view by an agency that is well funded, brings to bear the right kind of scientific and expert expertise, and goes through whatever you want to call that.

Now, the DOJ is not, you did by guidelines. It could be done by guidelines. It could be done by rule making. But I would have to say that fleshing out specifics on what is expected when you apply for a business method patent and what is expected when you apply for a biotech patent and go through it in a way that is meaningful in the sense that the Merger Guidelines were would have to have a beneficial effect. I'll just leave it there.

MR. COHEN: Okay. Let's take a ten-minute break. Try to get back and restart at 11:25. We will pick up with Suzanne Scotchmer's presentation, and then we'll start going element by element through the various criteria.

(Whereupon, a short recess was taken.)

MR. COHEN: We're going to begin with a presentation from Professor Scotchmer, and I'll turn it over to her and take a seat out of the light.

PROF. SCOTCHMER: Well, I want to return to Arti Rai's subject for this morning, which is cumulative innovation and how the two most controversial aspects of intellectual property operate in that context.

And I'm doing that with a view toward trying to sort out how should we think about patent scope or patent breadth and how should we think about standards of patentability or the bar for patentability standards for getting protection, in this context, if we're thinking about kind of the consequentialist view of what implications does it have for progress, the rate of technological transformation and so on.

In this context there have been at least two views articulated as to the policy objective. One view that has been articulated is that in this context of cumulativeness where innovators build on prior art, they build on prior inventions that often have been protected by patents or other intellectual property, one view is the focus on the question of how does intellectual property operate to divide the profit so that every generation is protected?

So that in this context where you have blocking

patents, where it may well be that an improver to a technology both has his own protection but infringes prior patents so that there are blocking protections that have to be resolved through license or other kinds of agreements among firms, all of those have implications for the division of profit. And of course, the division of profit among the sequence of innovators has enormous implications for the incentive to create that sequence of innovations.

So that's one view. And that's the view that's most closely represented in the economics literature on this topic, addressing that question of the division of profit and how these two important features of protection, the standards for protection and breadth of protection operate there.

The other view which I discussed in some detail at the Berkeley hearings in February, and I won't revisit very much here, is the view articulated by Kitch in the 1970s, who was not so much concerned about the division of profit and how the division of profit sets the incentives for each sequential innovator but rather thinking about intellectual property in this context as giving a platform for the organization of research downstream.

So I'm putting that up to remind you of that. If

anybody wants to see my views on it, you can find my views in the testimony I gave in February in the Berkeley hearings.

So here I want to discuss how standards of patentability and scope of protection operate to determine the division of profit, hence to determine the incentives to make continuing progress.

As an example for this, I want to return to an old technological subject which we resolved in one way and then resolved in another way and that's semiconductor chips.

Semiconductor chips, computer chips, are a poster child for this context of cumulative innovation. My understanding of how progress happens in chips is that it's precisely through reverse engineering, understanding circuitry on previous chips, trying to make improvements to those chips going forward from the prior art. So it's a poster example of cumulativeness.

In the 1970s and 1980s the chip manufacturers became very concerned about the erosion of their incentives to make progress in this art because there evolved technologies for reverse engineering chips. And so it came to be the case.

If you want to find a source for the information I have given here on the chip industry and other matters,

I have a paper coming out this month actually in the Yale Law Journal on reverse engineering. And this information and sources for it are cited there.

But some information on this matter was that chips, of course, are expensive to develop from the ground up, and the information I found was on the order of $40- to $50 million, and very cheap to clone, on the order of $50,000 to $100,000. And that's because it became mechanized, the unmasking of the circuitry of chips.

And so, of course, this created an enormous conflict within the industry, where the chip manufacturers were afraid that their incentives were being eroded and that the whole chip industry would die because the inventors, the market power, their ability to recoup costs was being eroded.

What this illustrates for the context, and I'm using this as a model, as an example, I don't really want to talk about chips. I want to talk about it as a model for a broader context. What it illustrates is conflicting economic goals.

On the one hand what cumulativeness is about is that subsequent innovators use the knowledge created by prior innovators to create further progress. And that's a good thing. It's the foundation of progress. And all

academics know that that's how academic progress proceeds and it's also how industrial progress proceeds.

The problem, of course, is that those who learn from you can be your nemesis, can cause your demise, so that when subsequent innovators replace you, build on your work, make a newer, bigger, better improved chip, you're dead as the prior innovator, which sets up a conflict.

On the one hand is the prior innovators who create the foundation for progress. On the other hand your successors, using your foundation for progress, can wipe you out in the market. That creates conflicting economic goals and it's the role of the intellectual property system to mediate that conflict. And so it's how does the intellectual property system mediate that conflict that I want to discuss with you.

The Semiconductor Chip Protection Act of 1984, which, as I understand it, is no longer very important in protecting chips because chips are now patented, is interesting not because it's an important form of intellectual property protection at the moment but rather because it's a stylization of patent law. And that's how I want to use it.

So I'm not using chips or the Chip Protection Act as an object of interest but rather as a model. The Chip

Protection Act allows reverse engineering of chips in this mechanized way that was developed in the '70s and '80s. So it doesn't restrict the reverse engineering.

Indeed, patent law would not require reverse engineering because there's a disclosure requirement, but the Semiconductor Chip Protection Act provided an explicit forward engineering requirement in order to avoid infringement.

So what's interesting about that is it prevented entry with a cloned chip, an identical chip, but allowed entry with an improved chip.

And what that suggests is something that's also present in patent law. It's patent-like in the sense that it prevents entry to the market with the identical thing that would be, if it were patented, covered by the patent, but it permits entry with a substitute or rival product that manages to escape infringement by escaping some scoped out set of similar products, in this case chips, as set forth here explicitly as a forward engineering requirement but in patent law set out usually in case law as a breadth requirement. And so the question is how does that operate?

Another interesting thing about the Chip Act is that there's no explicit distinction between what it takes to escape infringement and what it takes to get

your own protection. The standard, if this were a patent act rather than a sui generis chip act, the standard for patentability and the standard for breadth would be coincident. That's not true typically in patented subject matter.

So I want to use this as a model now to come to the question of how those two features operate more generally in the context of cumulative innovation, thinking of this example, even though it's not a patent example.

So, as you know, economists have a lamentable tendency to write models. This is as model-like as it will get but it's a stylization of the context which I think is useful. If you look at the diagram at the bottom of the overhead what I've drawn is a quality ladder and the way to think about that is the sequence of chips.

So Q1 is the quality of some initial chip. Q2 is the quality of some subsequent chip and so on. And each chip proceeds by a leap of quality that I call delta there at the bottom of the diagram.

And the thing to notice about this context which makes the cumulative context for intellectual property protection fundamentally different than other contexts is that there is an extremely evident reason that there's a

discrepancy between how much of the value created can be appropriated by the inventor. There's a discrepancy between what he can appropriate and what he creates.

So the benefit of each improvement I've written there is the size of his incremental improvement, say delta, divided by r, and what that represents is the fact that if you make some incremental improvement in technology the value of that improvement goes on forever. Why is that? It's because it creates a foundation for all future progress.

So even if you get wiped out of the market in the next period by an improved chip, the value you created remains there because it's a foundation for your improving successor and it's a foundation for every successor after that.

However, you as the improver may well get wiped out of the market after the next incremental innovation, which means that you may collect profit on your improvement for two years whereas in fact you have created a value which can go on forever. Enormous discrepancy between the value created, the social value created, and the amount of that value you can appropriate. How does intellectual property law mediate that problem? That's what I want to address.

There are two tools, as I said at the outset, two

important tools that bear on this problem. One is breadth and the other is the standard for patentability. So what I've drawn now on the bottom diagram I've shown a consolidation.

The implicit idea in my previous diagram was that each sequential innovator comes along with his q1 plus delta, his improvement, and then becomes a competitor to the previous patent holder.

Suppose, however, that the subsequent improvement, improved product, infringes the prior patent? That is a question of patent breadth, whether or not the subsequent inventor infringes the prior inventor.

And if he does, then that gives a legal foundation for consolidating the patent rights in the ownership of one firm, under the market control of one firm, because to resolve the blocking patents they have to license.

So what does that do? It increases -- instead of having competition between the sequential innovators what it does is give an opportunity, a legal opportunity under antitrust law to consolidate the market control of those two innovations and collect twice as much profit -- I've written here 2 delta -- twice as much profit in every period for the duration of those intellectual properties.

So that's what breadth does, and in particular

leading breadth, giving some claim to each innovator on what comes after. And I call it leading breadth because it's giving a claim to things he hasn't invented. It's leading, the leading edge of what he's invented, you're still giving a claim those inventors may infringe.

Now that, of course, is a bit tricky in patent law. But if you don't have that, then the ability to protect each inventor is seriously restrained.

Okay. So that's what I view as the main tool for mediating this conflict between sequential innovators is the fact that subsequent innovators may infringe in the sense of blocking patents.

How do we think in this context about the bar to patentability or the standard for patentability. How do we think about the minimal patentable step? Well, in this context if you think about the incentive for an improver to actually make the improvement, if it's a third-party firm not the original patentee, not the previous patent holder, then clearly he's going to be reluctant or at least think hard before making an improvement that's not patentable, that doesn't meet the standard for patentability.

Why? Because after he makes it if in some way it's revealed -- and of course, this all depends on whether it can be held as a trade secret and so on -- it

can be appropriated, for example, by the previous patent holder. So the standard for patentability will operate in this environment to constrain what kinds of improvements the improver is willing to make.

I view that as a secondary issue to the question of protecting the sequence of innovators by creating enough patent breadth, but it's not irrelevant because the standard for patentability can give an incentive for innovators to be more ambitious than they otherwise would be instead of just trying to find a market niche by finding some patentable invention.

So let me come now to the question of these two very controversial aspects of intellectual property which occupy so much of our attention both as economists and lawyers in this era, that is, patent breadth and standards for patentability, bars to patentability.

And I want to ask the question, if we get it wrong, what is the downside risk? And by asking that question what I'm trying to get to is the question of what should we really be worried about here.

So we are worried about both things. We have judicial decisions that change notions of breadth all the time. We have Patent Office grants that change notions of breadth all the time.

And indeed both of those things also bear on

questions of patentability. And we argue about all of them. Which are the important ones? The downside risk of getting the leading breadth wrong -- so what would I mean by that?

How much of scope for improvement is staked out as an infringement to the prior patent? That's what I mean by leading breadth. If we get it too narrow, that is, we haven't scoped out enough territory of improved products that infringe the prior patent, if we get it too narrow, then we suffer the danger that the competition will stifle innovation entirely.

Every innovator in this sequence will fear that even though he enters the market and can have maybe two years of market incumbency he too will be supplanted because his breadth also will be too narrow to stake out a longer period of time in the market or more territory or more ability to create profit in the market.

The problem with getting a leading breadth that's too broad is that you could be enabling more market power consolidation than is necessary to create the sequence of innovations and hence compounding market power beyond that which is necessary. That's an old story. It's a very old story about the basic trade-offs in patent law.

Let's come to what is the downside risk of getting the patentability standard wrong. Well, there,

you see, I think that the downside risk is less severe. So let me come to an example that Professor John Barton at Stanford often gives when talking about these issues because it's a very good example for illustrating why I think that we don't have to worry very much about the patentability standard but we have to worry a lot about breadth.

Professor Barton often is at academic conferences as am I, and at academic conferences we often have coffee and cake which the FTC can't afford. So everybody at the conference has a paper cup.

And so John Barton holds a paper cup, and he points to the bottom. He says, look at this; patent pending. It's a paper cup. And then he picks up another paper cup at the conference and he holds it up and he looks at the bottom and it says patent pending. Isn't that interesting. It's a different paper cup.

And he uses this to illustrate the idea that standards for patentability may have become so minimal that both of these paper cups could be patented.

And we see, of course, the same arguments with respect to one click or two click or business method patents. People argue that trivial things are being patented. And the question is how dangerous is that?

And I look at those paper cups and I say, okay,

so these two paper cups will have patents. So what? The real question is do those paper cups infringe each other? If those two paper cups both have patents, they both meet the bar for patentability, the standard for patentability but neither infringes the other, then there is almost no harm to competition.

So it's my view that as between the controversies regarding breadth and the controversies regarding the standards for patentability it seems to me that the one we really need to get right is the standard for breadth more than the standard for patentability.

So following that example let me come back to my comments about what the downside risk for getting the standard for patentability wrong, assuming that we have gotten the standard of breadth right.

If we have the standard too high it could stifle follow-ons because third party inventors won't want to enter the market because their innovations might be appropriated in that they won't get patent coverage.

However, there's a solution to that. Prior patent holders in the same line of research don't suffer that problem. Because they have patents on the prior innovation, they're still covered, so that downside risk is mitigated by an incentive of prior patent holders to do their own improvements.

What if we get the patentability standard too low? The problem with that, and this is the one that's usually raised in regard to business method patents or indeed, Professor Barton's paper cups, is it might result in unnecessary patents.

The solution to that is it doesn't matter as long as the patents are narrow, so that despite the proliferation of patents in the market nevertheless the market admits competition.

It's the breadth that admits competition not the standards for patentability. So my conclusion is it might be more important to get the leading breadth right than to get the standards of patentability right.

And in this regard as sort of a preview of things that will come later in these hearings I invite you to compare for a moment or think for a moment about the comparison of copyright and patent.

The standard for protection in copyright is extremely low, at least for traditional subject matters like pictures and books. We have never worried about that.

Why is it we have never worried about the fact that the standard for protection in copyright is so low? I believe the reason we have never worried about that is precisely because the protection is so narrow.

Everything is copyrighted, but everything is noninfringing, so despite the fact that everything is protected there's a lot of competition in the market. Thank you.

MR. COHEN: Thank you very much, Suzanne. I think what we would like to do now is to turn to some of the elements of the patent standards and go through them one by one.

And where I thought we could start would be with what Suzanne has termed the patentable step, the nonobviousness standard. We'll get to the leading breadth discussion a little bit later as we go through this.

With regard to nonobviousness we have heard through the hearings and even this morning some talk about one possibility might be if you're trying to design things optimally you might want something that will approximate a "but for" rule. Give a patent if and only if it would be needed to call forth an invention. Often, this may be a higher standard than what we're used to dealing with.

Others have suggested that a lower standard might suffice. Perhaps a "substantial novelty" standard would work if our goal is primarily one of efficient development of a prospect.

I think I'd like to throw out the various possibilities and get your reactions. Let's start with a "but for" approach. Would a "but for" rule, when designed to issue patents if and only if they're needed, provide a measuring stick that would accurately reflect economic goals? Scott.

PROF. KIEFF: I think that's actually an amazingly difficult question. And this gets back to kind of the disagreement Salem and I had about how to read Graham and 103.

And the disagreement kind of goes with a history. Buried, actually, in a jury instruction of all places in a very, very old case is the notion that we want to look at what the ordinary mechanic in the field would think to do. And then during the bulk of the 1900s all the way up, in fact, even past the 1952 Patent Act, and I agree with you, past Graham, a lot of people had the notion that we ought to look for things like flash of genius or synergism.

But I do think it's interesting, and you're right, absolutely you're right, the Supreme Court in Graham expressly discusses the no-change language.

But the sentence continues with a cite to Hotchkiss. And the story has been told by the author of that opinion, Justice Clark and his law clerk at the

time, Charlie Reed, and it's catalogued very richly in a couple of places.

So there's a book called, Nonobviousness, the Ultimate Condition of Patentability by Witherspoon and a book called, Principles of Patent Law, by a group of people including me, that talks about this story, and then actually a law review article by George Sirilla.

So there's a lot of sources for the history. And the view seems to be that the no-change language was consensus gained, but the cite to Hotchkiss was key. And the cite to Hotchkiss was key because the rule was, no, we want to go with an objective standard. And the standards flash of genius, synergism, things like that, were viewed as too subjective.

So the no-change is harkening back to Hotchkiss not harkening back to A&P or Cuno or the other subjective standard cases which are absolutely right. The no-change language is in there. It turns out to have this interesting kind of story associated with it.

But the sentence doesn't end with no-change. It goes on; it cites to Hotchkiss. Hotchkiss becomes the key. And that's where the ordinary mechanic -- today we call this PHOSITA, person having ordinary skill in the art, P H O S I T A.

So we asked Madam PHOSITA or Mr. PHOSITA what

would be obvious to you? And maybe we could try to do some kind of "but for" analysis. Maybe an answer to that question is to say the following -- and I think this gets at some of the underlying points you were raising -- what standards do we want for patentability?

One of them that we don't want probably, we don't want patents to issue on stuff that other folks are otherwise doing because we like protecting investment-backed expectations. So we could have a standard that says, listen, if someone's already doing it, don't patent it.

Now, we can tell the story that the novelty requirement exists to do just that, and we could argue about whether we should tweak the novelty requirement to capture things that, as a matter of fact, folks have already been doing but somehow we weren't catching them under 102.

And I think if you look at the history of the case law on 102 you'll find that we have done that. So, for example, under 102(a) there was this view that there was a publicity requirement.

A lot of people looked at that and they said, well, that doesn't quite make sense because people could be investing in a meaningful way without making it public. We might want to capture that as an investment-

backed expectation. We might want to protect it and, lo and behold, the court has evolved, in fact, the Federal Circuit has evolved, a view of 102(g) to say as long as people have not abandoned, suppressed or concealed it, it counts as prior art.

So we're doing a lot of work, in fact, in making sure that we prevent patents from issuing on stuff that folks are otherwise not doing. If they are otherwise doing it, we don't let a patent on it.

And if they're otherwise doing it and keeping it secret, well, then we do let a patent on it because we have some feelings about trade secrecy and especially some feelings about whether people could go for trade secrecy plus patents. We don't like it when they do that because they get two bites of the apple. So that's what anticipation could do for us.

So we could view nonobviousness as the effort to make sure patents don't issue on what folks are just about to do. So we could have this view that says, if folks are doing it, we don't want to patent it. If folks are just about to do it, if they have invested in investing, if they are starting to ramp up, that could be some investment-backed expectation we want to protect, and we could try to conceptualize the nonobviousness requirement as a proxy.

Like all proxies it will be sloppy, but then the question is going to be what objective criteria -- and we would want to decrease social cost on this, so we would want to have a legal standard that could be testable with objective, factual criteria.

And I agree with, I guess, Mr. Kunin, who had made the point that we need to be careful about what we call legal and what we call factual because of deference issues.

But presumably and, in fact, the Federal Circuit Lee case which you cited, this is the most recent. I think it's February or January of this year, recent Lee case is a fact-type case and it's a case that says, listen, when we're doing our obviousness analysis we need to hinge it on the facts.

And the factual analysis needs to go like this: we look in the prior art. We generate a checklist. The checklist is everything in the claim. Everything in the claim plus enough teaching to enable someone to actually make the claim.

If we can find all of that in any single reference, objectively, we actually find it there as a matter of fact, that's anticipation and we're done.

If we can find it all there, but instead of finding it in a single reference we find that checklist

spread among two columns, two or more, two, three, four references, and, as a matter of fact, as in the Lee case, we've got some objective teaching, suggestion, or motivation to combine those references, then we've got obviousness, then we've got no patent.

But that is a view of obviousness that is relatively crisp and objective and relatively easy to apply.

Now, I completely agree that it doesn't have the kind of valuative stuff that you suggested. And I think it would be great if we could figure out a way to have someone do that evaluation. And I think this gets at Arti's comment about whether maybe what we ought to do is have an expert economist in the Patent Office decide is it, quote, worth it, to issue this patent.

But those are going to be very -- and I guess they use your analysis, I think, because they struck me as a very good analysis, but then the question is can someone sitting in Arti's type of office applying Suzanne's type of analysis, bolstered by Salem's type of kind of valuative approach, do it cheaply?

Or do we want to have a crisp -- you add up the facts; they're there or they're not. It's obvious or it's not. You've got the teaching of every element. You've got a suggestion motivation to combine. It's

obvious.

If you don't have all that stuff in the text of the documents you're looking at, the journal article in Cell or the journal article in the one-click patent case, it's going to be going to some business school class and looking at the notes. We have a lot of case law about what facts you get to look at for prior art. But that's where you look. And then we need to make this comparison. But that's I think the comparison we'd be making.

MR. COHEN: Let's make a comparison with some other people's comments. Mark.

PROF. JANIS: A small point here. We're talking about -- beginning to talk about these patentability doctrine seriatim but we need to remember that they do interact. So it's convenient, of course, we have to talk about them seriatim but I think they interact in very important ways.

So, for example, I might be very happy with an easy eligibility standard if I know that it's backed up by a rigorous standard on enablement, scope, breadth or a rigorous obviousness standard.

Likewise, I might have Jay Kesan's problem if I'm in the software problem and I have an easy eligibility standard and perhaps an easy enablement standard. Those

two together may create a problem where one or the other individually might not, but those two together surely do.

And another related point you hear people talking in the biotech area about an easy dual standard for obviousness in counterpoise with a heightened written description standard as a way to justify those two. So just a small point about remembering that these doctrines interact with one another.

MR. COHEN: Arti.

PROF. RAI: Just to follow up, I think that Suzanne is exactly right, that it probably doesn't matter as much what the standard for nonobviousness is as long as we get the scope right, but the difficulty is that if you have a very low standard for nonobviousness the way the patent law is at least currently set up that means you're tied to a narrow scope, which may or may not be good depending upon your analysis.

And so if you want to decouple nonobviousness and scope you have to do so by using explicitly economic analysis that is different from the doctrinal analysis that the court would apply.

So, I mean, I think that raises the larger question of, it seems to me, that the patents' doctrines are meant to get, at the end of the day, the only questions they're intended to get at are questions of

innovation policy.

So then, and Scott mentioned that it may be too difficult to have an economist sort of analyzing each patent to determine what the optimal scope and so forth would be, but I do think we could -- and this is back to the point I made in the earlier session -- I do think that one of the things that a PTO with substantive rule-making authority could do is come up with guidelines that might apply across a variety of cases that explicitly incorporate economic policy considerations and therefore allow us, if we want, to decouple nonobviousness from scope, if that is the economically sound thing to do.

And that doesn't have to be done on a case by case basis. I think it can be done on perhaps an industry by industry basis, which leads to the question of -- I don't think the patent laws should be technology specific in the sense that it should always be grounded in the facts to some extent, but it may be that there are different economic considerations at play in different industries that would affect how you would want to think about scope.

MR. COHEN: Steve.

MR. KUNIN: I'd like to take a little bit of a different approach. I think it's important for us to look at a couple of different elements. The first

element is the role of the Patent and Trademark Office as the gatekeeper, and basically the way the law is currently set up the burden of proof is on the examiner. So you're entitled to a patent unless....

And essentially the examiner has to establish a prima facie case of unpatentability on any of the patentability criteria. And of course applicants have an opportunity to submit rebuttal arguments, evidence, affidavits, but of course at the end of the day still the Office has the burden of proof.

It's interesting then if you then take this to the next level, which is now once the Office has done its gatekeeper role the patent has a statutory presumption of validity. The Office or the government has been presumed to have performed its function correctly, and consequently the current standard is that any accused infringer in trying to show invalidity has to do so by a clear and convincing evidence standard, not a preponderance of evidence standard which is the standard within the Patent and Trademark Office, even for re-examination or reissue, but this clear and convincing evidence standard.

And, of course, I think this makes it difficult from the standpoint of making that determination of whether the standard in the final analysis is really

different in terms of the proceedings within the Office versus proceedings in litigation.

And, of course, I think sort of the middle ground here is the aspect of the fact that some ways that people have historically approached it, and I'll go back to some of the things that were discussed in early President commission lists of recommendations, led to, for example, in the 1980-81 time frame, re-examination.

And re-examination was intended to be on patents and printed publications, substantial new question of patentability, fairly low standard, and that this was supposed to be a patent correction mechanism.

And, of course, under the American Inventor's Protection Act, an inter partes re-examination law was passed. Of course, I think there were enough show stoppers in there that, to date -- while that went into effect roughly November 29 of 1999 for patents that were filed thereafter and then ultimately grant those patents, and it takes a while -- we've only had three. So that shows you that maybe that wasn't the perfect solution and maybe that needs to be fixed somehow.

MR. COHEN: We'll try to focus on that this afternoon.

MR. KUNIN: But in essence I think the point I want to make in conclusion is that when you look at these

standards, I think you need to look at them all along the process, not merely in front of the patent examiner but obviously in front of a district court judge or the Federal Circuit judge and whether those standards actually are different kinds of standards.

And of course one critical aspect, at some point we really need to talk about, is claim interpretation because to a large degree how claims are interpreted for examination, how claims are interpreted for enforcement, you find also, I think, that there's potentially a different approach that's taken.

And, of course, you can't make judgments on anticipation and nonobviousness without knowing what the claim covers. And I think to a large degree once again under Markman that's a question of law for the judge to determine what the claim really means, yet a lot of these determinations, as Scott was mentioning, begin with fact finding.

You have got to do fact finding for anticipation. You've got to do fact finding even for nonobviousness in terms of what is in the prior art before you ever get to the motivation issue. And of course you have this aspect of this whole realm of fact finding relative to the evidence. And on the other hand what the claim really covers and ultimate conclusions on nonobviousness are

matters of law.

MR. COHEN: On this side of the table. Jay.

PROF. KESAN: Yeah. Just a couple of points to follow up on some of the comments that were mentioned. I think the obviousness or nonobviousness standard, if you will, is really at the heart of the patent system.

And it's our way of defining what it means to have an invention. And you essentially create sort of a zone of patent-free world around the prior art, and obvious variations of the prior art are deemed not to be worthy of the extravagance of a patent.

But the key link there though is now that we understand the standard as articulated in Graham and in Section 103, the key thing is to what appears to be a value judgment to every one of us in one technology versus another, reemphasizes the importance of going back to this person who is skilled in that field and in that art. And it's only with respect to that person that the standard makes any sense at all.

So while we're talking about sort of this view from 10,000 feet the real action in the obviousness standard is in knowing what the prior art is. That's the first thing, knowing what the prior art is. And secondly, what is a person in that field, what do they think of that prior art.

And I think that's where the concerns on obviousness come in, and the standard itself is pretty good, but whether all the relevant prior art is available to the PTO, that's the first question.

The second question is did they really have an accurate understanding of what a person who is skilled in the subfield, not necessarily just in the broad field, is important.

The second thing that I wanted to mention, and this goes back to Professor Scotchmer's talk, and that is to me the breadth problem emphasizes the importance of the disclosure requirements. So, in other words, you can claim whatever you want and your claims can be --

MR. COHEN: Let's be brief here. We're going to get to disclosure separately. So with that caution, go ahead.

PROF. KESAN: To the extent that your claims are overbroad, if you police the written description, enablement and best mode requirements well you can knock off the overbroad claims.

Where a patentee is trying to anticipate what is coming down the road and tries to act as though all those developments were contemplated by him all along, which is where he's trying to overreach, that's where policing the disclosure requirements as part of the patentability

standard becomes important.

One other thing I wanted to mention with respect to this 2 delta problem is I'd like to hear your response on how that jibes with the product life cycle hypothesis in the sense that every patentee is aware that they're not going to get much profits early, then later on they're probably going to get 1.5 delta, the distribution, and then they're going to end up with about half a delta as obsolescence and preemptive innovation kicks in.

So in other words, between two people the distribution is really important. And I know that at some point I may get a big chunk but then as I go down the road I'm going to get a smaller piece because this other guy comes along and puts a spout to my bucket with a handle or puts a lid to my bucket.

MR. COHEN: Salem.

MR. KATSH: I think it's important to recognize that we're probably focusing on the gray area of patents, those that are neither clearly meriting a patent and those that are clearly not meriting.

And from a lot of work with juries and jury consultants it's become -- I've been taught and I find it reflected in the experience -- that when you come to close questions people don't or can't follow what some

people would say are objective criteria, the jury instructions.

And it may be that one kind of study that ought to be done in this field is a social studies type study of the process by which decisions are made by examiners.

Now, some examiner felt that one click was patentable. A district court judge, another reasonable person I assume, felt it was worthy of an injunction. The Federal Circuit -- reasonable people -- they disagreed.

Now, when you have that kind of result, you can't say there's an objective standard. Something else is going on, and it's like asking what is insubstantial on the question of Doctrine of Equivalents.

If you read the hearing of the Warner Jenkinson case in the Supreme Court, it's very interesting. You had one justice after another saying well, what do you mean by insubstantial? And the law is full of these issues.

Well, what is the reasonable person in tort cases? What is foreseeable? I don't mean by value an economic value. I mean the value that the individual says to himself, is this worthy of a patent? Because that's what the social scientists, psychologists are telling us is the way a person reaches a decision.

And so if we don't recognize that and attempt to provide more guidance, then I think we're not going to be able to arrive at a more predictable system. MS. GREENE: You mentioned that many standards that pervade all areas of law have this tough balancing test where you really have decision calls to make, is what you're talking about.

To what extent, if at all, is the technical nature of patent law something that is going to enhance or undermine the ability to engage in the type of refined criteria that you think are needed?

MR. KATSH: I don't think that unless you put it into a computer program, put the art into the computer program and program the computer with some set of instructions and you want to live with that, fine.

But as long as you're going to have people doing it, I just don't think it can be as simplistic a notion of you've got motivation, you've got the elements, you've got novelty, the patent issues.

Because an examiner and a judge and a jury and society are going to reach their own conclusions. And at some point the ultimate question is is this worthy of a patent? That's going to be -- and I don't know.

I've never been an examiner but I've certainly argued jury instructions which are supposed to be

quantitative and objective, and you end up with decisions that are influenced by the individual.

How many examiners, if you took a gray area patent and did a test and gave them the same facts, and it's in the gray area, would come up -- and these people are in the art -- would come up with the same result? That would be an interesting exercise.

MR. COHEN: Let's try Roger and then Steve on this and then move on.

MR. PARKHURST: I was just going to say I think it's interesting. Salem has just suggested maybe a study of the sort of philosophical or social question of does a certain subject matter rise to the level of -- should society grant a patent for this.

I was going to ask Arti just exactly what sort of economic criteria she had in mind might fit into the evaluation of patentability. But it seems to me that the scheme that we have now by statute says let's try to make this decision based on the standard that is set forth in Section 103, now Section 103(a) and let the market sort out those other things after the fact.

Harkening back to Suzanne's talk, I think that the market does some of these things when we have a broad patent and improvement patent. You do have the blocking patents. The market says we're not going to accept the

subject matter of the broader, basic patent without the improvement. So somehow the owners of those patents have to work it out to market any product.

Another solution of that problem which I think fits into one of the categories you had on your board was I've seen the market solve the problem for a patent owner by saying, look, I'm going to have a second source of supplier. I'm not buying anything from you.

And so I know I was involved in a rather major event for one of my clients where we were confronted with an entire portfolio of patents, and the solution ultimately was that the customers of the patent owner were demanding that they were going to have a second source of supply.

So the two parties who were the eligible suppliers really had to work it out to achieve that, or they were both going to lose.

It seems to me in today's world, in today's statute, a decision was made by Congress long ago that we weren't going to go into this kind of detail to make the evaluation, but we were going to try to get something that we could deal with objectively, recognizing that the last step is subjective, and then let the market and the real world sort it out from there.

MR. COHEN: Steve.

MR. KUNIN: I'll try to be brief here, but I felt that maybe we ought to just briefly mention, if not go into any depth, the fact that as Roger was talking about what the literal words of the statutes say and others have talked about the Graham v. John Deere analysis but of course, in the Graham v. John Deere analysis in addition to the principal case there is a consideration of, as the court said, the secondary considerations, which now have been known as the objective indicia of nonobviousness, things such as failures of others, long-felt need that has gone unsolved, unexpected results, commercial success, and so forth and so on.

And of course, maybe what happens is the detail, if you will, becomes more complex as you get beyond just, I would call, a superficial look at the prior art and throw the facts in the computer and see whether the computer says, well, everything is there and there's some indication of motivation, it would have been obvious because that's only the prima facie case.

Then when you start piling on these other secondary considerations in making the ultimate determination I think that you find that it becomes something which is not very easy to deal with and does involve a lot of professional expertise and judgment.

MR. COHEN: Let me build on that. I'd like to

shift for a few minutes -- we only have a few minutes before our lunch break -- into some of the legal issues surrounding nonobviousness.

And we can start with the objective indicators because that's where you have left us. I'm wondering if the panelists have any thoughts as to whether there are particular settings where reliance on some of these factors perhaps ought to be tempered or where our knowledge of how competition works might suggest that there's not an adequate nexus between the various factors and the nonobviousness of the invention.

For example, with the commercial success factor, if we're dealing with settings where there are potential lock-ins to existing technologies and subsequent patents come along and are commercially successful, should we look at this in the same way as we would look at it if the patentee had no lock-in already? Does this work its way into the law? Any thoughts on this?

MR. PARKHURST: Well, I think it's already in the law. I think the requirement for nexus is already there. I mean, you've got to have a nexus with what's claimed, and then we look at why was there success. And if there's not a nexus between success and what was claimed, then the law says, in theory, you're not entitled to the extra credit, if you will, for so-called commercial

success.

MR. COHEN: I'm trying to go a little bit beyond the theory into the actual practice. Is it working?

MR. PARKHURST: Well, I think it's on a case-by-case basis. And it always will be because it's going to be a matter of how well parties and their counsel and experts develop the evidence and how, finally, the evidence can demonstrate whether or not the nexus exists or does not exist.

MR. COHEN: Let's try our other litigator. Salem.

MR. KATSH: I was going to say that from a litigator's point of view, the secondary considerations are extremely attractive. There's no better jury argument than would have, could have, should have.

On the other hand, there is a danger, it seems to me, that those standards, and I think this point has been made in other sessions of these hearings, those standards are attractive, whether to an examiner or certainly to judges and juries, because they want to answer the question should a patent be issued here, they want to answer it well. Those are very attractive nuisances, if you will, that will lead them to rely on those elements perhaps more than would be warranted.

So I think it's a double -- I mean, there's certainly obvious common sense in saying that people have

been trying for 200 years to invent something and somebody comes along and all the pieces are out there but nobody's done it, you're never going to convince a jury that that was obvious. But, at the same time, there has to be a control over the extent to which those are taken into account.

MR. COHEN: I see Kenneth has his sign out.

MR. FRANKEL: It seems to me that Salem is approaching the right question as to whether somebody really is entitled to the patent and that is what is the gut feeling that you end up with at the end of a case.

I don't think that there's the situation that Salem was talking about where you're clearly entitled, you're clearly not entitled to a patent. I think that that's a very rare situation.

MR. KATSH: Those don't go to court.

MR. FRANKEL: They may not go to court, but skillful litigators are going to point to various different factors and make everything into the gray area.

I think that when the juries are looking to make that ultimate gut decision they need to have at least some criteria to look to. And I think that these objective criteria -- the nonobjective criteria -- at least give some guideposts, so that the juries can at least link themselves to these areas and then make up

this decision.

If you don't have these criteria, and you're just leaving it to the gut, I think that we would have great uncertainty. You'd have no idea where you're going to be making your investments for the future.

And maybe I read something into your question, but I don't think that these criteria should be different for different industries. I think that they can be tempered for general guideposts and that for any specific case, as Roger was saying, you can make your arguments that some factors are more important than others. So I think it's absolutely critical to have these general factors in there.

MR. COHEN: Just a couple other questions of a legal nature, stepping away from the objective indicators back into the more basic test. We heard a little bit this morning about a combination of references and need for motivation.

I'm wondering if anyone has reactions to the extent to which practice has kept up with practical developments. The ability to run computer searches that may cross-reference different fields and make it easier to draw on analogous -- non-analogous sources. How is this factored into the combination-of-references thinking? Anyone have a reaction on that? I see Jay's

sign up. I don't know if it's for this or for a prior.

PROF. KESAN: My only reaction to that is that this is a common problem most commonly in the area of information technology and computer software.

And the reason for that is primarily because the nonpatented prior art, which is very significant in that field because software was not thought to be protected by patents for a long time, has made it hard, and most programmers know that a lot of the relevant prior art is found actually in handbooks.

Every company puts out its handbooks on various kinds of software that they used to use. And that's the sort of information that I think is problematic. And it's widely considered to be a problem for the Patent Office because they simply don't -- the searching costs are first of all too high, and the amount of time that you have assigned -- 8 to 18 hours for a patent application throughout the whole process according to empirical study -- just doesn't allow for that kind of prior art searching.

MR. COHEN: We've reached our 12:30 breaking point. I think we will take our lunch break now. We unsurprisingly haven't gone through all the elements, substantive elements this morning. I think we'll pick up with that when we start the afternoon and then move on

into the procedures.

So I felt though that the morning might run a little long and it did. And we'll pick up where we're leaving off at 2 o'clock this afternoon. We'll try to start promptly so we can keep moving forward. Thank you.

(Whereupon, a lunch recess was taken.)

AFTERNOON SESSION

(2:04 p.m.)

MR. COHEN: I think we can get started. We're going to resume where we left off this morning. We have the same set of panelists joining us but we have a couple of new people joining us from the side of the government.

Immediately to my left is Susan DeSanti who is Deputy General Counsel here for Policy Studies at the FTC, and our representative from the Department of Justice this afternoon will be Douglas Rathbun. And we'll welcome both of them to our group.

Where we ended up this morning was we discussed the nonobviousness requirement, the patentability step that was identified this morning. I think maybe the next place to go would be to follow in the order that Professor Scotchmer's presentation suggests and take a little bit of a look at the standards that deal with leading breadth, the degree to which an improvement infringes or escapes from coverage of infringement.

And what I'd like to do is we have had the topic introduced by Suzanne. I'd like to throw out to the panel the question as to whether you regard current practice as giving optimal results for leading breadth? Is it where it should be? Are we drawing the line at what infringes properly? Any thoughts?

MR. PARKHURST: I'll start. I think literal infringement is pretty straightforward. I think as Steve Kunin mentioned this morning claim construction is a large area of question. Particularly, we have seen some Federal Circuit cases that have gotten into the business of permitting reading limitations from specifications into claims de facto. I think that's a poor practice and it's a poor precedent for the district courts.

I think if you look at the various aspects of the existing patent law when properly applied they result in claims being the focus, as the court said many times in the Johnson and Johnston decision that Salem mentioned earlier this morning.

And when the claims are the focus and the other aspects of the law are properly applied, you have a situation where the claim is either of proper breadth or invalid breadth. And that issue should be minimized, but with some of the things that are going on today I think it is an issue. So I just sort of offer those comments to kick it off.

MR. COHEN: Salem.

MR. KATSH: I would offer also the observation from what I've been told that something approaching 50 percent of Markman decisions have been reversed or modified by the Federal Circuit.

And again from the perspective I bring to the practice of my clients wanting as much certainty as possible, the fact that even the literal scope of the claim is subject to so much question, and it's coming back again I guess to the quality that's experienced within the prosecution process and the question of resources.

As far as the separation of the claim construction function, there's another case that was just decided, Tate -- I remember the first name is Tate something. And in that case the court did not and had before it a preliminary injunction entered by a district court on a finding of literal infringement. And apparently it was conceded that the defendant was practicing the prior art.

But the Federal Circuit did not feel it had before it or that it was the right context for it to reconstrue the claim since that issue apparently was not, strictly speaking, before it.

And that was kind of a shocking opinion to me because if you take the Johnson and Johnston case they're saying you can't take matter out of the public domain, and here they're refusing to address a conceded fact that the accused device was in the prior art on the ground that this is the way we do things.

This is the way we approach claim construction. You either invalidate the claim, or it's valid and then you infringe -- I guess even if your device is in the prior art.

Now, they did say that that would be a rare situation, where you have a valid claim that could cover a device practicing the prior art. But it just struck me as the kind of situation that called for a court to do justice. And, again, it's the kind of decision that brings more uncertainty into the field.

MR. COHEN: Arti.

PROF. RAI: I think the figure is more like the 30 and 40 percent depending on which of the various studies you believe. So maybe that's why 50 percent -- it also depends on what time period you studied. But in any event that's neither here nor there.

It seems to me that one of the problems with breadth that one sees in the two areas which I followed, complaints about breadth in biopharmaceuticals, the complaint is written description is being used to make scope too narrow. And then in software, which I know less about, but I know the conventional wisdom seems to be that the scope of claims is too broad.

In some ways the response to both of those problems is pretty simple, and that is that the Federal

Circuit should understand the technology better than it does because the reason that it's keeping claims so narrow in the biopharm area is because it seems to think that everything in biopharm, particularly in biotech, is incredibly unpredictable, and therefore claims must be narrow.

By contrast, I think, as Jay suggested earlier, in software it seems to think you can have incredibly broad claims without any disclosure whatsoever. So it's a sort of a misunderstanding of the technology to some extent.

Having said that, at least in the biotech area if we're going to have upstream patents as the Federal Circuit is letting us do or is inclined to let us have, particularly if it keeps the utility standard as low as it has in some of its cases, it seems to me that narrow scope is probably a good idea if we're going to have those patents at all.

The problem arises if that narrow scope, those principles of narrow scope, are used all the way down the line even to more downstream patents, because that strikes me as a real problem.

And in any event, the Federal Circuit is certainly not doing it because I think it's kind of come up with some sort of sophisticated economic analysis of

upstream patenting versus downstream patenting. I think it just misunderstands the technology in the biopharm area. And my understanding is, my sense is that it's misunderstanding the technology in software as well.

MR. COHEN: One thing we sometimes hear in this area is that when you move over into the realm of the Doctrine of Equivalents, a greater range is allowed for pioneer patents. Have you found this to be the case and if so is it justified? Does that make sense? Is that what we would want? Mark.

PROF. JANIS: Yeah. I had some comments before the question.

MR. COHEN: I'm sorry.

PROF. JANIS: Let me just comment on a variety of things and maybe I'll end up at the pioneer comment. The Tate Access case, like Salem, I thought that was a jarring case to read. I think though it may boil down to something pretty simple about the burden of proof.

I need to read it again to remember correctly, but I think the Federal Circuit was simply saying you can't escape -- you the defendant in an infringement case can't escape your burden of proving invalidity by converting that into a noninfringement defense of practicing the prior art.

And if that's the extent of it, then that's a

pretty innocuous opinion. But the way it's written is jarring. I really agree with that.

I was just going to throw out a variety of issues that I think are important issues that come under the heading of breadth. Some of them we have touched on, and I don't intend to develop these unless you want to, but I'll just throw them out and see what you think.

One would be the tendency at the Federal Circuit to attempt to create apparent per se rules relating to equivalents. And of course I'm talking there about the Festo case and the Johnson and Johnston case.

And I have questions there about whether you really get more certainty or whether you just get a shift in the area of uncertainty. I really want to imply strongly that it's the latter. So that's one thing I see.

Another thing is functional claims. I think the sixth paragraph of Section 112, as it's currently written, and certainly with all the gloss that the Federal Circuit has added to it, is, I'm tempted to say, a disaster but highly problematic, perhaps, I should say.

And that's just another area where the costs are much higher than they need to be, particularly when you get down to the level of 112, sixth paragraph, equivalencies. So that would be just another thing.

Another area is the use of extrinsic evidence for claim interpretation. I think that that may follow along with the comment about attempting to create per se rules or a more rigid regime for an area that just seems to resist.

And then finally, and this goes back to what Arti was saying, we shouldn't forget that an important aspect of this whole issue of breadth derives from acquisition doctrines that control breadth. It's not just all about infringement doctrines and equivalents and whatnot. It's also all about enablement and other 112 doctrines. And I think those tend to get too little attention in these debates.

I think the enablement doctrine could be made to do much, much greater work than it has done so far, really fine tuning claim breadth. So we shouldn't forget about that doctrine when we're having this discussion broadly speaking about breadth, broadly speaking.

MR. COHEN: Jay.

PROF. KESAN: I just wanted to follow up and when I have this -- Mark made a couple of points I was going to make. That's fine. At least in the case of claim interpretation and 112, paragraph six, it's really important to understand once again how that dovetails with the disclosure requirements.

So, in other words, if, for example, in a software patent one of the elements of the claim recites something like sorting these vectors or something like that, the term "sorting" has meaning when there is a proper enabling disclosure of that step in the specification.

And if the Patent Office does not police that carefully, then when a second patent comes along you basically are not able to say, well, that word sorting referred to this kind of step. I'm talking about something different now. And I'm talking about a different kind of sort.

So when you properly interpret the previous patent, you will find that it's actually narrower than if you simply read the words of the claims. After all, the Federal Circuit in Markman told us that you have to interpret the language of the claims, the literal language of the claim itself but also the specification. And that's where the disclosure requirement is so important.

The same thing is true in 112, paragraph six, when you have a step plus function or means plus function. If you don't properly police the disclosure requirements, particularly in software patents, and you don't mandate, for example, as I have suggested in some

of my work, you don't mandate the use of representational languages, which is the way computer programmers talk to each other, there is no problem here in the sense that the patentee is someone who is skilled in computer science. The examiner is another person skilled in computer science. Let them talk the same language to each other.

And the English language is a very blunt instrument to police the disclosure requirement so mandating the use of things like representational languages, which we do in other areas, in other technologies, for example, nucleotide sequences and all these chemical formulae and all these other things that are automatically required in biotechnology. But there's no such corresponding requirement in software.

MR. COHEN: Scott.

PROF. KIEFF: Your question began talking about the Doctrine of Equivalents, and we tied in a couple of discussions on disclosure. And I think that makes a lot of sense. Let me try, if I could, to bang them off quickly, see if we can take them apart.

On the Doctrine of Equivalents we talked a little bit about this earlier, so I'll say it briefly and we can go back and look later in the text if we want, but at least a group of judges at the Federal Circuit in the

Hilton Davis case and dissent, including Judge Rich, who was not known to be unfamiliar with patents, had the view that maybe the doctrine is not so good, period, full stop.

So rather than have a discussion about what limits or what ranges or what -- how about zero, or zero except in exceptional cases, and throw that out as an option to at least think about.

On the disclosure front, and Mark and Jay have tied, I think, similar issues here, make a lot of sense about the importance of the Section 112, paragraph one, and also, in fact, paragraph two, disclosure requirements and the need to give notice.

Because the important thing, the real muscle, the real reason we've got those, I take it, is that we want folks to know what's going to infringe and what won't.

This is not so much a kind of teaching to enrich the art, although that's often the rhetoric. At least a real important mission, if not the mission, is notice.

If we focus then on notice, there are some things we can take from the discussions. One, it's actually not clear that Amgen, Fiers and Lilly and their interpretation of the disclosure requirements, those three different cases, are biotech-specific because, in fact, Lockwood, a computer case, applies exactly the same

reasoning.

And just in case we thought that was high tech specific, I'm pretty sure that couches are low tech and Gentry is a couch case. And it applies exactly the same reasoning.

So, yeah, we all need to pay more attention to it, but the court hasn't been technology specific on that one. It's trans-technology.

A really neat suggestion might be to go even further than what Jay suggested. In the biotech area we require sequence listings. You have got to actually send in the detailed info. And these biotech patents as the Patent Office knows, you send in a computer disk, or you can e-mail it now. But this is a big chunk of data.

Jay, you asked about beefing up disclosure in software cases. Why not just dash an e-mail and send in your code. And it could be either object code or source code.

And I suspect what you want, based on what you're talking about, and I think Mark would agree with this too, is you would want source code because you want it to be human readable.

And again, that's not a legal change. Some of this stuff just comes down to why haven't lawyers made this argument in court? And it may just be they haven't

had a chance yet, and they will because they're smart lawyers and they'll litigate this issue.

So it may not be a problem that is fundamentally kind of the system's broken. It may just be that case hasn't percolated up yet.

MR. COHEN: Before we leave the -- I see Stephen has his up.

MR. KUNIN: I think there were some interesting points that were reasonably raised by Jay and Scott. And, of course, if you listen to what they both said and the legal basis for what they both said, I think you find that we're in a conundrum, because the truth of the matter is if you listen to what Jay said, the Fed Circuit for the most part has dealt with the 112(1) issue for software. He read off a litany of cases. There's Robotic Vision, Hayes Microcomputer, Fonar, the Northern Telecom case. You can go on and on.

And basically, whether you're talking about the best mode requirement or the enablement requirement, the requirement for source code is just not there. And have smart litigators raised that? Yes. And they have also lost it in front of the Fed Circuit.

But I would then point out that we have talked a little bit about Enzo, and the interesting thing is what does Enzo mean with respect to written description?

If Enzo were the law -- let's assume there is no request for a hearing en banc and the court changing its mind -- you could have a situation where, much like Scott and Jay were mentioning, that if possession does not meet the written description requirement you must describe that which you possess, oh, I guess you better describe software, because you may be in possession through the functional narrative that you can put in a written description. You can provide it in high-level flow diagrams and the like.

But the interesting thing is if indeed we've got one patent law for all technologies, the implications of Enzo could cross over technologies.

My final comment is I think you were doing really well, Jay, until you mentioned Gentry Gallery because, yes, Gentry Gallery is a couch case with recliners, but I think unfortunately with cases after Gentry Gallery, Zebco in particular and a few others, I think the court kind of is putting Gentry Gallery in its omitted element test, kind of in the corner and saying, "You just stay over there until we need you again." So I think, in essence, I do agree that Lockwood is a good case for crossover to other technologies.

MR. COHEN: Before we leave the area of breadth I didn't hear many takers on the pioneer invention. Let me

try the reverse of that. What we often see in scholarly articles is a lot of stress on the benefits that could flow from greater use of the Reverse Doctrine of Equivalents.

What we heard at our session in February, when we were given an objective reading as to where the state of the law was, was that this just doesn't -- it's a doctrine that just isn't used. Would anybody like to jump in and opine on the doctrine? Let's try Arti.

PROF. RAI: I think as a doctrinal matter it just isn't used, but I think that it's partly for the reason that it would serve -- I mean, I think Rob Merges has been a big advocate of this idea, that it could deal with a difficult transaction cost in blocking patent situations.

I think it serves an explicitly economic function or could serve an explicitly economic function. One of the reasons it isn't used is because I don't think the Federal Circuit sort of thinks in economic ways. So there's no reason for it to be used at least as our current Federal Circuit is constituted.

MR. COHEN: Salem.

MR. KATSH: If there was any doubt how the Federal Circuit regards the Reverse Doctrine of Equivalents, it made itself more than clear in Tate Access, where I think

it said something to the effect that it has never based a case on it, and it never will.

The last part is paraphrased but they were saying that they're not going to attempt to do justice on the basis of arguing that there's a screwy result.

MR. COHEN: I'd like to move on to enablement. I did note that Jay Thomas had to be away during most of the discussion of obviousness this morning. Is there anything in particular that you want to get into on that, or should we just go forward?

PROF. THOMAS: I'm reluctant to speak with the preliminary discussion that might have already occurred, but I think Mr. Kunin has already raised reality, which is the Federal Circuit is making it extremely difficult for the U.S. PTO to reject applications where there is not a fully anticipatory reference at their disposal.

Effectively, they need a Section 102 reference to provide the motivation for combining the 103 references. I think that's a very difficult position for the U.S. PTO to be in. And as well the U.S. PTO needs to write a fulsome tome to be able to reject an application under cases that were previously mentioned.

So I think we have to think about the obvious behaviors that are going to come from this set of incentives, which is the PTO makes more money if they

allow applications to issue.

And anyone with a small child at home, I know it's many of us, knows that allowance is easier to do and is more satisfactory than rejection, if you've ever denied a piece of chocolate to a little one. So I think these truths put the U.S. PTO in a very bad position.

MR. COHEN: Enablement. We'll treat it very closely with description. I think we've been into both subjects already to some extent, and I'd look for any comments you might have on whether you regard current practice in the enablement area as optimal.

And what I want to stress here is that we heard during our sessions in Berkeley from Rob Merges. And he tried to describe enablement as a doctrine that determines how many next-generation products a given patent covers.

And I think we heard from Mark just a little while ago you talked about how fine tuning of this doctrine could have a lot of importance.

Would anybody like to give their views on where it stands and where it, perhaps, should be going? Any further thoughts on enablement? Mark.

PROF. JANIS: I guess I can elaborate. I mean, we talked about how there seem to be problems in the software patent area with a really liberal enablement

standard. I would agree with that. I think the court could make that much more rigorous with good effect.

The other comment I have relates not so much directly to the enablement requirement, but to the description requirement. And that is, I guess, maybe in distinction to what Scott Kieff said, I do take seriously the teaching function of the specification, and I think the enablement requirement is well focused on that.

The claims provide notice in my view, and I think that the recent history of the written description requirement is a little startling, I think, culminating in this very recent Enzo Biochem case.

I think the written description requirement has been very, very difficult for the Federal Circuit to characterize in any way that's very meaningful. I thought that the possession standard was the governing standard until last week, when I was told in the Enzo Biochem case that that wasn't a comprehensive answer either.

And when I look at that area of jurisprudence, it just makes me suspicious, and so some of my work suggests that perhaps this effort to elucidate the written description requirement is not worthwhile, that it detracts attention away from the enablement requirement where more good work could be done.

So I don't go quite so far as the one article to say that we ought to get rid of the written description requirement altogether, but I'm sort of teetering on the brink of that proposition. But mostly to draw attention to the fact, again, as I said just a minute ago, that I think that the enablement requirement has a lot of potential and could be much better utilized than it has been so far.

MR. COHEN: Jay.

PROF. KESAN: I wanted to follow up on Steve's points. The Federal Circuit jurisprudence in this area goes back to this old CCPA 1980 case, In re Sherwood, where you have this language where basically the court said the conversion of a complete thought into a language a machine can understand is necessarily a merely clerical function, which is sort of all of software is just that.

And they just repeatedly, Fonar and other cases, they simply cite to that, and I think in 1980 software was considerably less complex than it is today. And so I think we really have a problem there. And I agree with you that the PTO is stuck because the Federal Circuit is not policing this requirement. I agree with that.

But what I wanted to mention relatedly was enablement really has two parts. It's both how to make and how to use. And in the software area you never see a

proper analysis of both these parts because a very important part of enabling software is not only just how the algorithm is written but how the algorithm is being tailored for use in this application.

And that's where in the pharmaceutical area and in the biotech area there's lots of cases that describe, that police, the issue of how this particular drug is administered and so on. And yet you don't find any such analogies in the software area. So it's actually a pretty serious problem and a pretty big oversight in my view.

MR. COHEN: Steve.

MR. KUNIN: I want to make a brief comment on what Mark Janis was saying in terms of the state of the written description requirement. I would submit to you, based upon my own personal experience in dealing with the substantive patent law treaty negotiations, that when the United States delegation discusses the substantive written description requirement in terms of Regents of California v. Eli Lilly or Fiers v. Revel, the rest of the world looks at us like we don't know what we're talking about, because they just cannot comprehend how you could have different requirements for written description and enablement.

So if we're ever going to move in harmonization

we're going to have to deal with this written description issue. Either bring the rest of the world in our direction or just give up on this.

The other point that I would like to make is we have talked about enablement but of course we haven't talked enablement.

I agree with Jay from the standpoint of, yes, there's a how-to-make-it and a how-to-use requirement. But remember, the law of enablement is based upon the evaluation, the In re Wands factors, and you have to go through that analytical analysis.

And what are you trying to prove? To determine whether the invention for its full scope would be enabled for that particular purpose or use without undue experimentation. And that I think is a decisive line drawer between the debate over things like unpredictable technologies versus predictable technologies.

And while I understand Jay's frustrations, especially as a Ph.D. in the software field, I believe that the current feeling with respect to software inventions is that they are in predictable arts and that when you do apply the In re Wands factors you get to a substantially different conclusion than you do with technologies that have long been categorized as unpredictable. And then you say there are a lot of

factors under Wands, the extent of experimentation required and the like.

But I think that really at the heart of the matter here that we haven't really gotten to is the aspect of the relationship between the utility requirement and the enablement requirement in particular when you look at enablement for the invention as claimed.

Now, where the claim itself has a particular utility, a particular use, it's most readily exemplified in, for example, method-of-use type of claims, as opposed to product claims.

It's clearly the case that those things fall out for in a straightforward manner where, as you know, all you need is to have either one asserted utility or one that is well established for your invention if, for example, the invention is a product invention.

So if you have a utility that can be enabled for that particular product, when you flip it over to the enforcement side you get enforcement against all uses.

And so as far as I understand in my reading of a lot of the debate, really the debate has to do with the fact that you get this degree of protection based upon perhaps a single utility when, in fact, the claim will protect against all uses and subsequent uses regardless of whether they're patentable, unpatentable.

And I think to a large degree this aspect of all you need is one and you're in the door, is maybe some aspect of perhaps where the academic discussion could take place. Because that's where I see is the hardest deal for us to deal with in an examination issue.

MR. COHEN: Well, we could go in a couple of different directions here. Let me just follow up on where you took us because this is a question I had wanted to address in the utility context, the issuing of patents based on a single utility.

I'm wondering if anybody has any comments on whether this allows for adequate incentives for follow-on innovation in settings where a later innovator discovers a new use for a patented process.

The utility that had originally been discovered is quite different than what the new innovator would come up with, and yet the patent is there. How does this fit in? Scott, let's start with you.

PROF. KIEFF: Okay. Let me just spend two seconds on just a couple of the preliminary issues that were talked about. One is the notion that the Federal Circuit is not technologically grasping what it's doing. And I think that it's important to keep in mind a couple of things.

Number one, we've got a number of judges on that

court with Ph.D.'s in hard sciences. I think it's a hard case to make that they don't understand the technology.

Number two, it's a court that has a specific budget line item for a staff of senior technical advisors. I think it's probably hard to make the case that they are not devoting some resources to that issue.

And at least it's my understanding that in fact the law clerks on that court have their pay scale adjusted if they have a technical background to reflect, yet an added concern that the court is -- now, maybe it's not doing a good enough job but at least it's focusing some effort on that issue.

On the written description/enablement problem that Steve Kunin pointed out, interesting problem separating out written description, enablement and, in fact, utility. Brief answer there.

It seems to me that exactly in a fast-moving field is where you're going to see easy-to-enable and hard-to-describe. Because I have no idea what I'm doing but everyone can do it, so once I provide my disclosure everyone is enabled.

In fact, I'm not sure how hard that is to enable, but I do think I really haven't yet gotten my mind around what I've invented. And that's a conception and written description problem. And conception and written

description are tied expressly in Fiers.

On utility I guess the simple answer there is no one infringes a useless patent. And if it's too useful that seems to answer Suzanne's search about what patents do we care about? Well, the ones that are useful.

So the utility requirement, I guess, in my mind has never made any sense except to the extent that you read Section 101 as an introductory section, which the court has told us expressly it does.

The novelty requirement in 101 does not get a special treatment. The court has told us that we look to 102 and 103 to understand what novelty means in 101. Utility appears in 101, and maybe what we need to do is we need to look to 112 to see what utility means, just like we look to 102 and 103 to see what new means.

But other than looking there, it's not clear that we need a separate utility requirement that means anything more than that.

MR. COHEN: Let's try Arti.

PROF. RAI: A couple of points. The fact that a few judges on the Federal Circuit, I believe it's either three or four, have Ph.D.'s in hard sciences doesn't mean that they are adept in any particular science.

Having a Ph.D. in chemistry doesn't give you expertise in molecular biology, for example. And this is

where I think Jay Kesan has made some very interesting points in his work on how localized knowledge is in these areas.

If you talk to people who actually practice in the area of molecular biology about cases like Eli Lilly, they'll just shake their heads in despair, basically, and so I find the idea that the mere fact that somebody has a Ph.D. shouldn't insulate them against the collective weight of the people who practice in an area.

The utility point is a very interesting one because I think it shows the way in which enablement isn't really -- I mean, it's in part about making and using the invention but because tying to a single utility on a product gives you a product patent with respect to all utilities, it also shows the extent to which enablement is really, and I keep on reiterating this, a question of economic policy, which means we basically decided as a matter of economic policy that if you isolate a particular product and you come up with one use, that should give you claim over all uses, even if you have no idea how to enable people with respect to the other uses.

And whether that is a good policy judgment or not I don't know, but it seems to me that it gives a pretty broad claim to the initial inventor that has really

nothing to do with making and using the invention at all. It has everything to do with economic policy. And so I think we're kidding ourselves if we really think it's about making and using the invention.

MR. COHEN: Jay.

PROF. THOMAS: I just have a handful of scattered remarks. If you're concerned about a composition of matter covering all subsequent utilities, a proposal that's been made is simply to disallow claims on composition of matter and only allow claims toward their uses. That certainly solves that kind of problem.

And that's kind of old to the literature though I'm not sure how we're able to do that given our international obligations.

It's interesting to see if the utility requirement would be wholly eliminated because Section 101 certainly would cease to do any work. Certainly there's a statutory subject matter that's been collapsed into the utility requirement, which would then be collapsed into nothing.

So that steadily eliminates gatekeeping through the patent system and makes more things patentable. And I think those have some very serious repercussions.

I would join Mark Janis and perhaps state it even more strongly that I just think the written description

requirement really just doesn't make any sense for the reasons that were given and as well would ask can we really train 3300 examiners in the written description requirement?

I think you'll find no better articulation of the written description requirement in the written description guidelines. But the fact is can we really communicate that to the entire corps of examiners? Well, my guess is if we tried to figure out what it was among us right here we probably wouldn't come up with a very good definition.

I think obviously some hard things are worth doing and complexity shouldn't scare us off, but it's another factor that I think is hard to administer.

I would also agree that I think background in two people with Ph.D.s in chemistry and a couple of others with B.S.'s here and there doesn't necessarily acknowledge or mean expertise in all fields.

I certainly agree with that, and I think that's precisely the problem in cases like Eli Lilly is that people come from a chemistry perspective and believe that that chemistry background works within biotech, ignoring the redundancy of the genetic code and relying upon typical manners of researching chemical compounds, which don't necessarily occur in biotech. And I would also,

going back to written description, I would wonder if it's really about one technology or one judge. Thank you.

PROF. RAI: Exactly.

MR. COHEN: We'll take Jay and then Salem and then I've got a couple of wrap-up questions on the substance. Jay.

PROF. KESAN: Yes. I just wanted to follow up on a couple of points on written description and enablement. Actually, in the software area regarding the actual enablement standard about whether it's trivial experimentation, reasonable experimentation, undue experimentation or it takes another invention, that's the sort of sliding scale that you see in the Federal Circuit case law. There is a lot of enablement cases where it is not undue experimentation. It's well beyond undue experimentation. The disclosures are so scant that you're really talking about basically taking another invention to actually enable what is disclosed. So you're sort of way over the edge there. And that's what I meant when I said the written description is not policed.

As far as the written description and enablement, actually the software cases are a good area where it actually shows that the written description does work in a way that is not covered by enablement. And in part it

goes to what Scott had mentioned, and that is that the written description requirement, the way I understand it, is that it's really designed to serve the notice function. It's designed to describe the metes and bounds of the invention, so that when you have subsequent innovation and you have cumulative innovation, you can go back and say that was what that invention was about. And my invention is different.

And so it's just going beyond saying I have enabled the invention for somebody else to realize this or how to make and how to use the invention. It goes beyond that. It's the notice issue and it's the issue of describing the invention and the metes and bounds of the invention, which is something that's not covered traditionally in enablement.

And that, I think, has consequences to what Suzanne Scotchmer was saying, where you have cumulative innovation and you're trying to go back and interpret what those terms mean.

MR. COHEN: Salem.

MR. KATSH: I want to comment on a few points. I don't believe -- I remember when I first started patent law groups in the context of a general practice firm and I started looking at the kinds of opinion letters that they would write.

And I immediately saw that they were writing as a technical expert more so or at least equally as a lawyer. And I cut that practice out. Lawyers are not technical experts. Lawyers should not be giving opinions on how they evaluate technology, nor should judges.

Judges are not supposed to bring to a case their individual expertise from their high school science or Ph.D. course. They're supposed to be judges of the law and based upon a record. So it really troubles me on the one hand there's the notion that we have an expert court. I don't know what that means. Expert in what?

As I noted earlier very few have sophisticated science backgrounds but more troubling is that very few have judicial backgrounds. That's what I would look for in a court are people with basic judicial temperament.

In the antitrust area, where I also practice, there was the case of United Shoe, a big trial in the early '50s, where Judge Wyzanski from the First Circuit had Carl Kaysen, a famous economist from Harvard, I think, serve as his private law clerk to advise him on the economic issues raised in this monopoly case.

And I believe that it was either Kaysen or Wyzanski or both that subsequently felt that that was an improper -- not improper but that it was not consistent with the proper judicial mode to take basically ex parte

expertise in deciding a case.

And I don't know the inner workings of the Federal Circuit. I'm sure there are roles to be played for competent help in understanding things, but that's not their job. Their job is not to decide whether some DNA sequence is obvious. Their job is to decide the law on the basis of the record.

Now, going to the enablement issue I'm trying to understand if I heard what you -- the answer to your question about what a pioneer patent is. Because I think I did. And that is a patent that has a very broad claim that is enabled for a single utility.

Now, a pioneer patent is a conclusion. It's not a reason. And the problem with those patents is the question of whether they are in fact enabled for additional species, as they say.

The entire area of genus-species is one that I must say is very confusing. It's talked about a lot just as pioneer patent is talked about a lot. And as far as I can tell, there are very, very few cases on it.

So the person who goes for the broad claim with a small enablement runs a risk of being shot down, either because his claim is going to sweep in prior art or because he's going to be deemed to have not enabled the millions of species that his broad claim may literally

cover.

So I think that's an area where there is, and I'm not blaming the courts in this case, I just think that -- maybe I'll blame the PTO -- but the narrow claim, if you go to Suzanne's point, and I've talked about this with some of my colleagues, you're going basically to that metering function, which I think somebody has written an article about, that you basically issue the patent with a very narrow claim. There's no equivalents. That's it, and the marketplace decides the value.

That may be one answer to a lot of these questions, realizing that there's no perfect answer. Literal, narrow -- but then you have to have meaningful claims. And you can't have 30 or 40 percent of claim construction reversed.

MR. COHEN: Roger, I don't think you've been in on this round, so I'll give you a chance.

MR. PARKHURST: Well, I was just going to remark that I think to its credit the Federal Circuit has really gotten away from conclusory labeling of patents and claims as pioneer and has tried to pay attention to the statutory criteria rather than such labels.

The old school, of course, was that, quote, pioneer patents were entitled to some extraordinary scope. And I think they have really gotten away from

that, and I think that's good.

In terms of utilities beyond those contemplated by a particular patent disclosure, I think the law is clear that if there is a new use of a disclosed invention, whatever it would be, that it is possible to claim that at least as a new method, if you will.

And so it comes back to the standard of patentability. So I think there is a place for that in the existing matrix.

MR. COHEN: Just a final question on the substance. We have heard at some of our earlier sessions about the use of continuations and the possibilities that this can open up to modify claims in ways that permit covering subsequent developments in the market by competitors.

I'm wondering if any of you have thoughts as to whether the combination of the description and the enablement requirements adequately deals with this? Arti?

PROF. RAI: This relates to what I was going to say about written description as well. Written description, it seems to me, does have a function, and Janice Mueller has a good article about this in the context of continuation patent applications, in general, in the context of later-filed claims, because those

claims may be filed just precisely to deal with stuff that's emerging in the marketplace that the patentee didn't originally claim but now wants to claim.

So that's the purpose of the written description requirement and prior to Judge Lourie's beginning to use this in biotech cases for originally filed claims, that's how it was used.

And, in fact, Gentry Gallery, which is the nonbiotech case that's always cited, was a case involving a later-filed claim. It wasn't a continuation patent.

I think they amended their original patent, but once again, as far as I can tell, that's the only legitimate use of written description, because otherwise the originally-filed claim should provide the requisite notice of what the patentee -- what, sort of, the metes and bounds as it were of the patentee's patent.

And so it seems to me that continuation applications can be a problem, but that is the precise problem that WD is supposed to address.

MR. COHEN: Steve.

MR. KUNIN: I think continuation practice can be a way to create submarine patents in essence, but I think there have been some cases where even from the standpoint of appeals from the Board, like In re Hyatt, where in essence the so-called reinventing aspect of essentially

trying to write a claim that will literally infringe the later developed technology in essence, to a large degree, goes back to, I think, some of the aspects of what is proper claim interpretation and how you read that in light of and consistent with the supporting written description of that application and anything in its parentage in order to go back to earlier dates.

I think we find that even in practice what will happen, especially with that type of evolution and long chain of applications, that it usually comes down with us to a fight over which application in the long chain of continuations actually has support under 112 for that particular claim.

And in fact, by not giving benefit under Section 120 to some of the earlier applications in the chain, intervening prior art, and I'll use that term loosely here, because many times it turns into actually a lack of novelty or nonobviousness because the art which then is applicable to those claims is available to attack those claims in addition to the aspect of the written description/enablement.

But in practice to a large degree what we find is the written description/enablement component of that analysis has to do with finding the point in time where Section 120 benefit is no longer available and then

hammering the applicant on those claims with prior art, saying you can't use these earlier disclosures and this art is useful against you. We will apply it, and we will show your claims are not novel and not nonobvious.

MR. COHEN: Jay.

PROF. THOMAS: This comment might move more to the procedure --

MR. COHEN: That's where we're heading.

PROF. THOMAS: But I just want to stress more how important continuation practice is from the practitioner's perspective because it effectively is a way to get around the broadening reissue requirement. You simply maintain continuations for the entire life of the patent and simply add what you can later.

And another trick beyond continuations is simply filing multiple applications with either identical or very similar inventions. And the PTO often has trouble -- Rule 105 gives them a mechanism and their computer system gives them a mechanism, if it's done and if all records are kept, but by simply having multiple applications sometimes that are identical, its persistent accounts speak to that.

And you can often -- although you can't pick an examiner you can try different examiners, and sometimes results will differ. So that's yet another technique

that can be used to enable strategic behavior.

MR. COHEN: Salem.

MR. KATSH: Well, I think that the extent to which the system encourages tricks and techniques is something that should be dealt with. And I think part of the President's commission, back in the '60s, one of their more specific points was that the subject matter that's put forth in the original application ought to get wound up with the divisionals and continuations within a certain period of time, so that it doesn't go for the life of the patent, that there should be an endpoint.

You don't want to make -- the inventor may legitimately find that he needs to add or change and there should be a time period for that. But to have it go on forever, I mean, the system invited Mr. Lemelson to do what he did. Had the commission's recommendation been accepted then, his lawyer wouldn't have that house in Aspen or whatever.

Another point on continuations, I find it paradoxical to look at the Johnson and Johnston case, and the majority concludes by saying, having limited the claims to a sheet of aluminum then they can't claim what the specification describes, which is aluminum is currently the preferred material. Other metals such as stainless steel can be used.

Now, of course, the infringer was using stainless steel. The court says you dedicated stainless steel to the public domain in your specification. You didn't claim it. You're out of luck. And then the final sentence of the court's opinion says, oh, by the way, you can get around this problem either by a reissue proceeding or, as Johnson and Johnston did in this case, file continuations that literally claim stainless steel and these other alloys.

So I don't know if those are issued applications. You have an opinion here that's basically telling people you can rely on the specifications as far as what's been dedicated, but you can't because you don't know whether they have got continuations properly being pursued. I think that's a dilemma. You noticed that, right?

MR. COHEN: Now, turning more fully into the procedural side of things. I think probably another way to connect up to what we've been talking about would be to take a look -- to start with the elements of a prima facie case before the PTO.

One of our speakers early on told us that there's a presumption of enablement and that evidence that something doesn't work may be hard to find because the patent office doesn't have testing facilities and failures don't necessarily get published.

We also heard early on that in the context of written description the guidelines say that there's a strong presumption that written descriptions are adequate.

Given considerations like this, I'm wondering if people have views on whether the prima facie case holds up properly. Is it an adequate test for a patent, for validity issues? Jay.

PROF. THOMAS: I would just comment that patent applicants are in a really great position because by filing an application they're presumptively entitled to receive the grant. And the PTO is not in a position to test many of their claims and, in fact, will often accept basically naked statements without supporting evidence.

For example, date of invention, to antedate a reference. It is presently the practice of the office to accept a Rule 131 affidavit stating that I invented prior to the date of the reference.

Now, the MPEP tells us that you're supposed to have at least some supporting evidence, for example a notebook page, but you're allowed to redact the date of the note. So you can just basically have a letter and a stripped page.

And it's my understanding that some additional groups have just dispensed with the page because it

doesn't offer any additional insight, so they simply accept a statement, I invented before the date of the reference, and that's it.

As well, once you get the patent you have a very strong presumption of validity. So there's a lot of presumptions, et cetera, helping out.

Now the prima facie isn't inevitable. If you read cases like Oetiker and Judge Plager's concurrence it says things that well, how can we do it any other way? Are applicants supposed to shoot at the dark wondering what objections the examiner might harbor in the future.

It doesn't really have to work out that way. One thing that could happen is that the applicant could go to an approved authority to do a search, or the PTO could simply present the applicant with a search. And then it would be up to the applicant to classify the art and present a statement of patentability over the art.

You could shift these burdens of persuasion and production to some degree. So I think that's something that bears some rethinking.

MR. COHEN: Anyone else on this point? Okay. We've gone a little bit more than an hour. I think what we'll do is take a short break. Let's say ten minutes at most. We'll start again ten minutes from now at 3:15 and by taking the break, we've got a lot to cover. We may

run ten to 15 minutes over, but we'll try to get done within that time frame. So we'll begin again at 3:15.

(Whereupon, a short recess was taken.)

MR. COHEN: We're going to begin the rest of our session by having a couple of presentations. The first will come from Professor Kesan.

PROF. KESAN: I will try and stick to my allocated ten minutes. The purpose of this talk here is to follow-up on a couple of things that have already been mentioned by a number of people, and it relates to this issue of who has the best information and how that can be brought to the attention of the PTO in the examination process.

There are a number of people who have made comments about how the PTO does not have good knowledge of the prior art. I have seen at your FTC site there's a number of comments made by other people.

The most recent one I saw last week was comments by Josh Lerner, who has made the same sorts of comments that the PTO has issued patents on various sorts of things that have been known for decades. And so there is a common belief that there's a need to enhance the quality of the issued patents.

And the key question in my mind is how? And what I would like to suggest is that the answer lies in

getting better information. Of course, resources and more examination time is helpful, but it's not nearly as helpful as getting good information from the people who know it best.

In order to really talk about this in a meaningful way it's important to understand what is relevant prior art when you're examining a patent.

Most of us truly cannot tell if there has been an advance in any subfield in patent law until we have really pored over what has been written in that area.

If somebody were to simply ask me what is the latest writings on patent misuse, I may be a patent person, I may teach patent law, I may write patent articles but I have no way of knowing what is new and what is old in patent misuse right off the top of my head unless that really happens to be an area where I have actually done some writing.

This sort of localization of knowledge is actually a very well-recognized concept. It's very well recognized in information economics and information sciences. It's also very well recognized in people in the library and information science community, so-called knowledge management people.

And all of them basically talk about how information is organized in these concentric circles, and

technical and specialized knowledge is in the innermost circles in the sense that it's known to the least number of people.

And so, in short, we simply cannot assume that the PTO is well informed about the relevant prior art. And it's not simply a matter of saying, okay, here is five or ten more hours for you to go and search the prior art. In order to truly understand the terms that are being employed you really have to be immersed in that field.

So the related point to this, of course, is well so what? I mean, we have a system where we, after all, have a two-stage bargain. In the first stage you go to the Patent Office, you get your patent right, but it's a contingent right.

It's a contingent right because in the second stage, in the litigation stage, you can fix it. You can go change the claims. You can invalidate claims. You can narrow the scope and so on and so forth. So what's the big deal and why does it matter?

And the big deal here is really that as we have just begun talking about, we have all kinds of presumptions. We have all kinds of deferences. All the art that gets cited in PTO Form 1449, there are strong empirical studies that show that it's rarely ever used by

a court to invalidate the patent, and your patent is -- the best thing you can you do if you want to have a good patent is to list everything in the information disclosure statement and get it signed by the examiner. And you know your patent is bulletproof with respect to that.

At the same time, if patents are overbroad or they're improvidently granted, there is a whole lot of serious things and a whole lot of social costs that are imposed by these sorts of things. There is a typical problem of opportunistic licensing by a lot of individual inventors at times, who can easily create hold up and so on and so forth. And we can think of a whole bunch of them.

So the basic theoretical solution to this problem of social cost is to simply say that I am going to set the marginal investment in information gathering to be equal to the marginal reduction in the social cost that you get from having better patents. I mean, that's sort of from the social welfare standpoint, that's what makes sense.

So a way of improving the efficiency of information gathering is to simply say I'm going to get better information from the folks who know it most. And the folks who know it most are the patentee and the

competitors. So we've got to think seriously about ways that the patentee and the competitors can weigh in. And that's what is the critical point.

I'll mention a few things about the patentee and I'll mention a few things about mechanisms for third parties, and then I'll talk a little bit about litigation reform with respect to this precise issue of relevant prior art.

My suggestion is that we do one of two things, that we try and go back to a regime where we had better prior art disclosures. We have had better prior art disclosures in the past, and there was a concern that all that this does is it empowers the defendants to make inequitable conduct charges.

Well, inequitable conduct is not that much of an issue any more. The standards for inequitable conduct, especially the intent requirement, have been set very high. And I think we want to be in a situation where the prior art that is disclosed meets the issue of patentability of the claims as filed.

In other words, there has to be a discussion for how every relevant piece of prior art is patentable over the claims as submitted. And we can either mandate it -- after all, the regulatory state and administrative agencies routinely get information through disclosures.

That's the way you solve the information asymmetry problem. You mandate disclosures whether it's the FDA, EPA or the SEC.

The second option is to basically say -- is to present it as an incentive and say there is going to be no general presumption of validity, which has been interpreted by the Federal Circuit as meaning clear and convincing evidence to invalidate a patent. Instead, you would get this kind of a presumption of validity only for prior art that is properly disclosed. In other words, you get a specific presumption of validity only with respect to prior art that's properly disclosed. So you create a sort of incentive.

So if you don't properly disclose it, you get nothing. And this is a very valuable thing, because if you think about it, in the patent system it's the public that retains these very important residual rights to invalidate the patent.

And that's the intrinsic patent bargain, that you get these exclusive rights. You get a disclosure back, but the public retains these residual rights to invalidate the patent. And giving away these residual rights with these broad presumptions of validity is not a good thing when you don't get anything back in return. These are chits that we have to carefully trade for

things that we really get back in return. And we have to think about it that way. So that's as far as the patentee goes.

At the very least if we don't do that and we don't have an enhanced disclosure, then we should think very seriously about eliminating the presumption of validity that we have today because the presumption of validity that we have today simply trades away our rights to invalidate, and you get nothing in return.

So that's really the worst possible situation and we at least have to -- we could move in either direction but it would still be better than where we are today. And I've written more about the theories behind all this, and you can take a look at some of my other writings.

As far as third parties goes, the reality is we have a very real problem in the cost between getting a patent and invalidating a patent. You pay $25,000 to get a patent, and then it takes several hundreds of thousands, as much as two-and-a-half million, to take the patent down. And we've got a serious problem there.

We need to think of a reasonable cost alternative to revocation or invalidation, that is a reasonable alternative to costly litigation. I think, as was pointed out this morning by Steve Kunin, the current interactive re-examination statute was dead on arrival

for very obvious reasons.

It's not very attractive and that's what would have been our prediction, and it's indeed turning out to be true that it's largely not been used. What we really need is an opposition system. And what I would like to suggest is that we need a pre-grant opposition system.

The main reason for a pre-grant system is simply to get the information to the examiner before the examiner has committed to an outcome. Behavioral economists understand this problem very well. It's called post-decisional cognitive dissonance, and that is that basically once the institution or an examiner is committed to an outcome, the amount of evidence that is needed to change a person's opinion is more than if the same evidence had been presented prior to him making a decision. That's simply because we like to be consistent, and we just basically end up discounting things that raise dissonance or cause inconsistencies in our mind.

And this is something that is a serious problem, which is why in a lot of post-grant opposition systems, for example in Germany and Japan, the use of these post-grant opposition systems has been decreasing. And I have talked to a number of people practicing, and they largely prefer to go to the courts once the PTO has decided to

issue a patent.

Instead, what I suggest is that if -- there are two concerns. One concern is that private parties might decide that they want to wait for the PTO to do its job, and so that's a reason not to have a pre-grant system.

And I suggest that we publish the application 90 days after the first office action. So we publish the application 90 days after the first office action, and you publish it with a list of the cited prior art, so you know what prior art the PTO has. And if you have better prior art, come in with it. You know where the PTO stands. It has shown its hand, and you have a chance to come in there and help the PTO.

Another concern that's often made with pre-grants is that there is delay of harassment. That is, big companies keep on filing oppositions and prevent small inventors from getting their good patents. And that again is a classic litigation problem. It's a classic civil litigation.

It's a classic administrative tribunal's problem where you have put in procedural safeguards for fixing these sorts of things. You're not allowed to have more than one opposition per party. You're not allowed to bring the same kind of prior art, cumulative prior art, over and over again, even to the extent of limiting pre-

grant oppositions to purely anticipatory prior art, so that the most egregious cases get knocked out and you're dealing only with 102.

There's a number of things that can be done, but the important thing is that we need to think about bringing third parties into the picture prior to the PTO taking a decision.

Once the PTO has taken a decision and it has spoken, we make a clean break, and we say next move on to the courts. So you have a clear outcome from the PTO, a clear outcome from the Patent Office where private parties and the patentee have weighed into the process. They have brought better information to the Patent Office, and then you then move on and deal with the next situation in the courts.

There's a couple of other things that can be done, and that is we really want to also think about creating disincentives for people to capitalize on the information asymmetry and the lack of knowledge that the Patent Office has, where you get patents through the Patent Office and you then turn around and enforce it against parties.

And to the extent that any license, et cetera, that you're willing to offer is considerably less than the cost of litigation, these parties are simply going to

turn around and take a license.

What I suggest is that we want to empower people to hang in there and fight to invalidate the patents, and one way, pro-defendant fee-shifting, is a very effective way of doing that because what you're really doing is you're changing the range of outcomes.

And by changing the range of outcomes you're really empowering people to hang in there, and you're basically encouraging patentees to make sure that their claims are valid. You make sure that their claims are valid and make sure that before they begin their enforcement -- and I'm not talking about strange third-party sales and so on here -- I'm talking about one-way fee-shifting if your claims have been revoked or invalidated based on prior art categories that could have reasonably been discovered by the patentee.

We're not talking about -- 102 has a lot of other strange things that are simply beyond the patentee's control. But for things that are within the patentee's control we want to create an ex ante incentive for the person to do a thorough prior art search.

And one way of doing it is by changing the range of outcomes for defendants, so that if defendants know I've got good prior art, I'm going to hang in there. I'm going to hang in there and litigate and choose to oppose

instead of simply settling. It's definitely something to think about.

Along the same lines, another proposal to think about is whether, when there is a collective action problem or a coordination problem in an industry, where parties are simply -- they know there's a bad patent but they're simply going ahead and taking licenses, there is room for government agencies like the FTC to basically come in, and if they hear a lot of complaints where there is a clear anticompetitive effect of a patent that's out there, for them to come in and essentially solve the collective action and coordination problem by opposing and invalidating those patents that basically are a problem for everybody, but each one is not individually motivated to stick the two-and-a-half million in there to fight it. It's again something to think about.

I think litigation reform where we try to create disincentives for opportunistic patenting is something that we should pay a lot of attention to.

In short, I think we can improve patent law by getting better information from the patentee, getting better information from third parties.

We really need to think carefully about the kind of presumptions that we trade away when we don't get anything in return. We really need -- I think, any

change from here is an improvement from what we have, and we need to think about mechanisms for third parties to come in, like pre-grant oppositions that rely on early publication.

And finally, I think fee-shifting is a very effective way of increasing the costs that will be borne by patentees if their patents are revoked based on readily discoverable prior art. It's another very effective litigation reform tool. Thank you very much.

MR. COHEN: Thank you. Our final presentation today will come from Professor Kieff.

PROF. KIEFF: Thank you very much to the Commission and the Department for inviting me to help out at these joint hearings. I've tried to dovetail my oral remarks here to match up with the conversations that we have been having during the day, so I'll be brief and try to plug into those.

Everything that I'm saying here is explained more fully in my body of written work, including the summary of proposed testimony that I submitted in December, and it's posted on the Commission and the Department's web pages.

And let's kind of dive in. So we explored a lot of the substantive criteria for determining patentability, and we talked a little bit about

infringement. And the first thing I think we need to do is keep in mind that those issues are not irrelevant to the procedural discussion. And that's because everything ties together here.

Suzanne, you asked some important questions about what do we want patents to do? What incentives are we providing? And we heard discussion about incentives to disclose information, and we have heard talk about incentives to invent and to make new technologies. And I think those are important.

We should not forget that there's probably at least one other important incentive out there, which is the incentive to take new stuff that's already been created and bring it to market. Let's just call that commercialization.

I talk about that in my other work when we think about the incentive to commercialize as a focus. If that's a benefit, there are costs, and this is explored, I think, really well in work by Arti Rai and Becky Eisenburg and Michael Heller and others. There are a lot of costs. There are costs to property rights. They're sticky. They're clumsy. You've got to bargain over them.

Let's look at that though. Presumably then we're going to want a system that has fewer of those costs.

All other things being equal we want less cost, more benefit. So what are the ways to screen? And we talked about things like utility, and we talked about things like, gee, this patent really deserves it -- sorry, this invention really deserves a patent. But then how do we screen deserves? How do we screen useful? How do we screen important? I don't know.

The patent system has some screening techniques, though, so we might look at those screening techniques and see how costly they are to administer. The screening techniques and the infringement rules, they all interrelate, and they interrelate in the following way. Judge Rich always told us the name of the game is the claim. Every patent you look at the claim. The claim is what it's all about.

You compare the claim to the allegedly infringing product or process. That's the infringement analysis. You compare the claim to the prior art. That's the novelty and nonobviousness analysis. You compare the claim to the original disclosure. That's what Mark and Jay and I were exploring earlier. That's the written description, enablement, and particularly pointing out and distinctly claiming requirements.

So we take this claim and we map it different places, we compare. But it's the same claim. Steve Kunin

and Salem each talked about some problems with claim construction and how we do it and when we do it. Interesting point.

Let's try to summarize and add all this stuff up together. Well, I completely agree with you, Jay, and I think, Arti, you made this point earlier too, who's got the information about the prior art?

It's out there. It's out there in people's back pockets. It's in their laboratory notebooks. It's sitting on the shelf in the experimental side of their lab. It's just out there.

And the question is how do we get that information to the mind of a decisionmaker on a question like prior art validity issues. In a patent infringement suit the credible threat of the injunction draws the defendant's attention quite sharply to that matter. I go out of business, or I go find some prior art. That makes me pay attention.

We could then ask ourselves whether there are other ways to get that information, and when we try to do it, I'm not sure we come up with any really great answers. Jay, both Jays in fact, have made different proposals about incentives, structures, bounties, things like that to get people to come to the Patent Office to make that decision.

In the paper posted on the Web page here I make a different suggestion. The suggestion is why not litigate? If you wait until litigation, the market has told you it's important, because someone is only going to litigate what matters.

Now, let's talk about -- that's cost shifting and behavior by patentee -- that's infringers. What about patentees? Well we talked this morning about how hard it is to write a good written description in enablement. We, in fact, can imagine some very rational behavior by patentees to search out and find all pertinent prior art.

So now we're talking about patent prosecution costs that are going to be quite high. Instead of the $25,000 that Jay discussed, maybe it's $50-. Maybe it's $100- to write a really, really good patent, a patent with a very rich citation of prior art, a huge 1449 Form, a patent with a really, really good, beefed up written description and enablement disclosure.

Patentees who manifest that kind of willingness to pay that kind of big positive price are folks who tend to be economic actors, which gets us to then shift -- so how hard is it going to be to bargain with them?

We talked about transaction costs. We talked about hold-out problems. We talked about all sorts of reasons why bargains won't clear. But we know that the

people who are best at clearing bargains -- no one's perfect. No one does no cost. But the people who are best at it are the people who are economic actors, the people who signal to the world up front: it's worth a lot to me to get this patent; I'm paying big bucks for it. And people on the other side who say it's worth a lot to me to deal with this issue, invalidity.

So now we've got two folks at the table who have shown each other, hey, I'm really willing to spend a lot of money. I'm really willing to think about this issue in a meaningful way. And we are private parties who can get access to this information.

Well, the old Calebresi/Melamed test on whether we should have property rule or a liability rule says, if private parties have that information, property rule treatment is just fine, because property rule treatment forces private parties to come together and negotiate with each other.

Liability rule treatment forces them to come to courts. An alternative that we see here, and this is why it's good that the Justice Department is here today, is they can go to the Justice Department. They say, actually, there's a misuse problem. Please approach this as a misuse issue. Please look at this as an antitrust problem.

Instead of coming together under -- where they're forced to come together under a strong property regime, they go other places. If they're the ones who have the information, why not put them together? Maybe it's not such a bad idea, and maybe they'll be able to clear those transactions just fine.

We also want to then think a little bit about how we're going to do this system. The Federal Circuit has a couple of innovations. It turns out it's a court that has gone quite far in using Rule 11 sanctions against patentees.

The Judin case is a stark example. You sue me for infringement. You have no idea whether I infringe. That's a problem. Rule 11 sanctions. You pay me. Your lawyer pays me. Your appellate lawyer pays me. That's the result in Judin. That's not insignificant. Judin was a case about infringement. Maybe we could do the same thing with validity.

Cellpro is a case about opinions of counsel in part. Again, the Federal Circuit educates us. What's a good opinion of counsel?

Cellpro, big sanction case because there's a bad opinion of counsel, but we learned from that. So maybe what we do is the following: maybe we require patentees to actually have a meaningful view of the validity of

their own patent before they go to court.

A reform then could be to decrease or eliminate the presumption of validity, allow litigation, and then look back at the patentee's portfolio and ask her, when you came to court and you sued me for infringement, had you become educated about any facts related to validity?

And, of course, who's going to educate the patentee? It's the infringer. So during the pre-filing of the lawsuit interactions between the parties or early on in the case, because remember, Rule 11 attaches to each filing throughout litigation, you've got policing.

The parties are going to be educating each other just like today patentees educate infringers about the strength of the patent. Under this plan infringers are going to be educating patentees about the strength of the prior art and the weakness of the disclosure.

Patentees educate infringers about infringement. Infringers educate patentees about validity. And if either side really doesn't have a good argument supported by a decent written opinion of counsel, they pay the other guy's fees.

And only those people who are doing this are the people who actually are spending money and want to spend money, so they're acting more like rational economic actors.

No one's perfect. There will be costs to this system. The biggest cost, of course, is litigation, and litigation is a big cost. But when we try to ask ourselves how we're going to administer questions like gee, this really is a good patent ex ante, before we have any idea where the technology is going, I think that's a hard question to answer.

And, in fact, the uncertainty there, which is often argued as a reason why there are increased transaction costs, because it's hard to evaluate, you have to keep in the mind the following. I'm a patent upstream technology. I have no idea what downstream uses there will be.

If other people are interested in doing work -- let's assume I have no idea where the big commercial utility is -- I want to license everyone in the room in the hope that they find a commercial utility, because then I get a piece of that pie.

So, in fact, breadth upstream might not be such a bad idea as long as the nonobviousness requirement is such that downstream folks can get patents too, then we have to negotiate with each other.

There will be costs to those negotiations, but we have to come to the table and talk to each other. Forcing us to do that if we have the information that's

important has got to be at least an option to look into. Thanks.

MR. COHEN: Thank you, Scott. Let's resume our discussion for the last time, today at least. Let's turn to the issue of information, and recognizing that most procedures at the PTO are handled on an ex parte basis, maybe I'll direct a question at Steve because of your background in many different levels of this.

What kinds of evidentiary problems does an examiner face when trying to deal with an application, with the prima facie level and then in responding to the applicant's response to a prima facie case from the examiner?

MR. KUNIN: Well, let me start with the issue of prior art. Certainly, I think from the perspective of the current situation, as some of the other panelists have mentioned, that even with the voluntary information disclosure statement that many times what is submitted is not very helpful.

In fact, because of cases like In re Portola Packaging it's almost an insulation against re-examination. And because there's no requirement in the existing rules to identify relevancy of, in particular, U.S. patents, then the burden obviously is substantially on the examiner to acquire all the information.

Since more and more technology is found in nonpatent literature and foreign patents, and the size of the proverbial haystack that the needle has to be found in is getting larger every day, it is a substantial challenge for examiners to get the closest prior art.

I think we do, generally speaking, a very good job in finding patent literature, and I think we're doing a better job all the time in finding nonpatent literature, where the nonpatent literature is readily available.

As Jay indicated, sometimes the handbook hidden in the resources of some library only in paper form is more difficult to get at as opposed to a digitized collection that is indexed and is searchable.

So first I think the aspect of finding closest prior art is the initial challenge. The second thing is with respect to issues of description and enablement, particularly with respect to enablement, obviously when the examiner is searching the databases, it's of particular benefit to come across nonpatent literature and patent literature that doesn't qualify as prior art to show that something has not yet been accomplished even later in time.

So that you can show, for example, that if the literature is skeptical that something will work or is

enabled, and you've got a piece of literature that's a year or two after an applicant's filing date, well, certainly that is very useful information if you can get your hands on it to help establish that prima facie case of lack of enablement, let's say for example.

And, of course, what is difficult is in certain areas like inherency. The Office has no testing facilities, so therefore it's a very difficult burden to establish that something indeed was inherent. And inherency deals with both the subject of anticipation as well as nonobviousness.

Once again I'll pick up on some comments that Jay Thomas was making with respect to what the case law has done with respect to what applicants can submit in terms of rebuttal affidavits or declarations or evidence that normally has to be accepted on its face.

And once again, the burden is on the examiner to point out why the statements are not credible, the statements that are made factually, and why that's not persuasive.

In fact, a case like In re Alton is a good case which basically is one that says -- this came from the court. Basically the court said, examiner, you really have to accept that affidavit or declaration. You can't just not accept it and substitute your own judgment.

So those are generally speaking the kinds of evidentiary types of situations that we have from the standpoint of principally an ex parte process that is highly based upon documentary evidence that is readily available.

And to a large degree when the going gets tough, certainly the applicant is in the position to have the experts to do the testing, to submit documentary evidence to show why the examiner should allow the case.

And, of course, as I said, we don't have laboratories, and we don't have independent experts in that regard. So therefore, we are really compelled to accept some of that, particularly from the standpoint of the fact finding, that is presented to us.

MR. COHEN: One of the controls you might have on this process, at least in the prior art area, would be the duty of candor. I'm wondering what the panelists think about whether the duty of candor is set at the proper level. Jay.

PROF. THOMAS: I'm not a big fan of augmenting the duty of candor because during my brief experience as a prosecutor for a patent solicitor I found myself just disclosing everything. It was the easiest way to go.

A lot of people in law firms are segregated by particular technical area of expertise. And you discover

you suddenly have hundreds of documents at your disposal. And it's simply easier and less time-consuming to have them all photocopied and ship them off.

I think you would be surprised if you speak to examiners just how many documents they get, how little time they have to parse through them.

MR. COHEN: Any other views?

MR. PARKHURST: I had two or three points. I think the level of the duty of candor is about right. But I think the PTO and maybe the profession at large could do more jawboning on how it's executed.

I think we might well consider more emphasis upon the need to carry out the Rule 97, 99 suggestions of demonstrating distinguishing features over the closest references even though you're presenting them in the English language, whether or not they're in the English language.

The second thing is Jay mentioned this morning the problem, particularly in the so-called business method patents area, that the applicant himself or those he knows of may have been carrying out the very same business functions manually or by long-standing other techniques, telephone, in part, for example.

I think, particularly in that area where the Office does not have an existing body of prior art and

where indeed there may not be in large measure documented prior art, there should be a real push on the applicants to disclose how they were previously doing this procedure if they were doing it in part manually, for example, and how their competitors were previously doing this procedure.

I think his comment was pretty accurate that many of these functions that we now find being filed as business method patents were at least in part carried out in the past by businesses, by whatever means were then available.

And those functions have now been adapted to the convenience of all-purpose computers, and in some way there ought to be a bigger onus on the applicants to come forward with what is genuine prior art material. So just a couple of thoughts.

MR. COHEN: Scott and then Jay.

PROF. KIEFF: I guess just briefly I think this actually dovetails in again with the notion that patentees have a very, very strong incentive to self-discipline.

I think, Salem, you discussed earlier the notion of kind of getting patents on the cheap and then asserting them. And I think that if you get patents on the cheap and you assert them, and you're fighting

somebody who's actually able to fight, the answer is your patent's invalid. And we see that time and time again.

In fact, in the areas -- if anything is discussed today people seem overly critical of the Federal Circuit's holding invalid claims. But it's certainly not -- Amgen, Fiers, Lilly and Enzo are not examples of patents prosecuted on the cheap and being enforced successfully. They're examples of patents that did not have adequate attention put to them and ultimately died in court.

So the duty of candor in a sense may be redundant if the incentive to, quote, get the scope right is sharply enough experienced by the patentee herself during prosecution and during litigation.

MR. COHEN: Well, let me ask you about that. What about the setting where the patentee has multiple claims, and one may be overstated, but they have a fallback position which protects them? In that setting does this self-incentive to get it right still operate?

PROF. KIEFF: It seems to me, and I think the Patent Office folks see this a lot, applicants file multiply overlapping, partially overlapping, completely separate claims.

And I think, Jay, you're exactly right. They're going to do it either through continuation practice or

they'll simply file multiple applications. But again, the more applicants are willing to do that in the end they're still going to get tested on validity in the infringement case.

And if that's a patent that actually meets all the standards for patentability, then what's wrong with allowing claims on it? Sure, it's a broad set of claims, but that's purely an allocative -- that's purely a distributional problem between infringers and patentees. That's not an allocative problem of resources getting to the right folks.

People who want to practice those inventions even if very, very broad because one claims falls but another one survives, they'll call up the patentee and negotiate a license.

But it's not clear that that's anything but a battle over the same turf between plaintiff and defendant. It's not a social loss problem.

MR. COHEN: Let me try Jay who had his up first.

PROF. KESAN: A couple of points. First, regarding the duty of candor on the disclosures, Jay is exactly right. You just simply -- and I must admit I did plenty of that when I was in private practice as well -- throw everything over the fence and hey, your patent is bulletproof with respect to that. That's the system we

have today, and that is the problem.

The problem is that there is no way to sort out the relevancy of the prior art. There's no requirement to sort out the relevancy and to meet the issue of whether this prior art has anything to do with my claims that I'm filing. Instead, I just simply take every piece of prior art and toss it over the fence.

The patentee's in the best position to do that. And they should be forced to do that. The second thing is -- or at least an incentive should be created to do that.

The second thing is this again follows up on Jay's point and I agree with him. The problem here is that it's attorneys who do it. And that is also another problem. In other words, when you talk about ideas, people never go back to the inventors.

I can tell you I have five patents of my own, and my patent attorney never asks for any prior art. It's exactly as Jay Thomas described it which is, hey, I've got my biotech group or I've got my computer group and they've got all the prior art. And it's not true. They don't have all the prior art.

It's the patentee who needs to be asked the question of what is the relevant prior art. And he knows he's got this little folder, most probably, where he's

got the most relevant five references with respect to the claims. And that's really the critical issue that we're talking about.

So the duty of candor is fine. It's just that the relevancy is something that you can't do. You can't simply have the 200 references all be relevant equally. There are some that are more important than others. And the Patent Office should know that.

The second point, as far as the fixing it purely on litigation goes, there is a lot of empirical work that is coming out that suggests that just simply invalidation through litigation is not a very good alternative all by itself.

I want to point you to at least a couple of things on the record, and one place where I did see a lot of reference to that is in Josh Lerner's statement to the FTC, where basically there are about two or three points that are closely related.

The first thing is it's increasingly clear that although the number of full-blown patent trials have not increased for a long time, the number of complaints that are filed have increased a lot.

And it's become very clear that patentees are filing these lawsuits purely for the purpose of forcing a settlement. That's it. They have no intention of

litigating the whole thing to trial. They're perfectly happy to get a low-cost license and buzz out of there and simply don't care, because they know that once they get one low-cost license, then they can get the entire industry will just fall back in line for the same terms.

So, for example, last year I think there were about 1700 complaints filed and only 75 full-blown trials. The vast majority of the cases settled. So because of the huge disparity between litigation costs and patent procurement costs there's tremendous room to just simply settle it.

And I think that is something we really do need a low-cost or reasonable cost alternative to simply burst these wrongfully granted patent claims.

MR. COHEN: Suzanne.

PROF. SCOTCHMER: I just thought it would be useful to clarify the distinction in social costs and benefits that as we were discussing them this morning and as we are discussing them now in the context of procedural issues.

If I understand our discussion about procedural issues this afternoon, the kinds of social costs and benefits that concern us are those that have to do with the social waste of litigation and so on.

But that's a different set of social costs and

benefits than those that arise from the substantive aspects of patent law, which go to the distribution of profit between, for example, early inventors and later inventors or indeed the distribution of benefits between inventors and users of intellectual property.

The reason I raise it is that when we ask the question, for example, do we care about the distribution, as you put it, of profit between a right holder and a potential infringer or alleged infringer, and we say that's merely a distributional issue, indeed it may be true from an ex post procedural social cost of litigation point of view that it is, quote, merely, unquote, a distributional issue.

But from an ex ante point of view, from the point of view of the very heart of the patent system which goes to the incentives to create inventions, it is not only not subordinate, it is the very essence of the question.

MR. COHEN: Jay.

PROF. THOMAS: Yes. I would certainly agree that the Coase Theorem and its progeny don't work often so well in this arena. That's quite so. I would also say, and my experience is largely in this town and the patent community here. I'm not sure that's representative of elite law firms elsewhere. But my sense is that there are very few people who want to obtain gold-plated

patents, and in fact companies send firms out on very strict budgets.

I've been to an office of a very large firm, and the officer had a sign on his wall saying we do not spend more than $5,000 per application on outsourcing patent work. I've heard of people who dictate these things while they iron in the morning to try to increase the quantity.

In very extensive patent portfolios I've been involved in cases where large companies have gone to small ones and said, I've got 200 patents that cover your neck of the woods. Well, which ones do I infringe? "You figure it out," was the literal answer. Companies boast of the number of patents that they obtain.

So it's possible and it might be quite right that you get what you pay for. But that's just not my experience. And I can see that line of reasoning. I personally haven't experienced it. I have just seen really the rush is, almost a degree of economic pollution. Let's get as many as we can as quickly as we can.

And Mr. Parkhurst, I think you're quite right about can we get applicants to disclose more. I think the key tool that the PTO has now is Rule 105 on this point. But I would observe that the PTO does not often

use Rule 105. It's supposed to have codified earlier authorities.

MR. COHEN: For us antitrust people, please translate.

PROF. THOMAS: Rule 105 was brought into the Patent Office rules along with the American Inventors Protection Act, although it was not spawned by it. It's called Requirements for Information, and it allows examiners to query applicants, and they are supposed to respond with information.

A response that the information in unavailable or not conveniently available -- is that perhaps the language -- is considered a complete response and would allow basic questions such as, how did you develop this invention? That's one of the things that I think is listed in the MPEP.

The difficulty, I think, is that it's very difficult to draft these requirements. It's on the examiners amendment docket, and it leads to patent term adjustment, which is a problem the PTO wisely wants to avoid.

It has principally been used with regard to the bizarre plant patent case of ex parte Thompson, which is just now raising a fuss. And that's another line of inquiry.

So I think the PTO has the means at its disposal to do it, although I think we might want to revisit under Rule 105 whether "I don't know" or "It's inconvenient to me" ought to count as a complete answer. And if examiners can be incented to use it. Thank you.

MR. COHEN: Let's take Arti and then Salem, and then we'll move to re-examination. We'll get everybody in at least once on this round. Arti.

PROF. RAI: Just a quick point, a plea, I suppose for some empirical work. Basically, the problem that we are facing, and Mark Lemley has tried to take a stab at this in his Northwestern article on Rational Ignorance at the Patent Office, is we don't really know what the social costs of bad patents are because we don't know how they're used.

We know how much litigation there is. We may know how many complaints are filed, but we don't know short of that how patents are actually used. We don't know what percentage are licensed, what sorts of behavior they induce in terms of people not going into certain areas of innovation because of the presence of patents, and so forth.

And another area we don't have much or any empirical purchase on, which is critical, is determining, if we were to implement some of these procedures, some

sense of what percentage of bad patents would actually be eliminated as a consequence of these procedures.

So I think it's really important to sort of -- here the percentages really do matter because it's all a question of the marginal costs -- reducing the marginal social costs while increasing -- at a cost to the Patent Office that's not too high.

MR. COHEN: Salem.

MR. KATSH: Well, this brings me back to the point I made earlier about my questioning whether tinkering in the system is going to work.

I think that in the real world, if there is such a thing, the problem is predictability. Now, whether one says it was right or not, prior to the Federal Circuit we know that whatever, 60, 70 percent of patents were invalidated. Post Federal Circuit just the opposite.

Now, Jay is pointing out the problem of wrongfully granted patent claims. But wrongfully granted patent claims in a system that upholds 60 to 70 percent of the claims litigated in litigation is going to spawn ever-increasing applications, ever-increasing demands on the PTO and is going to stretch the resources beyond the breaking point. I mean there is no free lunch.

We are either going to have to establish claim construction rules, guidelines for obviousness,

guidelines for equivalents, if any, and reduce the number and encourage companies to invest in patents that they write.

When I said that somebody can get a patent on the cheap, I was referring to what John Thomas is talking about. Companies -- it's not that they wouldn't want a gilt-plated patent. They would love to have one. But they have no idea what's going to be issued. They have no idea what's going to be relevant. They have no idea what's going to be needed. Not no idea but they have to sweep broadly to protect themselves against the fact that other companies are filing hundreds if not thousands of applications.

And when you file hundreds if not thousands of applications you can't spend $100- to $200,000 per application.

So this system is sort of snowballing on itself to create more patents with less resources put into their preparation, creating more of a problem in terms of inexperienced or marginally experienced examiners with a presumption of validity that goes into the process, with a presumption of validity that comes out of the process and with a court system that now is inclined to uphold a great majority of the patents.

Predictability, therefore, is on the side of

value. And I don't agree with Scott that the fact that you can lose a case like Lilly or others or even get Rule 11 sanctions in some cases is going to be a deterrent.

Courts, in my experience -- I mean the conduct they let you get away with is astonishing. And Rule 11 is not going to be the answer. And I'll bet you, if I asked you, Scott, whether you could have -- how sure you were about the results in those cases you mentioned before they were decided -- whether you would have said, there's no chance of success.

PROF. KIEFF: But that's why it's under the reform section of the paper, which is to say maybe we should take those things seriously.

MR. KATSH: But those cases were not predictable before they were decided. People lose cases all the time. They get reversed all the time.

So just my final point would be that you pointed out earlier, when I was talking about Graham, some very interesting history to the opinion. I was really talking though about Hotchkiss, and if you look at the Hotchkiss case, my understanding is that that case involved a patent for the substitution of ceramic or metal for wooden door knobs. And that was held unpatentable.

Now, how many thousands of patents are issued for creating old products with new and unobvious materials

with better functioning and better cost efficiency?

And if Graham said follow Hotchkiss, and if the circuit courts of appeals, putting the forum shopping issue to one side, because that was really dealt with in Blonder Tongue, if they were all following Hotchkiss, and you had a 70 percent reversal rate, that was sending a signal to the PTO that, as the court said, there was a notorious disparity in standards.

So it was then a move to fund the PTO to make the effort so the courts would not invalidate. That incentive is diminished when you have the courts basically upholding what Jay is calling wrongfully granted patent claims. Not wrongfully granted unless the courts says they are.

MR. COHEN: Let's move for a little while now to re-examination. We've been told in the hearings that the re-examination process deals with novelty and nonobviousness, but not with enablement, description and utility. And that even when treating issues of prior art it addresses only prior art not previously considered. Given these limitations, does anybody have any thoughts as to whether the scope of re-examination is sufficient? Mark.

PROF. JANIS: Yes. I do have thoughts and, no, it's not. But I do think we need to step back and ask

some very hard questions about what it is that we really want out of such a procedure.

And I think my study of the history of the re-exam statute and the proposals that preceded it suggest to me that no one really came to a consensus on that. Is it really some sort of very limited error correction mechanism, or is it really a serious effort to create an administrative alternative to litigation?

Now, those are not -- those are extremes out of spectrum. I suppose you could have elements of both in a given procedure, but I take from the many factors, including the fact that this procedure is called a re-examination not opposition, that in the beginning it was skewed toward a model of error correction, a very limited model of correcting an error. You have to show an error to get into re-examination basically, substantial new question of patentability.

So it shouldn't surprise us that when we look at it today and say is this procedure an adequate alternative to litigation the answer is no, that there are all these limitations.

And this is an area where tinkering is simply not going to work. And the latest round of legislation proves that amply because we never did get back to the question of what we really wanted.

Instead, we took this re-examination procedure and said, we'll tinker with it. We'll make some small efforts to enhance third party participation and call it inter partes, but then we'll take a lot away in estoppal provisions. And then we'll say to the world now we have this great administrative alternative to litigation.

And so it's just not surprising that that's not what we have. So those types of discussions really need to occur. And you can see the kinds of alternatives that are going to arise from those discussions.

You're going to have Jay Kesan saying, no, no. It needs to be pre-grant opposition. You'll have me saying it needs to be a full-fledged, post-grant opposition. You'll have others saying we shouldn't have any administrative proceeding. It's more efficient to let it all go to litigation. And that's the sort of discussion that we need to have.

I think we ought to end up in the middle, with a post-grant opposition scheme that does have a broader substantive base and allows people to come in and make challenges based not only on documentary prior art, but on enablement, on other patentability issues.

MR. COHEN: What about the issues of estoppel and ability to appeal?

PROF. JANIS: If you create a system where the

options per challenge are severely limited like the current system and then you lay on top of that serious estoppal provisions, I don't think anybody is going to use that system.

It's bad enough that there is not a long record of re-examination. People don't have the sort of reassurance that it's going to be conducted and that they're going to get good results out of it.

When I was using it, I just was always a little uncomfortable. I just never quite knew whether I was going to get good justice out of that procedure. So it's bad enough even without the estoppel. But when you add the estoppel in, people aren't going to use it.

Now, if you make this the mirror image of validity challenges in litigation, then perhaps talking about estoppel is more reasonable. But the estoppel provisions as they stand in the current scheme, I think, among other factors, make it just almost completely unworkable or certainly just so unattractive that it's hard to see counseling people to engage in it.

MR. COHEN: Roger.

MR. PARKHURST: Well, a number of points. The existing system is obviously inadequate. Steve's statistic about three inter partes re-exams under the 1999 Act. And I think if the AIPLA executive director,

Mike Kirk, was here, he could tell you in excruciating detail that that statute is the result of practical politics in the Congress these days.

And that's an issue that we haven't talked about here in any of these points. But it would be an overlay over any thought of radically modifying the patent law.

But talking about re-exam in particular and the estoppel point, it would seem that if we could get a re-examination procedure that would just simply open it up to all attacks, then you could have an estoppel that looks like res judicata or collateral estoppal in the courts, and you would have a system that would invite those with economic interest to attack those patents that are of economic significance.

You would probably have a greatly increased use of that system, and you would have a focus on those patents that are really of interest economically. So I would think that that's a good goal. How long it takes us to get to that goal is a big question.

Meanwhile, this, like the issue we just discussed of how to get the best prior art before examiners, brings us back to the need to urge Congress to give the Patent Office access to all the fees it collects to try to create the quality patents that we'd all like to have, so that we have the kind of certainty that Salem's clients

are talking about.

And part of that certainty is reducing pendency, so that you have some certainty of what it is that your competitor is getting out of his application even though today it's published.

MR. COHEN: Jay.

PROF. KESAN: Just a couple of things to add onto what Mark said. First I want to mention one piece of work by Dietmar Harhoff, where he has done some studies on oppositions in Germany. And he shows that surviving an opposition is one of the very best predictors of patent value, in other words how valuable a patent is. If you want a signal that I do have this great patent, then surviving an opposition is one of the very best measures of it.

And I think that is very valuable, because it really shows that when you have other people weigh in on the process and you still end up with a patent, that sends a clear signal to the marketplace. I mean, this is not just some paper claims, et cetera. There's some real economic value associated with this. People have tried to take this down and did not succeed, and I really have something here.

And the earlier on in the process that we can actually have that kind of a market mechanism that points

to real value is, of course, a very good thing for the patentee, and it makes complete economic sense.

The only other similar predictor that I have seen is in payment of maintenance fees as being another very good indication of patent value. In other words, the patents that do get reviewed are the ones that really do have value, since you have maintenance fees at three-and-a- half, seven-and-a-half and eleven-and-a-half years.

In talking about deciding whether the oppositions should they be -- I completely agree with Mark that we need a full-blown system, and any way to sort of hamper the system with estoppals, et cetera, doesn't make sense.

But in terms of thinking about the opposition system as to whether it should be pre-grant or post-grant, I again want to draw your attention to data that I have published and that Bronwyn Hall has published.

Hers is, I think, a working paper looking at pre-grant and post-grant opposition data in Japan and in Germany. And what you see in Japan they switched from a pre-grant to a post-grant in 1994. In Germany they switched from a pre-grant to a post-grant in the EPO in 1980.

And what you see is that there was a vigorous opposition practice in the pre-grant years. Now, some of it might have been due to delay and harassment. That's

certainly possible. But there was a vigorous opposition practice, and it has dropped off substantially when they moved to a post-grant system.

At the same time, the number of invalidation trials and nullity proceedings and so on have increased dramatically. So in other words once you go to -- when they moved to a post-grant system, people automatically started favoring the courts as opposed to going to the patent office.

And I think that's something to really keep in mind, and it goes directly to the issue of -- what really struck me when I did this qualitative interviews in Japan was when I started realizing that we really do have a serious post-decisional cognitive dissonance problem, where basically what you have is examiners and the examination boards and the reform boards are willing to change the scope of the claims once the patent issues, but they are not willing to revoke or invalidate claims entirely.

In other words, the tendency is to say, well, I was right all along. Maybe I just need to simply narrow the scope of the claim. I'm committed to an outcome, and I think I was right all along. And I'm not going to change from the outcome. I'm merely going to narrow the scope of the claims.

That serves as a tremendous disincentive to the parties. The parties feel like, well, I'm not going to get a fair shot here. I mean, the patent office has spoken. They have taken a decision that the patent is anyway going to get allowed, and I'm going to take my chances at another forum, the courts. I think it's something to keep in mind.

MR. COHEN: Let's try Steve and then move to our final topic area.

MR. KUNIN: I'll be brief. Jay and I have debated this issue many times, but basically I would point out that for all the practical reasons we probably will get to where we want to be either by fixing re-exam or having a post-grant review system put in place, as opposed to pre-grant opposition.

We fought the Japanese very hard to eliminate their system because of Keiretsu and the problem with respect to the specific way to deny foreigners patents that occurred, I think, as a result of that practice.

The situation with respect to would Congress have an appetite to do so? The American Inventors Protection Act specifically precludes it. It says, in the law, there shall not be any basis for pre-grant opposition or protest as a result of publication of an application.

The situation I think from the standpoint of pre-

grant which hasn't been mentioned is in the United States we have patent term adjustment. If you are worried about submarine patents, how about 28-year patents or 30-year patents or whatever it would be if you didn't take into account the fact that right now in the law if you impose all of these delays for whatever purpose -- it could be appeal interference or administrative delay -- you get day-for-day term adjustment?

So I think it's just not conceivable, with respect to the regime on term adjustment, to even consider pre-grant opposition. I think there's many ways -- different examiner, proceedings conducted by a panel of administrative patent judges -- there's ways by which you can, I think, reduce or eliminate some of those perceptions that Jay was mentioning in terms of why pre-grant is superior to post-grant.

So I think that from the perspective of where do we get there from here, I would say that despite the arguments that have been made for having pre-grant in the United States, I just don't think it's going to happen.

MR. COHEN: Okay. I'd like to get us to wrap up, say within 15 minutes, but before we do that, there's one more topic area. It has floated throughout our discussions. I'd like to focus on it directly. And that's the handling of uncertainty.

And I think we've heard that there can be uncertainty as to the presence of patents or patent applications. That's one area. Separate from that may be uncertainty with regard to patent validity or breadth.

Let's look at the first one. We now have an 18-month disclosure rule, for many patents at least. I'm wondering what has been the experience with this? Is it working out? Will it work differently in different industries?

We heard, I think, in our biotech panel that 18 months can be an eternity there. Anybody who would like to contribute on the new disclosure rule?

PROF. THOMAS: I'll mention very briefly, the new disclosure rule does nothing because it simply discloses what was already available from foreign patent offices. It really doesn't add anything to what the U.S. industry is doing.

It saves a translation fee on occasion, but the 18-month publication -- there really have been no changes other than that there's an extra fee charged at the PTO.

And that's why I think the PTO should implement this just by ripping pages out of the European Patent Office and sticking it in there is just to save everybody the money. It's not the fault of the PTO. That's the legislative deal they were handed.

MR. COHEN: Any other thoughts on the 18-month disclosure rule, or do we take that as the view of the panel? Jay?

PROF. KESAN: No. I think it actually does serve some benefit, and that is that you do have, in fact, disclosure. People are put on notice, and to that extent you have the reduction on various sorts of social costs. I mean, clearly it's --

PROF. THOMAS: I agree with all that. It's just there are no -- it only publishes applications that would have been published anyway. There's nothing additional added by the American Inventors Protection Act.

MR. COHEN: Salem.

MR. KATSH: One quick point. As long as there's the potential for continuations, divisionals that are not going to be published until their 18 months are up, you're still dealing with an unknown period of uncertainty as to what additional claims are going to be sought. So it does give the industry some knowledge of what's out there, but not complete knowledge.

MR. COHEN: How about turning for our final focus to uncertainty with regard to patent validity and breadth. I'm wondering if any of you have views as to whether there are differences from industry to industry in the predictability of infringement determinations.

We've heard a lot that things are different for various aspects of the patenting process, industry to industry. What about for the infringement predictions? Scott.

PROF. KIEFF: Just a couple of thoughts. I'm sorry Suzanne left, but I completely agree with her that we have to do the dynamic analysis, the multiple cycle analysis on these things.

But, if anything, that takes us back, on this uncertainty problem this takes us back to well, what kind of scope do we want to give whatever patent is upstream that's going to be uncertainty to issued patents and what certainty do we want to give downstream to people who want to do inventing?

And if we have a nonobviousness requirement that's actually lower rather than higher, whatever that means, at least for the concerns she just expressed, the downstream inventor gets a piece of the pie too. She's got an incentive to do downstream inventing. So that can play out.

But if we start to say, hey, listen, if you're in a downstream/upstream position, somehow there are different rules on validity for either you or the upstream guy, I think that's a big form of the uncertainty. And that plays out in this area because

people will go to the Justice Department or here, and they'll argue misuse or antitrust problems that have to do with breadth. That is a cloud of uncertainty.

So uncertainty issues -- the shortest answer on uncertainty is this hearing creates a massive uncertainty on the system. And that's not irrelevant. And the more we make liability rule treatment, in fact, the more we have multiple cycle problems, because you'll squeeze out more efficiency in whatever cycle you're presently in, absolutely, just like under an efficient breach analysis in contract law, you'll get the stuff to the higher value use in that cycle of the game, but you won't get future cycles. In multiple cycle games, squeezing out the added efficiency in one cycle will have the effect of deterring players from playing future cycles.

And that is exactly, I think, a problem and that's a problem -- I'm sorry Suzanne left because I actually think it cuts the other way on all of these issues.

MR. COHEN: Arti.

PROF. RAI: I'm not sure I understand this multiple cycle sort of argument, but the point that I was going to raise was that I think that at least in biotech, which is the industry with which I'm familiar, the conventional wisdom seems to be that the Federal Circuit

has created tremendous uncertainty. And so it's not clear that any changes would make that worse.

So again, I mean, I think that there's a great deal that could be done to create more certainty. I think certainty is a valuable thing to have. And in particular I think that some of the reforms along the lines suggested by the Jays with respect to -- and Mark -- with respect to getting certainty at the administrative level will really help all industries out.

MR. COHEN: Jay.

PROF. KESAN: Just a couple of things. One is, of course, two points related to uncertainty. One is that having an administrative proceeding like that would actually reduce some of the uncertainty, because now you really know you have a valuable patent.

The second thing actually goes back to a point that Scott made very briefly in the morning. And that is I think a large part of the uncertainty in private practice really comes about because there is so much difficulty in -- if you are a competitor -- in understanding the scope of the patent just by looking at the claims that's largely brought about by the Doctrine of Equivalents.

And I think my own view on that is that this game of having a Doctrine of Equivalents and then trying to

limit it with all sorts of -- rein it in, you have it but rein it in -- is something that I think is well worth rethinking.

I think the dissents in the Hilton Davis case at the Federal Circuit level make some very, very powerful arguments that the Doctrine of Equivalents doesn't do very much, and it's perfectly okay to put the burden on the patentee to have claims at the outset.

He's the person who is best in the know, so why not do a darn good job, and if you have made a mistake you've got two years to fix it in the reissue. You've got time to fix things. And I think a lot of the uncertainty on patent scope would be eliminated if we didn't have this whole equivalents issue.

MR. COHEN: Mark.

PROF. JANIS: I'm just going to be a pessimist on this issue. I think certainty is awfully elusive in patent law, and I think it just springs in part from the complexity of the document and the use of claims.

If we took away the Doctrine of Equivalents, we'd have a lot of people making a lot of fancy arguments about literal infringement and claim construction. And we'd say, gosh, this is all very uncertain. And I think that's true of obviousness. I think it's true of enablement.

I think those are inherently complicated legal inquiries, but they all relate back to claims and the complexity of claims. So I'm a little worried. I don't buy into some of the certainty rationales that the Federal Circuit parades before us, because I think that the rules that they create and rationalize on the basis of certainty often just shift the uncertainty elsewhere. I think I probably said that earlier in the hearing.

So I don't want to be too much of a pessimist, but I do want to sound a cautionary note that we not buy into the certainty rationale wholesale, that we just recognize that there may only be so far we can go.

MR. COHEN: Arti.

PROF. RAI: One point I forgot to make, not to double dip, and that is sort of one of my pet peeves about the Federal Circuit, which I think Salem has brought up several times, is that it's essentially acting in many situations as a trial court. It revisits all sorts of issues that are fact-based.

And that creates tremendous uncertainty because you just have to wait until the appellate court decides the issue before you know what the outcome is, which is not the way that our rules of civil procedure is supposed to work and for good, sort of economic efficiency, reasons.

MR. COHEN: Well, we're late in the day. We want to wrap up, but I want to give each of you an opportunity, before we leave -- if there's anything on any of the subject areas that we have tried to cover today that you never got your chance to make the point that you were dying to make, I'll give you that chance. I see Scott has his sign up.

MR. KIEFF: Well, yeah. I mean, I think that to follow up on a point that Arti made, I completely agree with you, Arti, that lots of things in life are empirical questions. And I completely agree with you that data is always better than no data.

But our understanding of the way things work sometimes gets us to a point where we no longer need data. So, for example, I think we're all going to just take it, and it's not worth litigating the issue, that if I drop the cup it's going to fall, because we have an understanding here at this speed on this planet at this time that gravity is going to operate that way.

And the laws of economics have taught us a little bit about transaction costs, and they have taught us that the types of problems explored at length in the literature of transaction costs, bargaining over patents, are transaction costs that are typically associated with markets that are thin.

And the economics literature teaches us pretty clearly that a good cure for that anemia is to fatten up the markets. And the more diversity of wealth -- sorry, the more diversity of players and the more quantity of wealth you bring to those markets, the less transaction costs you have on average. That's just one of the things that economic science teaches us as a science.

And one of the neat tricks of patents is that they bring to these markets a drastic increase in the number of dollars in the well and a drastic increase in the diversity of players. That is a solution to the transaction cost problem. And we shouldn't overlook that solution.

MR. COHEN: Jay.

PROF. KESAN: I just wanted to make a point that I talked about earlier with you, that you asked me raise. This relates to the nexus requirement on the objective indicia of nonobviousness. And that is, I think Salem pointed out, that is a huge gateway to get a whole bunch of things in there to fight obviousness.

But the real problem that I see in the nexus requirement is that it's a multiple causation problem. And I have looked carefully at these nexus cases, and the real problem is that you can show a link between the inventive activity and commercial success or inventive

activity and some other objective indicia.

The problem is that there is a whole bunch of other things that could have contributed to it, good marketing, a lock-in as you pointed out, or network externalities, as we call them.

And the real need in the nexus requirement is a "but for" requirement. In other words, there should be a requirement that says that but for the inventive activity, the particular commercial success, et cetera, would not have taken place.

So when you have a multiple causation problem and you're relying on this to show nonobviousness, you really need to have a "but for" test there which is something -- the whole nexus requirement is not well policed, but I think the "but for" requirement is really essential.

MR. COHEN: And then I guess Salem will have the last word today.

MR. KATSH: Well, I wanted to reference again, I guess, where I started. It troubles me that in all of these studies, in all of the -- whether qualitative or empirical -- there is really no concrete evidence of whether we are all better off with or without this patent system, to what extent it actually provides products and processes faster or that otherwise would not be here.

Now, politically, it's a reality. But in the Temporary National Economic Committee hearings in the '30s, there was a colloquy where the chairman of General Motors was asked whether they would have made the same innovation without the patent system, and he said no. And then Edsel Ford, who was then chairman of the Ford Motor Company, was asked the same question, and he said, yeah. Patents wouldn't make a difference.

There's studies by Mike Scherer, who found that most of the R&D and business people didn't think it would make a great difference. The people who were most convinced it made a difference were the lawyers.

Now, I happen to love the patent system the way it is now. And it's very provocative, and it gives me a lot of work. But it seems to me that given the uncertainty about what it actually does, because it's so hard to measure without a control, there's room for experimentation and creative thinking at least, about some kinds of new approaches.

And I saved this for last because I didn't want to get beat up too much, but we could have a ranking system. We could have a system like the Presidential commission we talked about, where people would voluntarily delay examination.

We could do a lot of things. We could experiment

with different terms for different patents, different standards for different industries. These are concepts that ought to be explored, because it's unclear whether the costs would outweigh the benefits.

The whole idea of preserving as absolute the right of exclusivity in all cases, even given the fact that most patents are asserted to lack market power, that poses to me a question of why are we multiplying the number of patents that are being issued.

One study in particular I would recommend is that we have just gotten the business method patent legitimized as of 1998. Perhaps that could -- the Commission has a great Bureau of Economics. And there is a control possibility, to look at what the impact of having a business method patent would have been had it been in effect, say, in 1960 and had frequent-flier miles been patented and credit cards have been patented and lots of other things have been patented.

If you look back, software patents were not recognized until quite recently. There are areas where you could try to establish, it seems to me, maybe President Levin at Yale is doing this in some part, but we have no guidepost. All we know is that there's a chilling effect out there of having all these patents, whether they're in litigation or not.

And it strikes me that there's a lot of work that could be done to try different approaches that would benefit both producers and consumers.

MR. COHEN: Thank you. This has been a very interesting, very useful session. I want to thank all of you for your thoughtful comments, for your patience, and for your willingness to help. Thank you.

(Whereupon, the hearing concluded at 4:49 p.m.)

CERTIFICATE OF REPORTER

I, Deborah Turner, CVR, do hereby certify that the foregoing proceedings were electronically recorded by me via audiotape and reduced to typewriting under my supervision; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were transcribed; that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome in the action.

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My commission expires: 02/01/2006