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FEDERAL TRADE COMMISSION

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WELCOMING REMARKS

MS. MEYERS: Good morning. If you could please take your seats, we will get started.

Thank you all for coming. My name is Erika Meyers and I'm an attorney with the FTC's Office of Policy and Coordination. Welcome back to the second day of part three of the FTC's hearings on the evolving IP marketplace. Hello to everybody watching on the webcast.

Today we will continue to explore the notice

of the building safely. Also, if you spot any suspicious activity, please let one of the FTC staff or security personnel know.

Now conference-related announcements: as we said yesterday, we will be accepting comments until May 15th. So, please, if you have any written submissions you would like to make, we'd love to hear from you.

With that business taken care of, it is my honor to introduce our keynote speaker, Herb Schwartz. Mr. Schwartz is currently an Adjunct Professor of Law at the University of Pennsylvania Law School and New York University Law School where he has taught courses on patent, trademark, trade secret and unfair competition since 1981. He is coauthor of the case book Principles of Patent Law, and coauthor of Patent Law and Practice. And he has served on the advisory board for BNA's Patent, Trademark, and Copyright Journal.

He earned a B.S. in electrical engineering from

his keynote address, I know that he is about to share his experience, scholarship, and wisdom; and we are all about to learn some things that we might otherwise be considerably slower in figuring out. So, with that, welcome, Mr. Schwartz.

KEYNOTE ADDRESS

MR. SCHWARTZ: Thank you. I'm not sure that that is me who you are referring to, but I'll take it anyway.

What I'd like to say at the beginning is, first of all, I really feel honored to be invited here to give this address and I also want to make plain that all of my comments represent my own views. They don't represent the views of any of the clients I've represented over the years or my current affiliated law firm of Ropes and Gray.

Yesterday I sat here and I listened to the industry roundtables. And, as we know, there were four different groups, universities and entrepreneurs, IT and electronics, diversified manufacturers and life science. And the thing that struck me was the sharp diversity of views between these different groups. It was almost startling to hear some of them when you were wondering whether you were talking about the same patent system when you heard the different groups. And one common theme from all of them, which troubled me a bit, is the thought that a number of them expressed that the combination of recent decisions, more than legislation, was creating or had created, in the common vernacular, a tipping point in intellectual property, and if things continued this way, bad things would happen. And I must admit I don't share that view.

And more importantly, in the question of notice, the question of how, if at all, do people become aware of what is pending in the Patent Office, and how do they deal with it in the real world. And basically, one piece comes out in the question of notice, which I heard very little disagreement about yesterday, and which for reasons,

reconsidered and be put back in. As I think that if there would be 18-month publication, I think that ought to be helpful to, really, an awful lot of the patent community and I don't see the big harm of it.

Going on from that, I'd like to talk some more about continuation practice, which is something that is not in the current statute or the proposed statute. And continuations have been around for decades. And it's interesting that if you go back in time, as long as 40 years ago, there were legislative proposals attempting to limit continuation practice. That goes back to the 1967 President's Report on the Patent System. There was a proposal to limit continuation practice. And so you find this coming up over and over again.

To me, one of the greatest problems with continuation practice has been cured. And that is the 20-year term. During the many years of my practice, I became personally familiar with what were called summary patents. Certainly spent part of my career involved in the litigation of the Lemelson patents which, I guess, were the high water mark of that. And ultimately those were held invalid and unenforceable and I think also had a lot to do with the ultimate institution of the 20-year term.

But if you have the -- with the 20-year term and if you have 18-month publication, I think you've gone a long

way to try to deal with what people call the continuation issue. So the next question is on continuations of what else do you do? And on one side, you have the life science

crystal clear in the world, as to whether or not there were ways, judicially, to deal with the question of continuation practice in its most pernicious form, which is writing a claim to cover something that was on the market and somebody thought was actually free to do.

Now, when the Federal Circuit came along in *Kingsdown*, the Federal Circuit made it very clear that it was perfectly proper to write claims to cover a known competitor's product in the marketplace. And ever since that decision, it's been taken by all practitioners that this is basically a free shot, you're entitled to write claims to cover products that are in the marketplace, whereas if you would have had to file a new application, you probably would be barred because they were actually out in the field and in commercial use.

And I think that that is an issue that needs to be looked at. And I'm not so sure how to ultimately deal with it. I'm not so sure that it would ultimately be amenable to a judicial solution or whether a legislative solution, but it's an example of an old doctrine that had vitality and had, in a sense, dealt with a problem -- but doesn't exist anymore.

I should mention as a footnote, again, going back to *eBay*, that, as a practitioner many years ago, I was involved in a case called *Foster v. American Machine &*

Foundry, in which we persuaded the Second Circuit that what is now euphemistically called an NPE shouldn't get a injunction because it was only used to extract a large royalty and had no business purpose. And that was affirmed by the Second Circuit and there was law out there that injunctions were not absolute. The Federal Circuit made them absolute and the Supreme Court has now moved things back to where they were or where they could have been.

And I would suggest also, if you look at continuation practice, that that is worth considering what the other options are. What has happened in continuation practice is that there has been proposed legislation first, in effect, to stop it, then, after that, to leave it up to the PTO, then it all died, then you had the patent office rules. And then you have the recent case involving the PTO under new rules, which is now on appeal in the Federal Circuit and which I believe was argued in December. And, so, really, it's pretty much a standoff.

Now, to me, one of the good touchstones in this area is the FTC's statement that they put in, in support of the rules, when they were put in. And that, and I'm not sure exactly when that was put in, but it was in connection with that -- the institution of those rules a few years ago. And what the FTC focused on were three issues. They focused on what they called uncertainty, holdup and pendency. And

they all have different policy applications.

Uncertainty is something that troubles everybody because the longer you don't know what the claim is going to cover, the more trouble you are in. And that cuts across, it seems to me, all fields. It gets help by the 20-year term and it would be helped by 18-month publication, and I don't know what else you could do to move it along further.

Hold-up, I think, is a different problem and calls for a different solution, and I'm not so sure what the different solution is. And as I say, there was a judicial solution, namely, *Muncie Gear*. What the solution ought to be now isn't crystal clear.

And the last issue is pendency and that is a serious problem. Pendency means that the Patent Office is swamped by an additional magnitude of continuation applications, which keeps it from doing its job. And, therefore, in some ways, allowing a lot of continuations does harm to many other people who would like to get their patents out properly.

So, I think that there -- that that is a good framework for considering the issue and what ought to be done isn't crystal clear. I think there is a lot to be said for the middle ground of legislation, which didn't get enacted -- which was for Congress to give the PTO the authority to form its own rules. This is something that got

close to getting passed and didn't make it. And I'm not a predictor of judicial outcomes, but it strikes me that probably the PTO is going to have a tough time sustaining its petition on appeal in the Federal Circuit, and that takes us back to where we are now, which is a need for some legislative relief, if someone wants to do something about judicial practice. So, that is one area I think needs some adjustment.

I was going to talk a little bit about prior user rights. The more I think about prior user rights in the greater scheme of things, the more that I think that it's not a major issue, or not that major of an issue, and it's hard to devote a lot of legislative thought to it right now. What Congress has done is punted by putting in a provision that says, we'll study it for two years. Maybe in the greatest scheme that is as good as you can do right now, I'm really not sure. But that is where prior user rights are.

Two last topics I'd like to talk about are that the *Markman-Cybor* situation and where it has led to, and also some 112 issues. But as far as *Markman-Cybor*, it's interesting to note as a matter of history that before the Federal Circuit there was no such thing as claim construction. Having participated in numerous patent trials and appeals in the dark ages before such a new organization existed, claims were just dealt with by the court during a

saying they thought claim construction was reviewable *de novo* without having to reverse the Supreme Court, which they can't do. They nevertheless said, since it's open, we're going to take it *de novo*. Well, though, I don't believe that that is in any way driven by the Supreme Court and probably not even suggested by it.

Ever since then, as far as I can tell, that what I call the *Markman-Cybor* regime has led to the unpredictability and has wreaked havoc with speedy resolution to patent litigation. It's been one of the major problems. To me, it's interesting that in the *Amgen* case, Judge Michel, who I think had more moderate views on the subject before, spoke out and raised what the four problems which he saw with *Markman*. And he said we really need to deal with this. There's an unreasonably high reversal rate, there is a lack of predictability, there is the loss of all the work by the district judges, and we're going to be inundated with appeals, we are inundated with appeals. And he was joined by three other judges in separate opinions, Judges Newman, Rader and Moore, and there it sits, and the Federal Circuit has refused to go further.

I think that the frustration with it has led to the newly introduced provision in the current Patent Act which seeks to require the Federal Circuit to take on appeal any question of claim construction that was certified by a

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to me about those is that they come up in the situation of people writing new claims, usually to cover somebody else's product. And when you look at the practicality of how they come up, once the claim gets added and you get involved in litigation, which I've had -- have done numerous times, written description is a question of fact. It's a jury question. Under the current state of law, the burden of proof is clear and convincing evidence. Historically, whether that is sound is a nice question, but that is the burden of proof in the Federal Circuit. And so that means that you've got -- as a trial lawyer, you've got to persuade a jury by clear and convincing evidence that what the patent says isn't adequate in terms of putting the inventor in possession of his or her invention.

Strangely, when you get to enablement, enablement is a question of law. And it's a question of law with underlying factual components which go to the jury. And so what you have is a situation where the jury, it's like obviousness, the jury decides what the facts are, the court decides whether it's enabled, and then it goes up on appeal on clear and convincing evidence in the same way, and you have the same problems.

Now, you may wonder, does the burden of proof really mean anything? And I would say the burden of proof means an awful lot more than most people realize. You

really realize it when you're in a court and have to deal with burdens as a trial lawyer.

Let me give you one current and important example. That was the recent litigation involving Amgen and TKT, which I admit I was involved in. Maybe that makes me a little prejudiced. But nevertheless, on the issue I'm talking about, it's fascinating to note it was tried to Judge Young in Boston. And Judge Young decided that on the ordinary standard of evidence, preponderance of the evidence, the patent there was neither written description nor were the patents enabled. However, he decided on a higher burden of proof, namely clear and convincing evidence. The defendants were not able to make out the defense. What devining rod he had to draw a distinction between winning on preponderance and losing on clear and convincing is one of those things that one wonders about. But certainly when one got to the Court of Appeals the Court of Appeals split 2-1 on the same issue. And Judge Clevenger dissented. And so you have really, to me, a very, very important issue decided really on what I would say procedural grounds.

And I think there is very little dispute in that case, that there were big differences between what the patent disclosed and what the proposed alleged infringers were going to do. One, the patent disclosed EPO, which is

very well known, and disclosed the use of exogenous DNA to

deal of time enumerating the many accomplishments of this distinguished group, but in the interest of maximizing the time for the discussion, I'll keep my introductions brief and just refer people to the more extensive biographies you'll find on the conference website.

So, our first panelist is Ashish Arora. He is currently a Visiting Professor of Strategy at the Fuqua School of Business at Duke, and he is on leave from Carnegie Mellon, where he holds the H. John Heinz, III, Professorship of Economics, Innovation and Economic Development. He's a leading researcher on the economics of technology and technical change.

Next, we have Scott Stern who is at the Kellogg School of Management at Northwestern University. He is also the co-organizer of the NBER Innovation Policy and the Economy Working Group. And he is a senior fellow at the Searle Center on Law, Regulation and Economic Growth.

Next is James Bessen who is Director of Research on Innovation, which is a nonprofit organization that conducts, sponsors and promotes research on technical innovation. He's also a lecturer in law at the Boston University School of Law. And he coauthored a book many of you are familiar with, *Patent Failure*. It is a recent book that examines shortcomings of our current patent system.

Next we have Bob Hunt, who is an Assistant Vice

President of the Payment Cards Center at the Philadelphia Fed, where he previously was a Senior Economist in the bank's research department. He's published a variety of papers on the economics of innovation and intellectual property and he has examined, among other things, the effect of patents on computer programs, business methods and financial services.

And last but not least, we have Scott Kieff, who

in a knowledge economy." Which, of course, put my hackles up because I said, "You mean my ancestors lived in an ignorance economy?" Which, if you think about it, you know, it's a gigantic conceit for us to say such things.

But what I want to try and persuade you is, at least the last 100 years, if there is something distinctive about them relative to the earlier 100 years, is the role of knowledge as an economic commodity. And that is sort of the launching point.

I'd like to say that IP markets are new, but they're not. So, this is research by Ken Sokoloff and Naomi Lamoreaux, that is the graph on the right on the side. The point of the graph is twofold. First, there were a lot of patents transacted early in the 20th century and late 19th century in America, and more so America than Great Britain. And if you're interested in the reasons, you can read their excellent work. The short answer is because patents were cheap in America, you could get them without paying a lot of money.

It's claimed, and I've certainly been one of the chorus of voices claiming, that we've sort of gone back to the future in the sense of an increasing amount of transactions in IP and technology, broadly defined. My perspective is sort of straight from the book, as they say. This guy, if you recognize him, was a Scotsman who lived

with his mother. And he wrote this book called The Wealth

And this number sort of seems right. And I confess, I'm prejudiced, because for the mid-1990s I produced an estimate with colleagues using much less precise sources, publicly available sources, and we came up with a number of 30 billion, 30 to 40 billion for the mid-1990s.

And, so, you know, if you think about how things have changed and the economy has grown, this seems sort of roughly right. It's, you know, we're well within shouting distance. So, I'm heartened both by the fact that the government has produced these estimates and because these estimates up significant but not crazily high. Right? If this was $1 trillion, we would look askance at it and say it, you know, this doesn't sound right. But it sort of sounds right, it passes the smell test.

Right. What does this have to do with patents? This doesn't prove anything but at least suggests, the first chart, I don't know how to point to this, this guy. This one here is the chart of patents issued, and you can see there is a substantial uptick circa 1982, if the chart was more precise.

saying coincidence doesn't mean causation, but at least it's prima facie, that means there is something to look at.

Right. I'm going to show you now a smorgasbord of evidence from other academic studies which try to demonstrate the link, each in its own particular narrow way. The first study shows that patents stimulate IP transactions, particularly when the patents are held by small firms. That's that stuff in the blue. This was an indirect study. Alfonso Gambardella and colleagues did a study based on where they surveyed patentors, inventors in the European union and they asked them about what had happened to the patent. And they found that, you know, some fraction of the patents were licensed. And the biggest driver of licensing was the size of the entity that held the patent. Small firms are much more likely to license the patent. Again, it's not -- none of this should be surprising, but it's always good to get systematic confirmation.

This is a chart produced by Rosemarie Ziedonis. And what this, the red area, is the percentage of firms in our sample which are -- which specialize in design, in other words, they don't make stuff, the non-manufacturing entities as they're called somewhat pejoratively at times. For me,

time of when these guys start, you know, becoming significant and it coincides again with, you know, an early eighties, with the changes in the patent system.

Here is evidence from an older and cross-sectional study, which looks at the role of the analogue of these non-manufacturing entities, these what I call specialized engineering firms, these are firms that mostly specialize in design and construction of chemical plants of all kinds, and frequently are responsible for minor technical advances and occasionally for very substantial ones. And the point of this slide, once again, is those chemical subsectors where you see a lot of patent activity are exactly the sectors where you see these small companies.

So, what I basically tried to -- tried to argue is twofold. One is there is a relationship between patents and licensing. And second, this licensing activity is correlated with this emergence of these companies that don't make things but are other technology suppliers. I like to think of them, in the value chain, these are the guys that are producing technology, perhaps small innovations, certainly diffusing it and certainly making it available broadly.

Why does this matter? Well, it matters because

entry into the product markets. So, the second chart, with the numbers, is the share of world exports of chemicals over 100 years. And what I'd like to do is draw your attention to the last row, and look at the tremendous share of exports from outside the traditional suspects, America, western Europe, Japan. It's huge. It's over a third.

And you say, of course, chemicals is a mature technology, who cares about chemical exports. Chemical technology is actually much more recent than automobile technology. Automobile, the basic internal combustion engine is over 150 years old. And ask yourself if you produced a similar chart whether you would get 33 percent, and this is circa 1993. So, you know, if I did, updated this table, that 33 percent would be a lot bigger.

Why is this relevant? Because this is evidence that when you get a market for technology operating, you're going to get a lot of entry, this technology will diffuse broadly, and this technology will find itself to customers or to users who would not be able to generate this technology themselves.

In this chart, there happens to be companies in the developing world, but I have other charts, and I can assure you it's true, it's also true for small companies in America. Okay. The same for information security software. Same with -- let me zoom through this. The same is true for

pharma and biotech.

Let me say a few words, since Scott is here, let me inoculate you against what he's going to say, which is there is a lot of fuss about how patents have been interfering in research. And that is probably true. That is probably true. There has been a lot of interference. But the first chart, which is the percentage of originated compounds, that should give us pause because what this says is biotech firms are less likely to seek outside partners, rather than more likely over time. That we're drawing from this market for technology. They're seeking to develop the compounds themselves, which could be the reason why

That is an example of the anti-commons, and that is really rare. Right? Where one guy is holding a veto.

So, let me just end on this note, which is I think we heard in the keynote, that bad patents can create problems. But in the spirit of not doing any harm and at a broader level, I think it's a really bad idea for policymakers to choose between business models. I think it's a lousy idea. This idea that you would privilege manufacturing because they make stuff versus because their business model is to sell technology is a horrible idea. And this prejudice in favor of market, you know, of material production is simply a prejudice.

Thank you.

MR. SCHRAG: Thank you very much, Ashish.

MR. STERN: Thank you very much for organizing what I think is a very, very interesting set of workshops and raising a bunch of, I think, critically important issues. And what I'm going to do is essentially build, quite directly, on what Ashish was talking about in terms of trying to understand, not in some sense the -- or I'll start with, in some sense, the discussion of the impact broadly of intellectual property on the market for technology, and then sort of divert over time to how the operation and rules that govern the patent system in actuality, the actual rules that govern the issuance and granting and allowance of patents,

rights facilitate transactions, facilitate in some sense a good match between the development of the technology and the way in which it is commercialized, in which it's commercialized enhancing commercialization. In other words, IP rights enforce the market for ideas.

Markets for ideas have many powerful and good ideas associated with them, but to be clear they can sort of undermine. One thing we might worry about is that they do have this potential to undermine Schumpeterian dynamics, where entrepreneurship and innovative entrepreneurship serves as a kind of dynamic check against the exercise of market power. And moreover so whether or not you have a market for ideas turns out to be quite crucial as a driver of the evolution of innovation-driven markets.

When you have a market for technology, incumbent competitive advantage can be reinforced rather than supplanted by technology entrepreneurship. As Bill Baumol, I think, has said, and quite eloquently, we've ended up in the David and Goliath symbiosis.

Once you have, moreover, how those innovation markets evolve, shapes over time the development of the commercialization environment. In part, that happens because things happen in the market. The fact that there have been lots of deals in biotech means there is a whole

supports deals in licensing and activity in biotech.

Moreover, think about the panels that were here yesterday, the established industry activity participants are going to shape and try to influence the development of policy rules and institutions that support and reinforce the IP marketplace per se.

With all that, there is a body of research, and I think Ashish really -- and his -- and his coauthors and colleagues have really been at the forefront of kind of pushing forward the body of empirical and theoretical evidence in this area. What I want to do is, in part building a bit on that work, is kind of highlight one broad hypothesis that I think is worth keeping in mind. And I'm going to call that, for lack of a better term, the commercialization hypothesis. That effective intellectual property promotes trade in the market for ideas, and, therefore, enhances the efficient cooperative commercialization of new technology. And to be clear, once you have that hypothesis stated, you can see where the benefits come from.

On the one hand, if you have particularly these little guys, you know, right, if this technology is coming from these entrepreneurs, and smaller ideas-focused firm that Ashish referenced, you're going to end up with more rapid product market introduction. So, there is going to be

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being entered into this process, there is the potential for inefficient holdup and commercialization. I think particularly once you get the idea that the patent system as a practical matter isn't assigning property rights, it's assigning probabilistic property rights.

particularly in the area of competition policy and innovation policy, is a probabilistic problem. That essentially rather than simply assume that the operation of the IP system establishes well defined and forcibly and timely IP rights, instead what we have is we end up with quite noisy rights that result in uncertainty over patent grant and scope. Are you going to get something and how much? How effectively are you going to be able to enforce this stuff? And how expensive is it going to be? And is this thing even patentable in a broad sense? In particular, is the subject matter patentable? And that is going to be particularly important for emerging technologies.

In the remainder of my brief time, how much time do I have? Okay. Okay. Can I take two more?

MR. SCHRAG: Okay. Two minutes.

MR. STERN: Okay. I want to describe very briefly how the operation in the patent system impacts the welfare arising from the marketplace of technology. The first point is we've got a body of relatively recent research that simply identifies in, I think, a reasonable way, that the patent system matters for commercialization, and the operation does. What this graph is is it's essentially how likely are you to achieve a license, your first license on the technology, relative to when the rights associated with the license are clarified through the patent allowance,

basically the notice of patent allowance. And what you can basically see is that in these markets where you see a lot of licensing by entrepreneurs, there is a dramatic boost right after the patents are granted. And, right, we all know from the facts about the patent system that is a very noisy process. And it suggests that shifts in that margin are going to shift the efficiency of the commercialization process.

Second, there is the impact of uncertainty over patent validity on the market for ideas. I'm actually not going to discuss, as I would in many other forums, this kind of contentious and ongoing debate that I think is well covered about IP enforcement by non-producing entities. Are these patent trolls, or is it the patent flash of genius?

The probabilistic nature of patents, though, suggest that litigation patents may reflect a significant loss of social welfare from the market or from technology. There's the potential for holdup. The potential for rational ignorance. Essentially production-oriented firms may just not worry about the patent system when they're developing their own ideas. And there is this strength of weak patents which raises, yeah, raises the potential to initiate a collusive agreement, to initiate a monopoly product outcome even when the upstream IP rights are weak.

So, what happens in the IP -- and so the

question -- so let me just -- let me make sure I say at least this. Is a key issue is that what Ashish and myself and this body of emerging evidence has mostly looking at ex-ante licensing of technology in commercialization, as emphasized, is that there is a very productive activity if an ideas or technology producer is able to enhance commercialization. But if everything is being done ex-post, what you essentially have is inefficient commercialization followed -- because the technology is not being transferred effectively ex-ante, followed by costly litigation. And I would raise that up that there is a difference between ex-ante and ex-post when you consider the efficiency and welfare consequences of the commercialization environment.

More broadly, an effective IP marketplace has tremendous potential for the creation of social welfare, and formal intellectual property plays an important role, and a causal role in the development of markets for these ideas. However, a principle constraint on the IP marketplace is the operation of the patent system, and the current system essentially fails to deliver timely rights, nor does it offer sharp incentives for ex-ante pro-competitive commercialization strategy and outcomes. Thanks a lot.

MR. SCHRAG: Thank you. Next up is Jim.

MR. BESSEN: Hi. Thanks for having me. So, I'm going to give a -- I'm going to talk more about patent

notice than the previous two speakers have. And maybe try to draw some connections to things that they've talked about and that Herb talked about earlier. I'm going to start with maybe just reviewing what I mean by a market for technology and I think it's important. Scott just used the phrase "market for ideas," and I'm thinking maybe about a broader concept. I think a market for technology is more than just a market for pure ideas. You have several different types of things.

One is strictly patent licensing. Companies form a license and what is transferred is the right to use the patent. Second, what is traditionally called technology licensing, which includes -- might include a patent but it -- or it might not include a patent, but it also includes everything you need to be able to use the technology. And that is more than just an idea. It's know-how. It might be access to laboratories, it might be training, it might be specialized equipment.

The third is, I come from the software industry. Joel didn't mention I was an entrepreneur and innovator. What is very common in the software industry is that these things are then blended together with a technology that is embedded in code or some other form, in our case code, and, actually, is sold as a product. And in software that works well because, A, modularity, things can be broken down into

little pieces, and B, trade secrecy is often very effective in the patent world. But all of these things are different types of markets.

We want to focus on what is -- if I can generalize what people have said about the benefits of why we want -- why we're concerned about markets for technology. It's that it allows heterogeneity. It allows the best technology to be brought to the best use. The commercializers may have assets that might are better at bringing the technology to market. The garage inventor might be the one who has the unique idea or the unique perspective for whatever reason to come up with it in the first place. And a market allows those, that technology, to be brought and brought to market in the best and most efficient way.

If you look at the different sorts of markets that we might consider under the umbrella of markets for technology, we're really talking, then, in terms of this best use argument, about the latter two. In the latter two, it's real -- it's a complete technology that is transferred, not just the patent right. There may be some social benefits, the pure patent licensing, in that it reduces litigation. That's a different sort of social benefit. It's kind of like the benefit of giving a robber my cash so I don't get shot. But I don't -- it's not really what we're talking about here. The real benefit in terms of bringing

hire a surveyor and know with a great deal of certainty that the building that Scott wants to put up is really going to fall on my plot of land. Since possession is so much a part

clearance is not done by the major players. It's very simple -- you know, you can look at that and say it's not being done. Cockburn and Henderson did a survey of the IPO and, you know, I believe it was 60 some percent of the respondents said that they did not always perform a clearance search before they brought a product to market. It's cut and dried. That says very clearly patent notice isn't working properly.

What is the significance of that? Well, we find a difference by technology. But I'm going to pull two graphs from my book with Mike Meurer. We estimated essentially the profits from worldwide patents and we estimated litigation risk, which is a lower bound on dispute risk. And the first chart shows -- these results were public chemical and pharmaceutical firms, and the blue line represents the profits, and it's much greater than the dispute risk. And we can say, you know, our interpretation of this is that for these industries the public notice function works very well, disputes are really a small part, although there is a worrying upward trend, but they're really much smaller than the benefits that derive from patents.

When we look at other industries, though, starting in the mid nineties, at about the time the Federal Circuit, some of its decisions took bite, we see that the litigation risk starts outstripping the profits from patents till by

1999 it's roughly triple. And our interpretation of this is that beginning in the mid nineties, the erosion of patent notice accelerated and this became a very significant problem.

Okay. So, what is the significance of this for markets? In an ideal market, say you have a competitive market where there are many buyers, the seller who might be a garage inventor puts -- puts their technology out there for sale, there are lots of buyers, the buyers express their value and ultimately the market will settle at a point where the price that the seller gets is what the buyer values the technology at. And that is what economists love to call Pareto efficiency, and it represents an efficient functioning in markets. And what it means in the story I'm telling you, it means that the seller is getting the value of the best use of their technology.

But when you add notice problems, the buyer has to take into account dispute risk. This is a simple point and it's widely misunderstood. That reduces the amount that a buyer is willing to pay in that market. What evidence do we see of that? Well, oh, no, no. I'm jumping ahead. I'm jumping ahead.

So, that reduces what the inventor can get for their -- get in the marketplace. It also reduces the efficiency of the marketplace. So, one thing to focus --

and this is particularly broad. For one, it means -- it even applies to technology agreements that might not involve patents. So, the two players might not -- you know, I might be licensing a technology to Scott, we're not worried about patents because maybe it's software, maybe trade secrecy is fine, but if Scott faces a risk of a patent suit, he's not willing to pay me as much. And we might not be able to conclude a deal because of that.

The second thing is it affects our ability to form an agreement at all. Basically, it means that the inventor has to be in the insurance business as well as the technology business. I've got to either indemnify my buyer that my technology is owned and that it is sufficient, and that they're not going to face significant risk. The fact of insurance markets is if you have a small player without deep pockets, they can't indemnify anything worthwhile and that means that some deals aren't going to happen, number one. And number two, there are problems of asymmetric information, moral hazard, adverse selection. Those are going to mean that deals don't happen that could happen. And there is some evidence that this is true.

So, there was a survey in Europe where, actually, 39 percent of the patentees who wanted to license couldn't. There are a number of studies which estimate patent value and one of the things they typically find is that small

entities have less valuable patents. One interpretation of that is that the large entities have the resources to commercialize their own patents. If the market were working efficiently, small entities would be able to license them to the large entities. If the market doesn't work efficiently, the value they can realize is less.

Carlos Serrano has done some analysis from the gains of trades from patents held by independent inventors and they're relatively small. A lot smaller than many of us think they should be or could be. All that he is saying that poor patent notice is affecting -- I'm going to skip that. We can maybe get into it later.

But basically the bottom line is improving patent notice will improve the markets for technology. Thanks.

MR. SCHRAG: Thank you very much, Jim. Bob is up next.

MR. HUNT: So, I want to thank the organizers for inviting me to participate in today's hearing. And I especially want to thank them for not asking me to talk about AIG. I have to do a disclaimer. These are my views. They are not those of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

So, I'm going to say a bunch of things that are probably very obvious to everybody in the room. Let's think about our objective here. What we want to do is maximize

these things tell us something about the efficiency of our innovation system. This gets us at quantifying the amount of money being left on the table.

I'm going to make a couple of simple points. First of all, can there be too many patents relative to the amount of R&D that is going on? And the answer, at least in a theoretical model, yes, but it's a very special case. It involves a certain set of factors. In particular, you have to have productive R&D, people have to be inventing regularly. Patents have to be cheap relative to the cost of R&D, and the revenues generated in the industry. Third, there has to be considerable overlap in the property rights that firms are obtaining.

Now, that may be an artifact of technology or it could be an artifact of the way we define property rights in the patent document. And fourth, there has to be a relatively weak relationship between the process of inventing something and the process of obtaining property rights.

Now, in such an environment, you can decrease the cost of obtaining patents, you could lower filing fees, or you could lower the standards by which we examine patent applications. And the result will be less R&D and not more. And it's very simple. What you're doing is, is lowering the cost of investing in a tax on the other guy's R&D. Now,

firms are going to respond to incentives. They're going to substitute away from their own R&D, and they're going to invest more in patents.

Now, you can ask, well, would licensing solve this problem? And, in fact, an ex-ante license, in other words, a license that the firms would agree to before they make their R&D and patent decisions, could quite likely sweep out a lot of these wasteful patents, and, so, you might be able to improve R&D incentives. But it's not so clear, as Scott was pointing out earlier, these kinds of contracts may also dampen the incentives to do R&D in the first place. And, so, you have to design these contracts very carefully.

But before we think about licensing, we might want to attack the environmental principles that make this possible in the first place. In particular, we might want to tighten the relationship between what an inventor invents and the property rights that he or she subsequently gets.

Another point, and this has been alluded to already a little bit today, in the United States, private R&D has become deconcentrated over the last 40 years. Okay. This is some work that Leonard Nakamura at the Federal Reserve Bank of Philadelphia and I have done. This is data on publicly held companies, and so take yourself back to the early 1970s. Focus on 70 large industrial R&D performers, firms that have been around a long time, that would be the

red bars in this figure, they would account for the majority of private R&D being performed in the U.S. economy. Just 70 firms, okay. And over time what has happened is that they have accounted for a smaller and smaller share so that by the turn of the century they account for less than a third of all private R&D amongst the publicly held companies.

Now, set aside measurement issues and some issues about exit and mergers and acquisitions, all stuff we have to deal with in our data. The point is we have a lot more R&D performers today than we did 40 years ago and, those firms perform a lot more R&D than they did 40 years ago. That's why we have this pattern in the data.

Now, I'm going to skip to the National Science Foundation data which has the virtue of including also the private companies in their survey. So, the first thing to observe in this figure is something I think we all know, which is that the private U.S. economy has gotten more research-intensive over time. Very long-run trend in the data.

Secondly, you'll notice that in the early '70s it was the very large companies that were more R&D intensive than the smaller firms. And what happened by the end of the 1980s is that the smaller firms caught up. Okay. And that is also true in the other data that I worked with with Leonard.

Now, another way of presenting this data is to decompose the R&D that is being performed by firms of different sizes and then ask what is contributing to this overall rise in the research intensity of the U.S. economy. So, that is the black line in the figure that we have up here. And then the colored lines are the breakdown by firm size. And what you see is that after about 1980, almost the entire rise in the research intensity of the U.S. economy is being driven by the increased research intensity of the smaller and younger firms in the data. Okay?

Now, Leonard and I do some modeling and some additional regressions to try and explain why you get these and some other patterns in the data. And the conclusion we reach is that there has been a structural change in the U.S. economy. It's a little bit different than the stories we've heard so far today. We think that the issue is falling barriers to entry. And in particular, it has to do with these costs that a firm has to sink in order reach the final goods market or the final services market, and these are costs that you sink after you do your R&D and after you invent. And so this is a structural change that is not necessarily about the R&D process, but it affects the returns to R&D, both for established firms and for firms that are contemplating entering the market. Okay.

Why do I go through all this detail? Well, it

means that we have to think a little bit about reverse causation. Now, Leonard and I are not taking a very strong stand on this, but what we are saying is that we don't think that markets for technology are the primary driver of the deconcentration in R&D that we have in our data. We think that that is more likely correlated with ubiquity of the personal computer. On the other hand, the deconcentration of R&D that we clearly observe in the U.S. data may explain the growth in markets for technology. Okay.

And there are two implications for that. First of all, one of the first order of questions that we need to be discussing today is whether our innovation system is optimized for this deconcentrated R&D. When we have tens of thousands or hundreds of thousands of important R&D performers, do our institutions serve that market well? And if not, what things do we need? Secondly, efficient markets for technology are more important than ever. Everything that Scott and Ashish were talking about earlier only becomes more important when you look at this kind of data. It influences the terms of trade between younger and older firms, a point that Jim was making a moment ago. And secondly, any dead weight losses that arise in this market mean less entry and they mean less overall R&D. Money left on the table.

Now, what I want to close with is an appeal for

more systematic data for the U.S. economy on licensing. Okay. What I would say is that at this point in time we can't really do a full assessment of technology markets in the U.S. economy. Now, we have in this room probably the expert on what we know about markets for technology and I think his work is great. This is not a critique of Professor Arora's work. I think what we know from his work is how these markets function in particular industries at particular points in time. My only criticism is we need a hell of a lot more of this kind of research. In particular, we need to know a hell of a lot more in the services sector. And Ashish actually gave an example of one small part of the services section in his slides. But we need a lot more of this kind of stuff.

And, so, I would say that at a minimum we should be looking at surveys like the Community Innovation Survey in Europe and some comparable surveys that are done in Japan and ask yourselves if we could at least do as well as those surveys do in gathering data on licensing activity or we could do even better. And we should be -- we should be doing these surveys systematically, and we should be doing them inside manufacturing, we should be doing them outside of manufacturing. And my last plug is and we should be doing these in financial services.

Thanks for your time.

MR. SCHRAG: Thank you, Bob.

with each other, to coordinate with each other. And getting those people who are different from each other, specialization and division of labor, who act like modules, modularity, getting those people to plug into each other, to interact with each other requires coordination, and patents can be shockingly good at achieving that effect. A very good form of coordination.

When they do that well, and they can actually do that very badly too, we'll talk about that, but when they do that well, what they are doing is, in fact, serving as antimonopoly weapons. They help the Davids compete against the Goliaths, they bring new business marked -- new business models to market, they bring new businesses to market. That increases distribution and that increases competition.

I'm an academic and I should tell you that I figured this out. I just didn't figure this out. A lot of other people figured this out. In fact, the people who implemented our present patent system figured this out. I

implementing that system, this is what they were focusing on. And, so, this is not kind of post hoc rationalization. This is, in fact, exactly their goal, was to focus on commercialization.

Now, how is this going to happen? How is this good coordination story going to play out? And I think when you think about property enforcement you can think about it as not control mechanisms. Most people who discuss patents as good or bad because they're strong or weak, talk about them because they empower patentees to control downstream innovation. Some folks like that, some folks don't like that. I think that is a wrong way to think about it. It's not about control. It's about coordination. It's about starting conversations. And that is a much softer story. You turn out all the lights in this room, you close the blinds, the room goes black, you give one person a flashlight, and everybody else in the room knows exactly where that person is. And if they show up at the flashlight, they'll find not only the holder of the flashlight, who turns out in this story turns out to be rather inconsequential, by the way, they'll also find everyone else who is interested in the flashlight.

going to get maybe later, maybe if you bring a lawsuit, maybe if you win the lawsuit is maybe a small amount of "reasonable royalty damages." Those damages are a good substitute for a direct cash investment, but they're a very bad substitute for these relatively unique assets.

And I think that these enforcement rules, called liability rules, relatively weaker enforcement, not only do they frustrate this good coordination story, but they facilitate, I think, a very, very seriously bad coordination story, coordination among large established players I call a Keiretsu effect, named after the large conglomerates in Japan, the Keiretsu. If you think about how the large, established players would like to coordinate with each other to keep out market entrants, I actually have -- we can talk in more detail about this mechanism, but these shifts in enforcement rules, I think, in fact, not only frustrate the good coordination, they facilitate the bad coordination, the anti-competitive coordination. And I think that actually may be explaining some of the behaviors in some of the other talks today, which we can talk about.

So, the property rules popular views today are that property rules are killing us. They are, you know, threatening the world with shutdown, cats and dogs will live together. We've all read the Op-Eds in both the New York Times and the Wall Street Journal. We have seen the

discussion. I think these terms are familiar to most of us.

Our response has been to change quite a bit. And I think to change in ways that overlook what we've already been doing. You see, it is absolutely true that property rules cause bargaining breakdowns in a range of ways and you need to build into your system so-called pressure release valves. It is true that I can be rationally biased, I can engage in strategic holdout, and so can you. We can have breakdowns in our deals. But what most of the literature has overlooked is that we have actually, as smart human beings, built into our system a set of pressure release valves to mitigate the dangerous effects that property otherwise can have.

First of all, we have corporate form which creates limited liability. We have bankruptcy. I can be an infringer, make a massive amount of money, okay, and as long as I pay myself non-fraudulent transfers, seven years later, when you beat me in an infringement lawsuit, I get to keep all the money I made simply by declaring bankruptcy and walking away. Corporate form limited liability in bankruptcy insulate me from your irrational biased or my irrationally biased holdout. Business models get done against the shadow of bankruptcy and corporate form, they're wonderful things. We also have government immunity in Hatch-Waxman, there are lots of other targeted areas.

What I think we've overlooked is we've drastically changed the system in the last 36 months, in ways that I think most of you are familiar with, so, I'm just going to quickly go forward. These are all recent cases and I think when you aggregate those recent cases, they interact in a way that, in fact, makes it meaningfully difficult for almost anybody, except a large, established player, to get an injunction. And that, I think, is a problem because they're the ones who probably have the least need for it because they have other ways to force people to have conversations.

So, let's talk about the way you transact with somebody. You see if it is scientifically true that property rules can cause too few transactions, and I admit it is, it must also be scientifically true that we can have too many transactions and yet we don't seem to recognize that in the literature. Put differently, a compulsory license is not a deal, it's a forced deal, a deal that one side didn't say yes to is not really a deal. In fact, if you intervene when you and I act irrationally, and I know that ex-ante, I'll poke you in the eyes and call you names and make darned sure we do act irrationally so that the court will intervene, that will be my strategically dominant game.

Now, it is very, very hard for property owners to

hold somebody in to a conversation because that person knows they can simply go ahead and infringe. And, so, while hold out is scientifically a problem, so, now, has become hold in, and we are almost not talking about that and we must talk about that.

We also have lost the ability to have exclusive conversations with other people and this particularly targets small firms. So, in addition, we can talk in more detail about

it's impossible to understand what the patent says for somebody who's not a lawyer. And this is, I think, a horrific thing. So, you know, the other part of the enemy is you guys. Lawyers write patents in the most horrific ways. Why that should be so, I mean, I can see what the private incentives are, but as a social system, it's just lousy.

MR. SCHRAG: Scott raised the issue of transactions that occurred *ex-ante* versus *ex-post*. From a welfare point of view, I got the impression that you would generally argue that it's the ex-ante transactions that are more valuable.

MR. STERN: So, right. So, Ashish wrote an article like 13 years ago now, one of your hidden classics in the literature but, you know, not as highly cited as others. You know, where one of the -- I think the -- a key piece is that, and I think Scott Kieff talked about this as well, is that you have these patents, and when it works well, as it does in areas, you know, by and large in some of the biotech contexts in chemicals, what you see happening is that the patent becomes the full, you know, kind of the center point by which a lot of technical information is being exchanged between experimental innovators and potential commercializers.

So, in some sense, whatever you see in terms of

the kind of top line number in terms of licensing receipts may actually, in fact, be an underestimate of the amount of productive knowledge that is being transferred, you know, across organizational boundaries and being sent from a locus of innovation to a locus of -- to the locus of application. When it works well, that is a really powerful thing.

And I think that, you know, when you see that done the right way you say, huh, this is a really cool system. If what is happening is that there are strategic incentives to -- to actually only enforce after somebody's reinvented the wheel internally, doesn't take -- not only are they infringing on your now disclosed patent that was maybe, you know, continuanced whatever, but even more so they don't benefit from all the other tacit knowledge, that complementary knowledge that the innovator community had.

So, we should be -- my sense is there has been relatively little analysis of the difference between the evolving IP marketplace as actually facilitating effective commercialization, as opposed to a bunch of ex-post payments that might have involved a lot of duplicative R&D and ineffective capturing of knowledge across boundaries.

MR. SCHRAG: Jim?

MR. BESSEN: So, let me draw a further connection with patent notice. Maybe this is obvious, but in theory, a license -- a licensee is going to be better off if they can

license ex-ante. Why? Because if they go sink a cost, then they're exposed to holdup ex-post. So, it's in their advantage. And they will do it if things are well defined. When there is poor patent notice, they can't do it. Either it's too expensive for them to search, it's too unpredictable for them to know, and so that is how we end up with these situations where there are ex-post settlements which are not necessarily socially beneficial.

MR. SCHRAG: Scott?

MR. KIEFF: Well, I think that that is true, but only to some degree, and so I'm worried. I'm worried about a few things with the notice story. First of all, the changes that I just briefly outlined in the law, but I think we're all familiar with, are changes that ironically I -- at least I, as someone who works in the field trying to do what Ashish would ask me to do clearly for my clients, I now can do only it in a more confusing way. Which is to say that all the changes in the law have drastically increased uncertainty, increased unpredictability, and made it much harder to transact.

In fact, I think the only degree of certainty you may now have in some of these areas after a case like Quanta and MedImmune, is that you cannot transact. And, so, at least in any way that both sides of the transaction would want to do the transaction. So, I'm very, very sympathetic

to the complaint. But I think what we're often overlooking in the literature, including in present debates, is that the particular institutional changes we're making, the particular changes to the little legal rules, are all having the effect of increasing the uncertainty.

MS. MICHEL: Scott, how do those recent legal changes increase the uncertainty surrounding claim scope?

MR. KIEFF: Sure. So, they may not increase the uncertainty in every dimension of the patent system. And you happen to have asked one where I would actually -- I have been -- long been a proponent of rather strict enforcement of the section 112 disclosure rules, the rules that govern both how you interpret the claim and how you cabin the claim's interpretation by the disclosure as originally filed. And I think those rules make great, good sense for two reasons. One, the patent drafter at the time she drafts is the lowest cost-avoider of ambiguity, and the lowest cost -- because she's the drafter -- and the lowest cost-provider of the information about which direction ought to be tapped in because she -- she is the one who is going to be the residual claimant of the asset. So, why not let her make that choice, and then why not generally hold her feet to the fire on that.

That's not a corner solution in the debates about more or less. That's an organizational or institutional

as well, but here is some different natures of uncertainty. We're particularly good at dealing with overall stochastic uncertainty, human beings, risk managers. We're particularly good at dealing with --

MR. STERN: That would have worked --

MR. BESSEN: AIG?

MR. STERN: -- better six months ago, Scott.

MR. KIEFF: But, I mean, you know, within -- within -- you know, within boundaries.

UNIDENTIFIED SPEAKER: We're used to dealing with that.

MR. KIEFF: And I have faith in my economist friends. But I think that, in addition, and I don't mean to beat up on my lobbyist friends, that is a form of uncertainty that we're especially bad at managing towards. Except in the way that it almost always favors large established players over small players. And, so, if you shift legal regime change to the power of K Street, then you have got a massively different form of uncertainty that I hope even you would be very uncomfortable with, and, I think, that ironically the legal hooks, the legal tools we've been using to change have been legal tools that are very, very, very responsive to political economy pressure. And what that means is that we are in a game that is either, A, horrible for market actors, or B, really, really

comfortable for very, very large market actors. And neither of those worlds is a world we want to live in.

MR. SCHRAG: Bob, do you --

MR. HUNT: I want to emphasize what Professor Aurora said maybe 45 minutes ago, which is that we do not want a patent system that selects business models. Even if we could pick the right business model today, it will be the wrong one in five years, and it will take us 30 years to change what we do today anyway.

We're in a process -- we're in such an incredible state of flux in terms of the organization of all of these different industries that this is just an issue that has got to be, you know, up front in all of these debates about the different margins by which we might change the patent system.

MR. SCHRAG: Do you think that there are no business models out there that should be unfavored or -- that is not a very elegant question. But I'm just thinking in terms of, you know, Scott's distinction of ex-ante versus ex-post licensing, obviously there are some business models that appear aim more at, you know, a royalty extraction.

MR. HUNT: Well, this -- this gets --

MR. SCHRAG: This is a knowledge transfer.

MR. HUNT: Right. This gets to this distinction about the nonpracticing entities and this debate about

we really -- there is this legal system that has a group of rules that is really, actually, very poorly designed for the thing that all the economists emphasized. Because we really don't have a marketplace for technology.

Those that do exist at some basic level, like

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annual trade conference. Something like -- and I'm -- I don't want to over -- they have the number. They know that something, an absurd share of all deals consummated in the biotech industry are organized around the meeting, all the sellers are there, all the buyers are there. There is lots of trading. There is lots of thinking about what the alternatives are. And all of it is ex-ante, from my definition, ex-ante contracting. That powerful social mechanism is, I would bet you just going to Bob's earlier point about what was done in other industries, I think we know by design, because you have to know about it, you have to see it. We know that that sort of kind of active marketplace for ideas is -- or technology, is really not present in many other sectors where it could be incredibly powerful.

is truly property we, you know, how hard would it be to say, okay, register it. One way to do it is to charge a small tax. Charge a tiny tax. The reason the government does all this is because I have to pay them a tax when I buy a house. Charge them a tax. It won't, you know, it won't be prohibitive if it's a small fraction. And it will get the data going, and you get comparables.

And I know it's, you know, these things are not exactly like, you know, real estate, but you get a market in old masters. You know, there is some sense of what a van Gogh is supposed to be worth. I find it impossible to believe that we cannot, therefore, figure out what technology is supposed to be worth.

MR. SCHRAG: And, Ashish, maybe you can comment on what we would have to have in that registry from your perspective, and frequently technology licenses are very complicated animals.

MR. ARORA: You're right.

MR. SCHRAG: It can be hard to reduce them to --

MR. ARORA: Sure, I mean, so, you know, Herb Simon was the reigning deity at Carnegie Mellon, would always -- always say, "And what have you got?" And, you know, which is something beats nothing. So, we can have a discussion of what should be there, but something should be there. And let's not stop this idea that just because we cannot get the

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patented biological and physical materials. That was, right, a bunch of years ago, was, you know, would have been 80 percent of the, you know, or some great share of debate would have been, you know, are we destroying our universities with too many patents? Right?

That has alleviated, in part, because there were real institutional responses in which a single contractual solution kind of overcame, and the fact that there was a bit of coordination at an institution-building level across the universities, really made for much more effective transactions. And I, once again, I wouldn't say it's completely solved, but it's much, much better. And we have a recent paper looking at some of the stuff that NIH did in that area recently.

Key point, though, I would certainly agree with Bob that we don't want to favor necessarily centralized exchanges over bilateral transactions in the broadest sense. But the fact that we're talking, if you believe the numbers, as best as I can tell, three order of magnitude difference in the propensity probably says there are just, you know, we really don't have these markets. We have -- we have something that is very different than an exchange system. We have very -- right? And exchanges require institutions, and last time I checked, maybe I'm very wrong, but it is the scope of activity of the Federal Reserve Board and the SEC

to manage our financial markets, just the amount of people

It's easy to imagine in a theoretically efficient world where everybody does the same thing. But no one would want to live in that world. And, so, those variations are the ways in which different business models exist. And you would take those away if everybody had to reveal everything they were doing to all of their competitors.

MR. SCHRAG: Bob, did you want to comment?

MR. HUNT: The one thing that I wonder about is take the example Jim was using where you're using a patent as a way of perfecting a know-how transfer. And by

And I think that some the transparency is a policy issue, right, that to satisfy the antitrust concerns about the patent pool, there is some requirement that as a marketing tool, you have to sort of explain what it is and everybody has to know what it is presumably because of your review and others. I might be wrong. You guys --

MR. SCHRAG: Suzanne probably knows more about that than I do, but --

MS. MICHEL: Yeah, I think they have fairly transparent websites and the industry is pretty clear. I'm not -- not everybody -- if you're a participant, you don't necessarily pay the same price as others.

MR. STERN: But I want to say, I mean, you can see it in, you know, the research. Right? This is where the light shines down. It's for sure true that in the last seven and eight years, the numbers of papers written and the easiness of getting data about patent pools --

MS. MICHEL: Yes.

MR. STERN: -- is dramatically easier than everything else. And that is an area where you really do see something like a, you know, there is separate issues that you worry about the formation of - worrcL000 1s5m(that you worr

technology transfers, which I think, by the way, may make the market look a lot larger than some of the earlier

the way, with polyethylene and that is true with gasoline cracking and, I mean, we can go through a range of industries where there may be, indeed, problems with -- with notice and shock from the submarine surfacing.

But as I think Herb correctly pointed out, 18-month publication goes a long way towards solving that problem. And in almost all of those examples, there was 18-month publication on the European counterpart. And every good patent attorney for a potential infringer was reading the European counterpart application that was filed, developing her own understanding of the eventual claim scope that was going to issue, and that was facilitating the bargaining between those parties. So, there are ways to solve those problems and actual human beings have been using those ways. So, that is the polyethylene, polypropylene build-on.

On the real estate build-on, I think a lot of people make a lot of hay about the difference between so-called tangible assets like real estate and so-called intangible assets like patents. And I think this is implicit in part of what Jim was using, was mentioning in his -- in his example of and maybe this is not your argument but certainly Peter Menell, for example, has made this

kindergarten, for stuff you can touch. Those tangible assets have a fundamental built-in advantage for transacting, and people can transact better with those than they can over these legally defined rights. So, I agree with that, that it’s got to be true. It has palpable appeal to us all.

But then I realize -- and I'm in the process of moving to Washington and buying real estate -- I think everyone in this room who either owns real estate or has transacted over real estate has a set of easements on their deeds and I bet you none of us understands them. I know I don't. I didn't even read them. And I bet you most of you don't. And yet they're commercially hugely significant. I mean, power companies couldn't get their business done, cable TV companies, condominium units, co-ops. There's an immense amount of successful transacting over legally defined property rights called easements that are not tangible in any way and yet those markets flourish.

Now, they're hugely imperfect and the market for patents is hugely imperfect. There's an amazing amount of uncertainty in the market for patents, there is an amazing amount of uncertainty in the markets for easements. But they work. And I think that we need -- we need to really remember that. And I'll just stop by saying I think Adam Mossoff has done some writing on that point. And, so, he is

a professor at George Mason. You can read his stuff. But he's that -- that connection between markets for easements and uncertainty over easements and market for patents.

MR. SCHRAG: Jim, did you --

MR. BESSEN: Yeah, I would say there may be a generic point that tangible assets are easier -- it's easier to define the boundaries of tangible assets but there are plenty of markets for tangible assets that don't work. You know, a very large portion of the real estate of the entire world is possessed by squatters. You know, those are property systems that are -- that are not functioning well, you can look at.

MR. ARORA: No, they do. They work well. It's just not within the official ambit.

MR. BESSEN: The official, the legal property. Right. Well, and you have someone like DeSoto who will argue that it is really -- tremendously limits the potential because that is not being a legal property, it can't be used for collateral, it can't be used --

MR. ARORA: Sure. Yes.

MR. BESSEN: You know, you can look at other minerals where there is similar problems. But, you know, just because it's property doesn't mean it works.

MR. KIEFF: Yeah. No. No. I'm just responding to --

MR. BESSEN: Right. Right.

MR. KIEFF: I'm not making the point, I'm responding to the point.

MR. BESSEN: Yeah. Yeah.

MR. SCHRAG: Okay. I think Bob raised a question in his talk that I thought might be useful to turn to, and it sort of dovetails with some of the evidence other people have given. Namely, that R&D seems to be becoming more deconcentrated and, you know, there is more specialization, people who aren't necessarily planning on entering the product market. And you raised the question of whether IP rules are optimally structured for that kind of model. I don't know if you had an answer in mind and specific policy ideas, you know, for how to optimally adjust policy to -- to address that.

MR. HUNT: Let me make two points. One is that, you know, for a long time people have argued that patents are a big company game, that this is sort of a high cost property rights system to use and comprehend. And in some sense that kind of works against small companies. And if it's the case that we are getting more and more of our productive R&D from smaller firms, then we certainly want to think about whether, if that was true in the past, it's still true now, and we would want to try to mitigate that.

The obvious thing in my mind is that -- is this

to use the big guns of the federal government, criminal prosecutors, and the big guns of the statute on statutory damages to give them comfort. And that is the way the so-called fair use people get comfort is because then they have written into the statute what is fair.

So, those two interest groups got exactly what they wanted out of that deal. But that is locked in a set of business models that now contracting parties can't contract around. So, if I try to say to you, please give me content that might be within my fair use rights, and I'd like to pay you 10 cents for it, or nine cents, or one-tenth of a cent, right, any business model where the value is greater than zero it's illegal because it's preempted by the fair use statute.

So, you lock in business models. That is the way fair use, right -- the way fair use works is there is a statute that says what is fair. And the way preemption law works is federal preempts whatever is state and contract law is state. So, I cannot, under state contract law, promise to pay you something that the federal government says I get for free. You're looking skeptical at that, but --

MS. MICHEL: I'm just thinking it would have to be the purchaser who would later move to invalidate his own contract. Nobody else.

MR. KIEFF: No. No. Remember, a competitor

business model can argue that those contracts are void as against public policy, and that would be the argument in an antitrust complaint, an unfair competition complaint, or any one of another -- a whole range of complaints that could be brought. And, by the way, the competitor may decide ex-post to make that argument, which is, in fact, why a lot of sellers aren't selling to those customers because they are not -- they're non-enforceable promises. So, it just gives sellers and third parties free options to challenge. So, that is the copyright approach.

The patent approach is very different. There's no fair use or very, very limited. But the costs of enforcement are borne entirely by the property owner. Right? The federal government won't put you in jail for infringing a patent, and nor are there statutory damages. The property owner has to bring suit, has to win the suit, and then has to prove damages. And what you see is radical under enforcement in the patent system.

Now, Scott and I debate, and others debate about the extent of this under enforcement. But Ashish and -- I'm now forgetting --

MR. ARORA: Wes Cohen.

MR. KIEFF: There's -- yes.

MR. ARORA: Wes Cohen.

at for years, I mean, it's not at now, but no stock is, and stayed at, you would have made a 30 to 40 percent return on investment. Okay?

And, so, I think that while we recognize that there is stickiness, and while we recognize there is imperfections, we have to look at magnitudes. It's a $6 million dollar imperfection that then the alleged infringer took advantage of because they were ultimately happy to pay 100 times that because that was still less than what the market would have borne. So, you know, very, very complex settings here. Before we dive into what are admittedly problems on clarity and ex-post holdout, those are problems

valley of death. It's very easy to get things funded in a

forms for supporting those types of organizations and there have been a few. Right?

So, venture capitalists have sort of tried a bunch

institutional response to this valley of death piece, which I do think is probably the single pain point on the highest loss of social efficiency from those two pieces.

MR. KIEFF: To just build on that, if I may. I mean, so, I -- I think that that is an exceptionally important set of points and, in fact, goes to address part of what Jim was correctly pointing out are anxieties about after you do your basic research and then want to go commercialize it, are you going to be worried about getting sued for patent infringement? Are you going to get your own patents? Are you going to be worried about raising your own investors? And I think that one thing that government could do is -- is really help coordinate information on those ideas, to talk about best practices, to encourage state

you need to have happen because those early stage players often don't have the cash to pay regular legal fees, but there still are very valuable lawyers available to help work with them on what really will be an act of infringement and what won't be. What will be an act of infringement they're likely to get sued for, and what will be an act of infringement they're not likely to get sued for.

How they could get their own patents and whether it's worth spending that money or not. Whether it's better to get a big portfolio or a narrow but deep portfolio. Those are actually, when you talk to the valley of death people, the people who really suffer it and who really reach across it, those are almost all the solutions and then there are some others that are high purchase, high impact solutions, and none of those requires a change in the law, but they do require improving access to legal and business knowledge and legal and business skills. That's a role that you could play that would be wonderful.

MR. SCHRAG: Bob.

MR. HUNT: I think we want to distinguish between two things. One is that there is this selection problem that anybody in this business has to do, which is to identify the promising technology and the promising entrepreneur. And that is really about how you -- how you finance these things. I would think that in some sense the

U.S. is the envy of the world in how well we do that. And there is lots of countries that spend an inordinate amount of public money trying to replicate what we built and have had some success but not great success.

Then there is this sort of separate question which may be best put to the venture capitalists about sort of common risks to almost -- and they may vary by industry -- but common risks to all projects and entrepreneurs that may be created by the patent system, that maybe we can address somehow that lowers that hurdle rate for all of these projects and all of these entrepreneurs.

And if we had very good concrete answers about that, that is, you know, an area where -- that is what the public sector should be dealing with and then we can sort of -- we can let the financial innovators try and take care of the rest of that because that is an extremely, extremely hard problem, but fortunately one, I think, that we do fairly well in the U.S.

MR. SCHRAG: Yeah. Unfortunately, I think we're coming to the end of our time for our conversation. So, I guess people want to make a last comment, observation, any -- any final points?

MR. ARORA: Oh, I wanted to say one thing, a piece of information. There is a -- this is Bob Hunt's. We have been funded by the National Science Foundation and the

PANEL 2: FULFILLING THE PATENT SYSTEM'S PUBLIC NOTICE FUNCTION

MR. ADKINSON: Welcome back to this afternoon's session, and welcome especially to those who are looking at -- us on the webcast, and who will be looking at the webcast in future dates. It's on our website.

My name is Bill Adkinson. I work in the Office of Policy Studies in the General Counsel's office. I'm really pleased to introduce this afternoon's panel. It's going to address the patent system, whether it adequately fulfills its notice function. For example, whether it assures that firms that are seeking to develop and introduce technologies can obtain clear and reliable information regarding the existence and scope of patent rights that might cover those technologies. They're going to look at legal standards governing things such as claim construction rules. And also the examination, practice and procedures that affect notice. And consider possible reforms to those processes.

We have an extraordinarily distinguished panel here today, and I'm going to introduce them very briefly. Bob Armitage serves as the Senior Vice President and General Counsel for Eli Lilly and Company, and he is a member of the company's Executive Committee. Prior to joining Lilly, Mr. Armitage was a partner at Vinson and Elkins, and before that, he was Chief Intellectual Property Counsel for Upjohn.

Among his many leadership positions in the patent bar, he is a past president of the American Intellectual Property Law Association, and he currently is a member of the council for the ABA's Intellectual Property Law section.

Rob Clarke is the Director of the Office of Patent Legal Administration under the Deputy Commissioner for patent examination policy at the PTO. Mr. Clarke began his career at the PTO in 1990 as a Patent Examiner and started his tenure at OPLA in 1999 as a Legal Advisor. In 2005, he was named Deputy Director and was appointed to his current position in 2007. Among his awards, Mr. Clarke has received two Department of Commerce Silver Medals, one in 2001 for his efforts in implementing the American Inventors Protection Act and the second in 2004 for his work related to patent examination in the electronic environment.

Then we also have Professor Chris Cotropia who is an Assistant Professor of Law at the University of Richmond Law School, and is a member of the school's Intellectual Property Law Institute. He teaches intellectual property law and related subjects. He has authored numerous articles and books on patent law and has testified before the Senate Judiciary Committee and the U.S. ITC.

We have David Kappos who is Vice President and Assistant General Counsel for Intellectual Property Law and Strategy for IBM Corporation. Mr. Kappos directs IBM's

intellectual property law function providing legal counsel over all facets of protecting and licensing IBM's intellectual property assets. And he leads IBM's engagement in intellectual property law policy issues, as well as setting legal strategy for the company's business units.

Steve Kunin is a partner at Oblon, Spivak, McClelland, Maier & Neustadt, where he serves as a patent consultant who advises clients on patent prosecution and policy matters, prepares infringement and non-infringement opinions, and serves as an expert witness on patent law. He previously was Deputy Commissioner for Patent Examination Policy with the PTO from 2000-2004. And he served in a similar capacity since 1994. He received many awards for his service at the PTO, including a U.S. PTO Career Achievement Award and the Vice President's Reinventing Government Hammer Award. Mr. Kunin also serves as the Intellectual Property Program Director at the George Mason School of Law, where he teaches patent law.

Michael Messinger is the Director of the Electronics Group at the intellectual property law firm of Sterne, Kessler, Goldstein & Fox, where he works with company managers, directors and employees to identify and leverage intellectual property assets. He has extensive experience prosecuting U.S. and international patent applications and developing strategic patent portfolios.

Previously, Mr. Messinger worked as a Patent Examiner at the PTO.

Professor Arti Rai is the Elvin R. Latty Professor of Law at Duke Law School, where she has taught since 2003. She is an authority in patent law, administrative law, and the law of the biopharmaceutical industry. She -- her current research on innovation policy in areas such as green technology, drug development and software is funded by NIH, the Kaufman Foundation and Chatham House. She is published widely and is currently editing a book on intellectual property rights and biotechnology. She is currently chair of the Intellectual Property Committee of the ABA's administrative law section.

And finally, we have Terry Rea, who is a partner

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how you feel about how well the patent system is fulfilling the notice function. But before I do that, I've got to take advantage of this. I have been a competition lawyer, by background, and have never been able to use this word orally, but the patent system gives me this opportunity. I could be my own “lexicographer” here, and say that by notice systems, so we're all on the same wavelength, we're talking about enabling third parties to know what patents and patent applications cover.

So, I guess the opening question is, how well do you feel the patent system fulfills this function, and does your answer vary from industry to industry or from technology to technology?

will be the fate of those applications and claims, I do believe that that is a severe notice function problem.

same thing. And it's important to keep that in mind as we go forward because in biotech, for example, there can be situations of excessive breadth, with Markush claiming, for

actual patent portfolios are created. And I work with a number of companies, small, emerging, and large companies, that are basically looking at their product development, their research, preparing to commercialize and getting in the marketplace, and they're actually building these patent portfolios.

And what I find is with the existing -- a lot of the existing doctrines that hopefully we'll get into today on written description, enablement, claim construction, some of those kinds of issues, that there is some strong incentives in the current system to basically prepare a very well drafted patent, prosecute it very well, avoid ambiguity. The more certainty and clarity and specificity that is in the document, in the patent portfolio, which will put the public on better notice, it actually creates far more beneficial business situations where you're able to get the license you want, and that kind of thing.

So, what I find, with a lot of the companies, is these incentives are pretty significant. And in the regular course of business there are many situations where both parties are looking at groups of patents, often backed by very credible technology. And then they're sort of looking at the patents with a reasonable appraisal of the rights. With an understanding of where the technology came from, they're able to make appropriate business decisions on it.

hand and hold your thumb up. And I know today in the Midwest, being laid out in a perfect grid, that a place that is well defined topologically, a place that has been well surveyed, you can draw extremely accurate metes and bounds.

and the basis for their patentability. And then it's when you understand the claim and the basis of patentability that I think the notice requirement is most easily understood for a novel invention.

MR. COHEN: David, would you like to contribute your perspectives?

MR. KAPPOS: Sure, trying to add comments beyond what has already been said here. So, I would take the discussion perhaps even a little bit higher than we have so far initially, at least from the viewpoint of the information technology industry, where -- where my practice is focused. And that starts with directly answering your question with the answer, yes, absolutely, very clearly, the notice function is not working as well as it should for the IT industry.

There is a significant problem in our industry with claims that come out of the U.S. PTO that are unclear, that are ambiguous. And those claims invariably lead to conflict, which -- undue amount of conflict which isn't good for the system, isn't good for clarity, doesn't lead to the ability to conduct business, forces all participants, at least in the information technology industry, to spend undue amounts of effort on dealing with conflict instead of employing people, investing in doing research and development to create more innovation. So, I think there

really is a problem, at least in our industry.

The second thing I'd say is that there actually is an incentive in our industry, at least -- in the information technology industry, there is an incentive to be as vague and ambiguous as you can with your claims. And it's really very well documented and, in fact, it's recommended by the folks who teach people how to write patent claims and who advocate in favor of producing patent claims that have the most ongoing downstream value. And so, you know, it shouldn't be surprising to us that when people are being taught to write vague and ambiguous claims, they're going to do that. When they're being told you'll get more value out of your patents if you write vague and ambiguous claims, they will do that. And it then, therefore, shouldn't be a surprise that we have the amount of conflict that we do in a system that works that way.

The last point I make at this juncture is to say that there really is, at the highest level, you know, a sort of enough responsibility to go around, where all parties who interact with the notice function of patents can and should play a role. And that includes applicants on whom, in my view, the, you know, lowest cost to avoid should be exacted. The U.S. PTO, obviously, can and should and needs to play a really important role, and I hope we'll get to talk about ways that that role can be improved.

For The Record,

lose, kind of, sight of is that while we try to perceive or get greater notice, you're going to also tinker with scopes of substantive rights. I think maybe there might be certain solutions where that doesn't happen, but I think we'll see that a lot of these doctrines we're talking about will have impacts on the scope of the substantive rights at issue.

And, so, kind of expanding that point to kind of what -- what Bob was saying, I think that is why we need to kind of figure out what is our main goal here. And maybe notice needs to be considered in the basket with, well, what kind of rights do we need to maintain the optimum incentive to invent? So, we're not just looking at notice by itself, but we're looking at notice in the context of its substantive effect.

The other kind of framing point, and I think this kind of goes with this idea, well, what do we mean by notice, if we're talking about notice to competitors, the assumption being kind of notice kind of prelitigation and, I guess, optimally, before they make giant investments that end up becoming burdens on them, then we need to think about, well, if we're going to have solutions for notice, where should they be? And I would make my push to say, well, I think ex-ante and upfront solutions, kind of front end solutions might be the better way to go, absent how costly they are, in a sense of being able to have a

situation where, when the patentee is able to provide more information, kind of Bob's idea of when during examination we can actually have some kind of feedback from the applicant, and you have a more, kind of a multiplier effect there in the sense of that would be information that would help everyone, as opposed to information that just gets produced during litigation.

So, those are just some framing points I'd like to make.

MR. COHEN: And Terry?

MS. REA: Thank you, Bill. I guess when I think of words, they're fascinating but they don't have the precision and elegance of numbers. So, in the notice world, I don't think we're ever going to have something, a hard and fast type rule. And I do agree with Mr. Armitage on that. We also have to keep in mind that words mean slightly different things to different people, and that our words are viewed from the perspective of one having ordinary skill in the art. And even that is subject to a level of flexibility.

And then beyond that, these patents have to survive for 20, 25 years in some cases, and the perspectives of one having ordinary skill in the art, even if they were originally defined and identified, as the art progresses, theories, attitudes progress, and words become even more

flexible.

One point that nobody has specifically addressed dead-on is there is very, very different perspectives in this panel when it comes to technologies. I'm actually a pharmacist, so I work in the life sciences, pharmaceuticals, biotech. Mr. Kappos works -- lives in a very different world from where I live. I don't -- when I do a clearance opinion, I don't have to look at a thousand patents and for that I am grateful. But for the most part I'm dealing with an oral tablet, where I'm looking at, you know, an active ingredient, a formulation, perhaps a method for administering that to a patient for a desired use. And there is not going to be very many patents covering that, anywhere from one to maybe 10, at maximum?

In the IT world, it's a very different world. If they're bringing a new computer to the market, the number of patents that would cover what they're working with is just phenomenal. There is no way you could have one patent examiner allowing you to put all the new inventions that were invented to bring that patent -- I mean, to bring that computer to market in one patent application. And therefore, maybe 1,000 patents do cover that particular application.

So, I do slightly differ from my respected colleague on my right that a tax on people who develop too

many patents and file too many patent applications perhaps is not the best and proper use of the system. But unfortunately, you have to look at the technology, you have to look at the product, you have to look at what is being protected. And so, the variations in our system is -- it's -- we're not going to come to any easy answers today.

find in patents. So, we end up investing then a tremendous amount in conflict resolution that we don't need or we shouldn't be having to invest.

And I'm not trying to point fingers at either side of the equation, either the patentees or people taking licenses. It's not productive for people on either side of the equation.

And then, lastly, when it comes to finally sort of come to grips with the problem, right, whether it's in the licensing context or whether it's in a litigation context, I feel like on both sides of the equation, we're either getting or paying the wrong amount for these things because they can't be valued accurately. And I think anachronistically, in many cases, it may be causing patents to become devalued by having significant problems with the notice function, since we can't tell the difference between the good stuff and the bad stuff. When we look at that watch we don't know whether it's really a Rolex, so, we're going to devalue that thing, right? And on both sides of the equation, if it's a genuine thing you're not going to get enough for it because of the devaluation factor. And on the other side, you're not willing to pay enough for it because you're concerned that it might not be genuine

So, ironically, I think sort of everybody loses in this equation. There is a tremendous amount of unproductive

effort spent. And then the result winds up being suboptimal at the very end of all of that effort.

MR. COHEN: One thing I didn't hear in your answer was that uncertainty about possible patent rights has caused you to curtail R&D activities or limit your operations. Was that an oversight or does that just not happen?

MR. KAPPOS: Yeah, Bill. That's a good point. That was an oversight on my part. It absolutely does happen. And the lack of clarity around patent rights, you know, routinely forces action to move away from technology areas, move into different technology areas, steer clear of innovations that we'd otherwise want to invest in. The business level problem is, you know, sort of at the -- you know, at one extreme of all of these dysfunctionalities in dealing with vague patent claims that I'm talking about. And it does cause both changes in R&D investment, and where you invest the R&D, and changes in where you take the business once you've invested the R&D.

MR. COHEN: Let's stay with the business perspectives for right now. Bob, you want to contribute?

MR. ARMITAGE: Let me perhaps give a pharmaceutical industry perspective that is a little different. We, actually, in a very deliberate and affirmative way, a couple of years ago, put together a process improvement team. Lilly's a six sigma company,

which is one methodology for improving business processes. And had a team of patent lawyers spend an enormous amount of time working on defining best practices for drafting patent applications –- and, in fact, developed metrics –- and we now have a formal review process where we in a very qualitative and quantitative way look at the quality of our patent applications.

And it became clear to us that if you want a high-quality patent, you need to have greater precision in your patent applications. And you needed to control the breadth of the claims that you are seeking. And you needed to have a specification that clearly exemplified the invention well relative to what you're claiming. And as time has gone on, we've continued to define those metrics in a way that would be the exact opposite of the advice that maybe is given, that the way to add value to a portfolio is by crafting large numbers of intentionally vague patents.

However, it's true that the cost to any of us of getting rid of, canceling, or invalidating otherwise a patent that never should have issued is enormous. And, therefore, there is some value, however vague the invention is, however unlikely the validity is to be ultimately sustained, to simply trade off the fact that if you issue enough patents, and each one of them costs enough to take out or invalidate, and particularly given the limited

mechanisms under current law for doing that, that you'll create a value to a thicket that is greater than the absence of potential value in any of the individual parts.

And, so, I think, again, when we talk about the notice function it really, in my mind, is not divorced at all from the problem of -- the notice function is just fine for patents that are valid. But patents that frankly won't ultimately be sustained, it's very difficult, in many cases -- vagueness is one, there are other reasons, over breadth another -- to figure out where those inventions might end.

MR. COHEN: We have a number still up, and I want to move us forward, but I know I didn't get to Arti last time when you had one up, so let's take you.

MS. RAI: Oh, and this is good because it was basically the same point as Bob has now reminded me of this once again. I think there -- actually -- it's very interesting to think about what economists call collective action problems and challenging bad patents. So, a bad patent where you know its boundaries are, you know boundaries are clear, but it's overbroad say, there is a collective action problem in challenging that because it is so costly to litigate, and there is no cheap administrative mechanism. And the benefits of invalidating the patents accrue to the world, whereas, you know, all the charges accrue only to you. So, that is the collective action

perfect the notice for every one of them. Is there any way -- a possibility of sorting out what is commercially significant and making sure that notice is appropriate there? Do any of you have thoughts on this? Chris?

MR. COTROPIA: Yeah, and I kind of alluded to this in my opening comment. I think, again, you have to consider what is the problem with lack of notice, and if it's the problem that David points out that people are avoiding investing in areas because of patents they see. So, these are kind of prelitigation type of situations, right? Because litigation is going to arise, once you've had commercialization, et cetera. So, if we're afraid of somebody is doing clearance and says, gosh, I really don't know what this is, so I'm going to avoid it, well, then it seems like you need some kind of front-end solution, something that I can utilize. Maybe it's claim interpretation methodology changes. But really I think it's kind of more information from the applicant because the applicant's the one who knows about the invention, has information about the invention, is also engaged in a process where we can put something on record that is objective, that others can look at, which is the patent or the prosecution history, et cetera.

And, so, it seems like that is why you would want some kind of a front-end solution that I could use if I was

doing clearance work. One caveat, though, is that you have to consider, though, the costs of creating that information, right? Either from the Office's perspective or from the individual patentee's perspective and the substantive impacts of that, right? So, this is, again, kind of another drum I'm beating that, you know, we need to think of notice in the context of those things as well. Just saying -- not just saying, well, look, I just need to make sure there is enough information up-front so I can figure out what the rights are. Well, we also need to make sure that those rights are broad enough to create incentive but not too broad to kind of -- kind of hurt downstream innovation, et cetera.

And, as Chris mentioned, one aspect of the file history is that the file history has an opportunity to help define, essentially through what was said during the course of the prosecution, whether there is, you know, issues of a disclaimer of claim scope and so forth and so on. But this is where I think the aspect of the PTO as a gatekeeper is important, and we'll get to this with respect to the 112 second paragraph Board decision.

But the PTO has had for decades and decades various provisions in its rules and the Manual regarding insisting on correspondence between limitations in claims and supporting written description. Probably in the overall analysis, PTO insistence on complying with the rule has not been, perhaps, very good. But I think from the perspective of the PTO insisting on the applicant demonstrating where there is, you know, 112 first paragraph support for claim limitations, where language, particularly added to new claims or amended claims provides antecedent support in the description, is very important in the examination process. Because, as the courts say, in the PTO, when the applicant

appropriately and if the PTO is a little overzealous, then the applicant can seek the right of appeal and get redressed Bse 61c that way. I'll give both Michael

MR. COHEN: Well, that is where we're going to be heading next, right into 112. But I'll give both Michael and Terry a second opportunity to co 1.000006rt I'Mike?T1.00000 0.00

is it the kind of thing that is going to survive scrutiny in the marketplace by the patent rights of others.

MR. COHEN: Terry?

MS. REA: Very quick. The notice function is the joint responsibility of the applicant, the PTO and the courts. And we want to avoid overburdening the courts and we want to avoid the cost of litigation. So, of course, we want to move it up as early as possible.

Things like notice, the reasons for allowance, everybody who litigates wants to see if the case was allowed, you get the notice of allowance from the examiner, did they give reasons for allowance. That's one of the first things that one looks for, what did the examiner see that was patentable? Some examiners give good insight, others it's very difficult to figure out why it was allowed. But the gatekeeper function of the Patent Office would be beneficial because that issued or granted patent is the foundation, and it's presumed valid from then on, so suddenly the hurdle has gotten higher. But the earlier the better, thank you.

MR. COHEN: Okay. Let's move into our substantive patenting discussion. And starting with 112, and I guess, you know, maybe a simple question to begin with that might get some interesting answers: is one of the goals of written description and enablement requirements to allow the public

to predict claims that will emerge from a patent application? Anybody have thoughts on that? Start -- I see Chris here.

MR. COTROPIA: I would -- and this maybe is a very law professor-type of -- I think written description, yes. I don't know about enablement. This is -- only I'm the only one that is going to say that I understand this division between the two. But I think that, I mean, enablement is the public disclosure, you know, something that I can use 20 years down the road to make the device, et cetera. I mean, I see, and I definitely know that there are courts and others that don't agree with me.

The written description, this idea of what invention are you in possession of when you file, I think that that does take a real -- I'm not going to say necessarily a notice role, but takes a very substantive role of cabining the scope of rights that you get. Right. Now, that is going to have an impact on notice if I use it as such, probably through the claim interpretation process more so than maybe validity.

And I think you're seeing courts try to use it as a notice substance limiter. And it seems like it's used more as a limiter in certain fields of art than others. The way I read the doctrine, it really should be kind of a case-by-case basis on the invention. A sense of how much do I

need to provide you to show kind of certainty as to what the possession is that I have there. And I think this is a nice kind of, I call it, front-end solution. It's not really a front-end solution. It's just a nice way to kind of package up an interaction between a validity requirement that has a notice side function, you know. What were you in possession of when you filed? So, I think written description could play that role.

MR. COHEN: Clearly, these issues are going to flow together, so I'll throw out on the table expressly, along with this one of the goals of these requirements, public notice, I'll throw out the question, do current written description and enablement requirements provide adequate notice as to the universe of inventions that an applicant might ultimately be able to claim? Arti, for either of those questions or both.

MS. RAI: So, let me just say one thing that is slightly in tension with what Chris is saying.

MS. MORLEY: Can't hear you.

MS. RAI: Oh. Oh, can't hear. Okay. sorry.

Let me say one that is slightly in tension with what Chris is saying. I agree with Chris that written description, as the courts seem to have interpreted it, or to be more accurate, as certain judges on the Federal Circuit seemed to have interpreted it, the goal seems to me

with adequate protection. And that is a tricky balance to achieve because a lot of the doctrines we have actually in the context of claim construction are intended to perhaps detract a little bit from notice, but give adequate scope. So, we have this -- these -- these doctrines where, you know, as a consequence of the fact that you had a pioneer invention at time A, and what you claimed as a monoclonal antibody, for example, at time A ends up encompassing a lot more at time B; you get a lot more at time B than you originally made at time A, and that's deliberate, or so we argue anyway in the patent system.

Now, that may not be a good thing, but we'd have to change a lot of that doctrine if we were to rigorously insist upon the notice function.

MR. COHEN: Bob?

MR. ARMITAGE: Yeah, I mean, clearly because there have been so many cases now in the biotech arts and in the chemical arts, the written description art is fairly well-developed. But, you know, I would say there is a near-miss experience that could have been a near-death experience had that not happened. Because ESTs could have been patented, little tiny snippets of DNA. You basically could have just simply laid claim to huge numbers of genetic sequences by setting forth a desideratum. I would please like the proinsulin gene, and maybe I'll take all mammalian

proinsulin genes, for example, where you basically didn't know what any of the genes were. You simply knew that it was desired to have one -- there was one, and eventually using maybe a technology well enabled, you would fish one out of a DNA library.

I think the other concerning thing to me about focusing on a requirement is that you really need to focus on all the requirements to sort of elucidate all the issues with claims that end up being vague and claims that end up being very difficult to understand. And clearly in the last few years, I've spent a good deal of time on statutory subject matter issues.

And just to take a very absurd example, look at a combination invention where the combination is an apple and religious belief. Apple and religious belief. Well, I submit it's novel. Have you ever heard of anyone combining an apple and religious belief? It must be non-obvious. If an apple is useful the combination is useful. We all know --

MR. MESSINGER: The panel of us --

MR. ARMITAGE: -- what an apple --

MR. MESSINGER: -- would say Genesis against you, I think.

MR. ARMITAGE: Well, but my point is -- my point is you have to get all the way through enablement, written

But the problems are a couple here. One is that we're actually getting the opposite of that benefit right now in many cases in the IT industry, where we see claims that contain terms that were not only well-supported by the specification, they were totally undefined in the specification, they were totally unreferenced in the specification.

There's a great quote, I just will read it very quickly, if it's okay, from Judge Linn at a recent U.S. PTO society annual meeting. This is just last month in February. He said, "The last point I want to make is not to forget," this is he is speaking to the examining corp, right, "not to forget 112. It's not correct to trivialize or ignore these kinds of informalities," right. It's not an informality, but, "such as claims that are vague and indefinite or lacking in support and written description. Indeed these problems affect not only the applicant but the public as well in a significant way. In case after case before my court, the central debate revolves around the meaning of claim terms that, for example, were added during prosecution and do not appear anywhere in the written description." So, that's a pretty stark statement. Right? That -- that, to me, is putting its finger right on the problem.

The last comment I'd make in this area is that

it -- it turns out that it appears to me to be much easier to define claim scope in technology areas where there is a good, solid, consistent lexicon, where there is a dictionary of some form. For instance, in the chemical arts, where there is a language that's been developed that is very precise, you see, you know, my observation anyway, is a much better correspondence and much higher ease of complying with the written description and enablement requirements to having claims that correspond to them.

In other industries, for instance, IT, where there is no set dictionary, where the same word can mean very different things in different contexts, we're very burdened by an almost inherent imprecision that puts a big tax on us in terms of meeting the enablement and written description requirements.

MR. COHEN: This morning some of the panelists suggested that some of these problems that you're talking about in IT right now are a function of patenting in these areas being relatively new, and some of the technologies being relatively new –- that, over time, there will be more common ground as to what terms are used to describe what is being invented.

Do you think that is likely? Is this a transitory problem or is this one that is here to stay for a while?

MR. KAPPOS: Well, you know, unfortunately, I can

remember 20 years ago when we were saying, well, this is a transitory problem, as the computer and software arts grow up, it's going to get better. We've now got millions and millions of patents out there, and I don't know how many technical documents. I don't really think it's a transitional issue anymore. I think it's an issue of, you know, sort of inherent imprecision that is being carried on as we inject more levels of indirection into the discussion. Every time we create, you know, a new technology in the IT field, it involves imposition of another level of indirection, which creates a whole new level of terms, that in some way relate to the previous set of terms. And there is no one dictionary, no one way to define all these things. So, the situation isn't a transitory one in my view, and it isn't getting better right now.

MR. COHEN: Stephen?

MR. KUNIN: Well, I'd like to make a comment on what Dave just said based upon my own experience. If I threw out to the panelists the word iPhone, and asked them what they think an iPhone is, I would submit to you that many of the panelists would immediately be thinking of a product that is a smart phone, that is made by Apple. But if I were to ask you that question 10 years ago, you would have given me a completely different answer. Because 10 years ago, an iPhone was a system that was voice over

internet protocol where you could make telephone calls over the internet. It had nothing to do with a portable device. It had everything to do with sitting at a computer terminal and being able to make telephone calls over the internet. Same exact term. So, I don't -- I would agree with Dave that this type of situation I don't see is going to get better in the coming years.

As far as the specific question on the table with

But, in part, I agree with him because it's been an area where, here we sit today in 2009, where, through infringement litigation, the law of written description as it applies to original claims has been defined going back, you know, principally from Regents of California vs. Eli Lilly in 1997 to where we are today in 2009.

But I would submit to you that, as Dave was saying, if you look at a comparable body of case law in the IT area, the Fonar case, the Robotic Vision case, Hayes Microcomputer, and so forth and so on, systematically over that same time in the 1990s, the Federal Circuit was basically saying, you don't even need to have flow charts and you can satisfy description, best mode, and enablement. Now we've got, you know, cases like *LizardTech* and a few others that are coming out affecting electro-mechanical arts and are moving, perhaps, again, through litigation and having the Federal Circuit look at the applicability of these principles that they've had, you know, a dozen years of experience with in the chem-biotech field and trying to reapply it in the IT area.

But even with respect to, you know, cases like *LizardTech*, when you read *LizardTech*, *LizardTech* talks about how these discrete wavelet transforms were unpredictable technology, and -- and basically shoe-horned that in with -- with chem/biotech/pharmaceutical law.

But I would say that, in a nutshell, we still have a ways to go with respect to written description, the chem/biotech/pharmaceutical area, in terms of the notice function in the IT field.

MR. COHEN: I'd like to get other people's comments on these various issues that have been raised. I'll throw in, for those of you who do see problems with -- or think that more could be done with –- written description or enablement to give notice and that it would be appropriate to do so, how -- what do you -- what would you change? What would you suggest? So, all these questions are on the table together. Bob?

MR. ARMITAGE: You know, I think historically Steve has hit on probably the root cause of one of the biggest issues. And that is in the pharmaceutical/biotech arts, you had patent-holding entities who went after other patent-holding entities to reduce the scope of the claims of the patent they were getting. And, you know, the *Eli Lilly* case is one, we've got another case we've been fighting against another broad biotechnology patent. You have the

you say, look, this is how we define a high-quality patent,

very strong effective patent protection for your inventions in the biotechnology industry today. But you're not, in my view, in a situation where you're immobilized by huge fortresses of patents by others.

MR. COHEN: Arti?

MS. RAI: So, I do want to -- this is slightly against, you know, my usual stance about worrying about broad patents. But, so, but I do want to point that written description, as it emerged in the *Eli Lilly* case, was a shock to the entire community. That as applied to original applications, no one thought that written description was supposed to apply that way. Enablement was the standard for section 112, I mean, that was what section 112 was about. And, so, and in these days if you look at the follow-on biologics debate, the biologics companies are arguing that they need long-term data protection, 15 years or so because, as a consequence of cases like Eli Lilly, they have such narrow patent protection on their biologics.

So, let's be very clear here that for startup biologics companies, *Eli Lilly* was a disaster, I think. I mean, it was -- disaster is perhaps a little bit strong. But it was perceived as a very bad thing because it gave them narrow scope.

Now, as it turns out, *Eli Lilly*, it's pretty clear, has not been applied comprehensively by the Patent

maybe I'm going to really, I think, can play a really great role in the sense of this. Is if they stay true to the fact that this is technologically specific, then examiners would look in all cases to say whether I've got a 112.1 written

you have this kind of disjointedness, right, I've done X but I get, you know, some protection that is completely kind of discrete from that, well, then it seems a description does a better job when we're dealing with the idea of possession, you know, what is -- you know. And so, that is why you see these knee jerk -- somebody has got knee jerk reactions in cases like *SuperGuide*. Well, that is just not what they invented. You have this claim determination. They said, well, you know, they just didn't invent, you know, DirecTV, onscreen TV guides. And really, the idea is, well, that is not what they were doing. The applicant wasn't doing that. They weren't going forward with that. And that is why I think written description is a better way, instead of kind of accidental enablement, kind of, in the other way. At least that is my view on it.

MR. COHEN: Before we leave written description and enablement, just to kind of sum up what I'm hearing, I don't think we've got, you know, clear agreement here as to whether these are the right doctrines to be pushing for notice. But if you do have an application out there which has been published, and you want to try, as a third-party, you want to try to determine what might come out of the patent prosecution process at the end, this is about all that you have going for you at the beginning. If we don't get notice here, the concern might be we're going to have to

look for other ways of getting it on down the line.

That said, two issues that come out of the PTO procedures, I'd just like to set out and see if we get reactions to. In the PTO written description guidelines, they state there is a strong presumption that an adequate

word strong. It, you know, it seems that it would be hard to have a system where what else would you presume? Would you presume that the written description was inadequate? Then you get into putting the applicant in the position of having to prove the negative. So, it seems like the system we've got is -- is about the best way to start out. You know, putting aside the word strong, whether that is exactly right.

What I would say, though, and this somewhat addresses your first and second questions, is that placing a strong burden on the examiner to advance an argument as to lack of written description and enablement, you know, puts the examiner also in a bit of a difficult position. What I would like to see is the examiner having -- examiners exhibiting or having more flexibility to use inquiry techniques, including rule 105, which is very much unused, but is a great way for examiners to reach out to applicants without necessarily interposing an objection or rejection, to say look, I can't find this term that you used in your claim stated or defined anywhere in the specification. Can you please point out to me where you defined it? I see that

structure in the specification?

Those seem to me to be both very fact-based, straightforward questions that I would love to see coming out under 105 that don't put the examiner in a position of necessarily having to make a rejection, but do get much better file histories developed and much more precision on the record.

The one other comment I'll make, and then I'll stop is that, you know, I also don't have a problem with examiners being more aggressive about rejecting and objecting to claims that they don't think meet the -- or where the specification doesn't meet the notice requirement compliant with the claim. And putting the onus back on the applicant, right. The applicant created the invention, the applicant wrote the patent application, the applicant is the lowest cost-avoider of confusion and ambiguity. I see absolutely no problem with examiners shifting that back to applicants, using both objection and rejection practice.

MR. COHEN: We'll try Bob and then Rob, and then we'll move on to indefiniteness.

MR. ARMITAGE: You know, by and large, I think the written description guidelines the PTO put out were a very laudable effort. And I think there were two generations of them. And not to say that everything that came along with them I totally agree with, but they were really a

more about the human proinsulin gene than had been known ever since it was clear that every animal had a proinsulin gene, mammal, at least, to produce insulin.

I used to give a talk at the Biotechnology Industry Organization meeting about broad claims, and I think you've all heard this before. The talk would start, broad claims are wonderful. Broader claims are even better. And infinitely broad claims are best of all. And you got great rounds of applause until you got to the, like, infinitely broad claims, and all of a sudden everyone in the room realized, well, that is not exactly what we want. What happened because biotechnology claims were limited is that you had startup companies with technology that was partnerable and licensable, without us having to sort through 10 people who claimed with these very broad claims to have patented the same thing. You actually held well defined rights.

The reason -- that the biotech industry is so adamant about 14 years of data protection in a foi of data protectii6000 0.0

develop new drugs with the best patents, rather than what might be the best medicines irrespective of patents. And that is why you protect the data in a balanced way to protecting a biotechnology invention if it happens to be patentable as well.

MR. COHEN: Because I asked a couple of questions that went to PTO issues, I want to give Rob the last word but also go to someone else with a big PTO background. Let's go to Stephen and then finish with Rob on this.

MR. KUNIN: Okay, very briefly, the issue that you raised, Bill, in part goes back to something that Bob Armitage said with respect to aspect of burden of proof, that in many the conditions of patentability, you're entitled to a patent unless the PTO demonstrates otherwise. And I think that philosophy is sort of reflected in the examination guidelines. But really what Terry Rea said earlier, I think, needs to be looked at again from the standpoint of what she said in terms of an examiner's statement of reasons for allowance.

One of the things that I hear quite a bit, especially from litigators, is that, wouldn't it be nice -- and, of course, this would make Rob Clarke cringe, but, you know, wouldn't it be nice if the examiner would systematically look at all the conditions for patentability and to make some assessments, including in the statement of

reasons for allowance, where the examiner did not reject claims on a particular statutory basis.

So, if the claims are subject matter eligible, they have utility, maybe they have adequate written description, they are enabled throughout their entire scope for their particular use, and the issue only is whether the claims lack novelty or would have been obvious, then in the, you know, wouldn't it0.0b .(yourhn8ee000 1.00000 05eo2Eordtheich1.00

direction. There are certain efficiencies in any system, in the examination system, litigation system, where you focus on disputed limitations or disputed aspects of a claim. And, so, when I hear the call to have a petition for patentability before any examination occurs, it seems like you would spend a lot of resources on limitations and questions that no one, you know, no party, even an accused infringer would ever raise. And that leads to a certain inefficiency in the system.

And it, you know, I hate to say it, but it seems like you would be best served by focusing on disputed limitations and just focusing better on them. And that would really be the focus.

So, you know, Mr. Kappos, when you said use 105 to, you know, elucidate a limitation, is it -- does it invoke 112.6? You know, that is an example of focusing on a disputed limitation. And, so, I'm kind of curious as the afternoon goes on, when folks are suggesting changes that we can make in the system, whether we should focus on using an examiner or some member of the public to dispute a limitation, or dispute whether a limitation is enabled, you know, has written description, is indefinite, renders the claim indefinite, rather than imposing an up-front cost on the patent applicant. And that's certainly how the current system operates and has operated for a long time.

You know, the examiner has the initial burden. He disputes whether a claim is patentable because of a particular reason, and the examination focuses on that. You know, it certainly is more streamlined and more efficient, lower costs, certainly lower up-front costs but, you know, it's kind of the opposite view of where Steve was going with a detailed -- or perhaps not detailed but an assessment as to each ground at the end. Because in many cases there would -- it wouldn't be in dispute and it would cause an inefficiency in the system to make those statements.

MR. COHEN: Just to let you know what I'm planning. We're going to go on into indefiniteness. I think we're definitely going to take a break probably around

get around the little infringement of the claim. And we've seen some of this where method steps were moved to other countries, certain functionality can be moved out of one device and into another device. There is a lot of sort of flexibility, I think, compared to an oral tablet, for you have a reasonable, not vague, not indefinite claim, well-supported by the specification, and infringers have a lot more latitude in terms of trying to design around it. So, I don't know if that answers your question.

But I think the Patent Office has pretty much got it right the way the current setting is now on vague and indefiniteness, where they only raise it in extreme situations, where they really can't make sense of it and them seem to do it with pretty good judicious discretion.

MR. COHEN: Terry.

MS. REA: Thanks, Michael. I do agree with you that the appropriate reach of the indefiniteness doctrine should be broad. It should apply to all forms of ambiguity affecting the breadth. And I've seen it in so many office actions that in my art, you're right, it's a very common rejection. And I think it does provide a notice function that is important in making sure that you have clarity in the claims, so that at least we have a meeting of the minds at that point in the prosecution as to what is intended between the examiner and the applicant.

However, as I mentioned before, it's not a frozen point in time. It's not hard and fast, and we're dealing with words, and, so, we have to be flexible. But I do think that the indefiniteness doctrine is very valuable in terms of providing notice. I think that at least in my art it's very helpful in providing notice. I think giving it broad breadth is important. The Miyazaki decision actually surprised me because I wasn't used to dealing with the relative position of the user and the printer. So, I had a little bit of difficulty getting through that case because it's not part of my world.

But it actually was very, very good because the hurdle in the Patent Office with respect to indefiniteness, and this accuracy and the notice function, it is, the examiner can ask questions and inquire more and be more prodding and say, now, did I get this right? Whereas, the court looks at it after the fact, it's got that presumption of validity, and the place to be more proactive is within the PTO, when you do have that lower hurdle.

MR. COHEN: David?

MR. KAPPOS: Okay. Well, thanks, Bill. You know, I'd add just a couple comments. First, I don't think there is anything additional that is needed in the indefiniteness doctrine beyond what we already have in terms of the authorization. What's needed is to, you know, apply it more

they're not a limitation that affects patentability.

MR. COHEN: One of the common problem that comes up is when there could be multiple embodiments and perhaps the specification gives an example of one embodiment. And the question always comes up, well, is the claim meant to cover -- cover other embodiments that aren't in the specifications? Is this a question for indefiniteness, is this something that should be handled in that way or not? That's part of the issue that I'd be interested in.

Stephen, you want to talk about indefiniteness in general, and if you have anything on this latter comment, question add it?

MR. KUNIN: Yes, thanks, Bill. I wanted to come back to a point that Mike Messinger made having to do with what the PTO policy had been. One of the things that you have to recognize is that if the PTO doesn't take a measured approach, it can get back to the abuses of the past, where it was an excuse to perform piecemeal examination. Where the examiner basically, instead of doing a search of the prior art, would impose a pro forma set of 112 second paragraph rejections as an excuse not to search the case, and then use that as a way, basically, to make production and avoid having to do a search right up-front.

So, one of the things that the PTO did many years ago in a Board decision, Ex parte Ionescu, which was

essentially the PTO's answer to *In Re Steel*, because the Federal Circuit and the Board of Patent Appeals and Interferences uses In Re Steel for the following proposition. I got a claim rejected on art, and I have a claim rejected on 112.6, second paragraph. You can't have it both ways. If it's indefinite, how can you understand how to examine it so that the art rejection can't be sustained, and you sustain the 112? But if the 112 fails, then, of course, you go to the art rejection.

Now, what was happening in the old piecemeal examination is the examining court was using In Re Steel as the basis not to make both rejections. And the Board said no, no, no, no, we want to see both. We'll tell you which one you're right on, and we'll use Steel on the basis of, well, if it is indefinite, and you're right, we're not going to touch the art rejection.

So, the statement Mike made with respect to avoiding mere technical rejections is what we also have to look at in terms of going too far and the PTO overdoing 112, second paragraph. So, it should take a measured approach, and it should do essentially compact prosecution where, if an examination on the merits can be done concurrently, and there is still some language problems, do both. But don't substitute 112 second, as a way to avoid comprehensive examination.

problem that Steve is talking about this is a great way for me to say, well, look, this is a difficult -- I don't understand what the term means, it's indefinite.

I think it's better, in some sense, is getting back to Rob's idea of kind of efficiently, and Steve's comment, call back prosecution. I mean, examiners are doing claim interpretation when they're taking the claims and they're looking at the prior art and seeing whether these things are valid under 102 or 103. It just seems like you don't get a lot of that discussion, right. And since they're already doing that process, it seems like it should be, say, well, look, when you're involved in that you could make statements, or if it turns out that the applicant comes back and says, look, that is not disclosed in the art, there can be a discussion. Well, what do you mean by processor because I think there is a processor here?

And that is not necessarily an indefiniteness rejection. It's basically making explicit what is implicitly happening. The examiner is making an interpretation decision. They're just not putting that down on paper, or they're not forcing the applicant to engage in that level of discussion. It's just more kind of an element discussion or discussions focused on the prior art.

And one of my fears about this recent Board opinion is that either it leads to just a bunch of 112.2

get engaged in this kind of process. But they're the ones that know what the claims mean, or have an idea of what the claims mean, you know, have them put it on paper. And, so, that is why I think, not necessarily indefiniteness, but that kind of discussion you're talking about, Bill, I think would be nice to be in the record.

MR. COHEN: Just so that we're all on common ground, we've been talking about this ex parte Miyazaki case by the PTO's Board of Patent Appeals and Interferences, which recently stated if a claim is amenable to two or more plausible constructions, the U.S.P.T.O. is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claims unpatentable under 35 U.S.C. Section 112, as indefinite.

And what we've just heard is the suggestion that rather than perhaps a whole series of indefiniteness rejections, what you're going to have is more back-and-forth, or what could happen is more back-and-forth, to avoid that type of rejection.

Do people see this as the way things are going to go? What do we see as the likely reach of the decision and the likely consequences? Arti?

MS. RAI: Well, first of all, it's not law until the Federal Circuit decides what is the law. So, it's -- let's just put that on the record since the PTO doesn't have

substantive rule-making authority. So, that's A.

B, I'm a little bit puzzled by Chris' point because -- and perhaps a little bit by Steve's point as well because it strikes me that this is a good backstop in case a rule 105-type opportunity doesn't elicit the information you need from the applicant because maybe they're concerned about inequitable conduct or what have you, that this is a good backstop for having -- for then for ultimately producing the exchange. Because, as we all know, there can be several rounds of rejections in patent applications. There is no such thing as a final patent rejection.

So, this is -- it shouldn't be something that is used at the beginning, but it seems to me that it's a good threat to have in the background in case you don't get the information that you need with more soft mechanisms.

MR. COTROPIA: That's a good -- I think that is a really good point, you know. But I think you could also have this thing kicked back with saying look, I think this reads on the prior art, and if you're not going to give me another definition of that term, then you're going to get the 102-B.

afraid --

MS. RAI: It could be overused.

MR. COTROPIA: Yeah, that's right.

MS. RAI: I think that's right, yeah.

MR. COTROPIA: It's like a 101 rejection, you know.

MS. RAI: Yeah. Yeah.

MR. COTROPIA: Which is what people are seeing --

MS. RAI: Right.

MR. COTROPIA: -- you know, I could just say, well, it's just -- it's not subject matter, you know, and we can kind of move on. But4 kha good pointow.

MR. COHEN: Terry.

MS. REA: I agree with Dave that it actually works out into applicants' best interest because they have an opportunity to easily amend their claims at that time rather than due to some -- use some other more elaborate, more expensive, more time-intensive procedure.

But also, I like Chris' idea. We're so focused on the public notice function today that all of this happens concurrently, all at one time, and in real time. It's not parsed out as distinctively as we would like. So, but that is the time when you want to communicate. That is the best communication you will get between the applicant and the examiner.

I do like the *Miyazaki* case. I was surprised how far the Board actually went with it. But the Board was, nevertheless, very clear. So, they also followed a good notice function, and I think they provide clarity.

MR. COHEN: I think we have a few minutes. Maybe we'00 d.00

questioned whether, you know, it really played out in practice as ideally set out. But I guess what I'd started out with is, measured by this standard, do you feel that claims today are successful?

MR. MESSINGER: Maybe I can frame a quick point as we get into it. The way I've always thought of patents is that the, you know, inventor has an idea, it's this amorphous kind of idea, and then it's carried out or implemented in some embodiments that are sort of the specific embodiments that are, you know, it could be in a product, could be in a service, something like that. And then what we're doing is we're putting these claims in the English language that are attempting to kind of bound that patentable invention. And, so, we're actually starting at a pretty amorphous place, we have some very specific products that have a lot of real meaning in the marketplace to a lot of people. And then we're, as people have noted before, we're dealing with language.

Given those difficulties, what I experience is we have a lot of case law that we have been dealing with that for a long time, and there is a lot of doctrines. There is tension between the two, and you can have lots of fun playing with these tensions in law school and all of that, but there is a lot of doctrines and tools available that carry us a long way to determining the metes and bounds of

the claims, and courts are pretty good at it.

MR. COHEN: Arti?

MS. RAI: So, I think that for all the reasons that Mike mentioned, what is more important is having a clear determination very early on of what a claim is and then deference by subsequent decision-makers to that initial determination. Because this is like statute interpretation. One can use canons to reach any result one wants, and on any term that is susceptible to more than one plausible construction, and nonetheless manages to survive Miyazaki.

So, it's much more important, I think, to get the decision-maker, make it clear that the decision-maker -- who the decision-maker is and then give deference to that decision-maker rather than spend a lot of time, as the Federal Circuit has unfortunately has done, trying to get the rules precisely right. And they can never get them precisely right. And then they keep on doing de novo review to get them even more right. And it ultimately is all just a useless exercise, as far as I can tell.

So, here I'd place the blame squarely on the Federal Circuit.

MR. COHEN: Let's try Bob.

MR. ARMITAGE: First and foremost, the patent system probably survives and prospers over the long-term, the more it acts like a property rights system. And the

only way we have today, like it or not, to define the property right is all the rules and regulations and doctrines and canons of claim construction. So, to me, getting this right is actually critical. For reasons I said before, we're never going to get this perfect.

And the -- as patent examination has become much more complicated because patent applications are longer and they are more complicated, and they have more claims, you run the risk that just by the sheer advent of technology, we're not doing enough to get it right in the first instance in the Patent Office.

As important as it is to get it right in the Patent Office, one of the other problems we have is it's counterproductive in a lawsuit to try to construe a patent when we do it early in a lawsuit. And I say that because you understand a claim in context. And you understand the context when you understand the invention, how it relates to the prior art, and what the inventor was trying to do with the words that are being used in the patent application in order to differentiate what I did from what had come before, if I'm the inventor. And, so, when you have a sterile exercise in a *Markman* hearing, before it's really understood what the infringement contentions are, and really what claim limitations are at issue, and how it is that those claim limitations relate to the inventor's ability to define what

came before, you're very likely, at a very early stage in the case, to make an abstract construction that when the judge later understands the case, he wishes he'd done it differently.

And, of course, and I think I've said this before, and I apologize for repeating, but when you use the Markman process to decide whether –- to give the notice of what a claim means, you're merely using a set of words to describe the words in the claim. And you are merely setting yourself up in many situations for the rest of that lawsuit to argue about the words used to describe the invention.

MR. COHEN: Stephen?

MR. KUNIN: Well, very briefly, I think I have to take the opportunity to be a little flippant here because, you know, following on to what Bob said, you know, there has been sort of this commentary after having read many of these articles written by famous law professors where you don't know what the meaning of the claim is until the Federal Circuit tells you. And, of course, we still see in S515 and HR 1260, you know, this provision to have this interlocutory appeal on claim construction.

So, here we are today and we're seeing this still in the legislation, we still hear the debate as opposed to -- as to whether the *Cybor v. FAS* case should be overruled so that maybe greater deference might be given to

reasonable analysis performed by district court judges. And, you know, we've seen the numbers flip-flop with respect to claim construction reversal rates. So, I think that, you know, the short answer is, we wouldn't be where we are today if everybody felt that measured by this standard are claims today successful.

MR. COHEN: And before we go to break, we'll end with David.

MR. KAPPOS: Okay, thanks, Bill. Yeah, following from that comment, I think the clear answer to your question is no, that Judge Rich's vision is not yet being realized in any real -- in any clear way.

I saw an article recently that tracked rate of reversal of district court claim constructions by the CFC are at 34 percent. With a reversal rate at that level, I don't think you can possibly say that we're dealing with anything except extreme uncertainty in claim meaning and -- and its effect on the notice function of patents.

I think that more needs to be done working off of the *Philips v. AWH* decision a number of years ago, which moved the law in the right direction relative to distinguishing between intrinsic and extrinsic evidence and giving preference to intrinsic evidence. But I think that the law needs to move forward to further reward the use of intrinsic evidence and discourage the use of extrinsic

prosecution history are reliably predictable, or are there still some issues there? Chris.

MR. COTROPIA: I think that probably still the big sticking point is: Read in light of the specification, but don't read limitations in from the specification. And not that this necessarily provides any kind of certainty beyond that, but, again, this is where, I think, notice and

to be valid and looking at the specification because you have these 112 requirements, you've got a better linkage of the substantive goal and you'll get a little better notice in combination.

MR. COHEN: Anyone else with -- with thoughts on -- on the intrinsic evidence viewpoints? What about the issue of determining when a claim is limited to specific embodiments? I take it that is still something that will require further thought, that will continue to come up? I see people shaking their heads yes. Arti and Terry.

MS. RAI: Yeah. I think that this is one of the ways in which you've got a canon and a counter-canon.

MR. COHEN: Right.

MS. RAI: And both the canon and the counter-canon have reasons for existing. And, so, that is why as a consequence -- again, I'm a broken record on this. It's just important to figure out who your decision-maker is, who's going to be applying the canon and the counter canon. Because I don't think either of those are going to go away. And I don't think they should go away.

MR. COHEN: Turning to extrinsic evidence. How clearly did *Philips* resolve questions of when and how extrinsic evidence should be used in claim construction? I guess I'd start with, maybe with dictionaries because we've heard that idea suggested.

Are there significant uncertainties regarding when you rely on a dictionary or, if so, which dictionary you'd consult, or which definition to select? Terry.

MS. REA: Whether or not *Philips* is clear, I can tell you that in the everyday world of litigation, it's working. People look for, you know, the intrinsic evidence is much more important. The extrinsic evidence that people look at, it's very fact and case specific. And, so, which dictionary? Of course, if it's a commonly used dictionary in that art, that would be a preferred piece of extrinsic evidence.

The one thing with litigation is everybody wants to have belt and suspenders, so expert testimony is almost always there. Do you need it? Well, you've got the expert, typically, somebody already there hanging around, so, you use it. But I can tell you that this does seem to be functioning and people assume this is how it operates for good or bad, and it's a system that seems to be working right now.

If the notice function was better, would you be in that situation? Perhaps not. But this is just something that just seems to be working fairly smoothly, in my opinion.

MR. COHEN: Any other views? David.

MR. KAPPOS: Yeah. One other comment on

dictionaries. Bridging off of the *Philips* case, I believe there is an opportunity for dictionaries to play a clearer role than they currently do. Unquestionably, the *Philips* case has made the matter of use of dictionaries get better, but I think they can play an even much better role. And that is, if we can get some guidance and perhaps the PTO to play a role in establishing, at least for the IT industry, a kind of a hierarchy of dictionaries that will be used as a default to help define terms that aren't otherwise defined in patent specifications.

So, the way I would see this working is, of course, the applicant can be their own lexicographer, right?

MR. COHEN: Right.

MR. KAPPOS: And if a term is defined clearly, perfectly fine. The applicant can choose a default dictionary, so long as it's readily available, freely available to the examining court to be able to refer to it. So, if the examiner says I want all the terms in my claim construed according to the IEEE dictionary of computing, perfectly fine. Discussion done. Right.

If a dictionary isn't specified, wouldn't it be wonderful if the PTO had a hierarchy set up to say, if you don't tell us which dictionary to apply, we're going to apply the following dictionary, right? And if the term isn't in there, and it's in the specialty areas, we're going

to apply these other dictionaries to try and find your term, so that we can render clarity to it and understand what it means, and, therefore, not have to have a fight in court later on whether the IEEE dictionary applies or the ACM dictionary applies or some company's dictionary applies or whatever. That way you get clarity up front, again, at the time of the examination, as to what claim terms mean according to which dictionary.

MR. COHEN: Stephen.

MR. KUNIN: I hate to disagree with Dave on this, but I think it's complete folly. And I'll start from the premise that it makes a whole lot of sense when you're dealing with English language applicants and English language technologies. But when you start dealing with applications coming from all over the world with different languages, and translations, and dictionaries, lack of adequate thesauri, I think it's an oversimplification to believe that you could apply that type of process in a manner in which it is presented. I think it's good to try to work on the problem. I just think it's much more complex than it's been laid out to be.

MR. COHEN: Michael.

MR. MESSINGER: I just wanted to comment. It kind of relates to both intrinsic and extrinsic evidence, and just reminds all of us that, I think, some of the ways we

get the best clarity in a patent application in scope is when the best art is in the record. And some of the most frustrating situations we find, and Bob and David mentioned -- alluded to this earlier, is when you have a patent application that is filed. It's very broad and for whatever reason it was allowed on the first office action or very quickly with very little art provided, frankly, by the applicant or art provided by the Patent Office in terms of non-patent literature, and patents and other things.

Those are some of the most troublesome situations that people have been working on very hard recently. And to the extent we keep getting the best art in the record earliest in the process, my experience is examiners are very good at applying that art, and at the same time that almost necessarily forces the applicant to be far more precise with their terms. They can't get away with these sort of broad-sweeping terms that read on very expansive areas of technology.

MR. COHEN: Arti?

MS. RAI: Point with respect to *Philips* that loops

interesting because then dictionaries in his approach would become part of the prosecution history, and that is intrinsic evidence. And, so, you change the role of dictionaries entirely in the way that Dave is suggesting.

MR. COHEN: Bob.

MR. ARMITAGE: You know, if you look at a dictionary at the time a patent application is initially filed, what it tells you for any term that is defined is what historically that term meant. Because dictionaries evolve over time, and as new meanings develop and come into common usage, then the dictionary definition has to be modified to reflect what the usage has become.

So, if you actually wanted to do this, to understand, for example, what a word really meant, maybe you should look at a dictionary five or ten years later, which of course would then make it extrinsic evidence again. But, you know, I think the main point here is that -- and I'm going to -- this is, you know, the late afternoon, so we need a few radical ideas, so, I'm about to come up with one.

MS. RAI: Just to wake everyone up.

MR. ARMITAGE: So, you know, rather than having a new hierarchy and forcing patent drafters to go read dictionaries, and then write in terms of the dictionary based on what the term used to mean, or at least potentially used to mean, you could think of a patent examination

paradigm where Rob finally gave us the perfect examination process.

Or, really, as you say, Michael, all the prior art is there and all the Section 112 issues are examined. So, by the time you get through this process of torture at the U.S. PTO, you actually have a patent document that, without reference to the prosecution history, would clearly lay out what the invention is. And you can imagine using the rule used some places outside the United States where you simply look at the patent document itself and use that to construe the patent.

And I would urge you to consider whether or not, you know, that kind of a system, in other words, not only no extrinsic evidence, but saying let's look at the fewest possible words to understand what the invention is and how it's being claimed, might actually produce more predictability.

I'll say it for the third time today. You know, there is a tyranny of words. The notice requirement is the tyranny of words. And the reme00001.00000 0.0000 0.0000 cm0.00 0.00

inherently ambiguous, and that the best way to think about trying to improve the situation is to move away from peripheral claiming, and to focus instead on -- on the core of the invention, and perhaps couple this with broader use of a doctrine of equivalents.

How would people react to that? I know it's a radical idea, but you started us on that path. What do you think about that? Arti?

MS. RAI: That scares me. Yeah. I mean, and I think there is a reason the doctrine of equivalents has been reduced in scope by the Federal Circuit, at least in the context of amended claims and probably should have been in the context of original claims as well. Judge Rader has suggested that, but he hasn't convinced anyone yet.

I think that that is just giving up the whole enterprise of the patent system, frankly.

MR. COHEN: Stephen.

MR. KUNIN: I agree with Arti that one of the big problems when you go in that direction is that when you look at the doctrine of equivalents, you determine equivalence at the time of the infringement, and you can essentially get a claim enforced for which you don't have your own 112 first paragraph support because it's later, unforeseeable technology.

So, it seems to me that when you start getting

down that realm, you're unraveling this aspect of perhaps the value of adherence to 112 first paragraph requirements to improve the situation.

MR. COHEN: Chris.

MR. COTROPIA: I'll go the other direction. And let me -- and there is actually -- I have a rationale. We'll see. I don't think that necessarily we should get rid of peripheral claiming. I think the claim gives us a nice lens to take a look at the specification. We need to know what parts do you think are the combination and it helps examination, et cetera.

I will say, though, if you look at a lot of claim interpretation cases, they're essentially substantive determinations. The judges are saying – they're looking and they're saying: You know what, should they be able to capture that variation or not? Right? And they couch it under this very kind of pristine -- oh, I'm very methodical process of claim interpretation -- when really my bet is, and you'll start seeing it, discussions like, well, that's not what they invented, et cetera. These are substantive determinations.

Should the limited claim to biologics get a later biologic or not? And the beauty of the doctrine of equivalents is it makes no debate about it. It is a substantive policy call. Right? Is this equivalent or not?

In some ways we kind of take the policy question, just throw it on the table.

I mean, I kind of feel like that this kind of modern death of doctrine of equivalents is, essentially, we're making equivalents determinations but under this guise that we're following this methodology to a T when really we're not. We're making substantive determinations all along.

So, that is why I think it would be nice to move a little bit away from, and I'm hearing this a little bit here, this idea that we're getting the correct claim construction, and this is what the claim means. And kind of take the emperor’s robe off and say, look, you know what actually is happening is there are some substantive determinations. And that is why I would like to see maybe a little bit more of a role for doctrine of equivalents. So, then courts would have to sit there and make this determination. This is a variation, you know. Should they be able to capture or not? And we could have these discussions about whether they need that scope to provide an incentive, et cetera.

MR. COHEN: What would this do to notice for third parties?

MR. COTROPIA: Well, no, I think this -- well, this is the difference, right? Is that we have a notice

substance.

To me, one consensus I think we have here is that if I have a claim and we all engage in claim interpretation, that the idea that at that stage we get some definitive notice, at least for litigated cases, is unlikely. Right. We would all potentially go in with different interpretations.

And, so, notice would take a back seat, but it would expose the substantive determination that is being made. And, again, it's this question of -- well, what is your goal? Are you so notice-oriented that you'll give biologics smaller protection because I want really good notice? Or am I going to be very kind of standards driven? I want to make sure I give you the best protection you can get. And we'll use doctrine of equivalents in those kinds of cases.

I don't think we should get rid of claims, but it would be nice to have that discussion more out in the open as opposed to under the guise of, well, should they be limited to the specification embodiment or not? Which is really a discussion of, well, how broad a claim should we give them? You know, doctrine of equivalents might be a better way to do that.

MS. MICHEL: Does it affect your answer at all if doctrine of equivalents is going to a jury?

And we know when it looked like there was an expansive doctrine of equivalents, there were lots and lots of infringement claims that were basically just DOE claims.

And the way I've always looked at this is for the limitations of just using language to describe inventions, you need something more than literal infringement for those relatively rare situations where it's clear it's just manifestly unfair, as a matter of equity, to deny infringement. And we've never, you know, got the jurisprudence to work out right so that you had that manifest unfairness requirement where the court would simply say, you know, there just wasn't plain a word or collection of words that was going to work but I'm going to find infringement nonetheless. I actually don't think that detracts from the notice requirement.

But as much as I think there is a tragedy in the DOE today, I think for the patent system and the integrity of the patent system, there was an equal tragedy when the DOE appeared like a hunting license for patent owners.

MR. COHEN: Arti?

MS. RAI: I think that to Chris' point that we should be honest about what we're doing, and let's assume for the purposes of argument that the judge would do this because I think the really scary part is having the jury do this, but let's just assume that we have a better scenario,

and the judge is doing this. I think that is a fair point. You know, it's fair because I suspect that sometimes judges are just at the end of the day doing that.

But as we all know, it's good to have rules to constrain decision-makers even when the decision-makers don't always abide by the rules, because if you just let them believe that they could always have discretion, then discretion would run amuck. So, this is kind of an institutional how you set up an institution properly point.

I think that people will always disobey rules, but it's good to have the rules there lest they disobey them too much.

MR. COHEN: Okay. Let's now say that we've issued the patent, we've dealt with what we could to resolve claims, but you're in court and there is still some ambiguities. To what extent -- well, I guess I'll just ask.

Should courts, in that type of setting, resolve the ambiguities by giving claims the narrowest reasonable reading? We heard this suggested earlier. Is that the way to go? And is that the current practice? Sometimes you see this in court opinions. Is that really what is done? Stephen.

MR. KUNIN: Well, actually, it seems, from my reading of the case law, that the more recent trend is to hold the claim invalid for failing perhaps 112, second

paragraph or some other requirement. I mean, one of the famous cases was that *Chef America case*, you know, with respect to are you going to, you know, cook the contents in the oven to that temperature or the air in the oven? And instead of interpreting it in a narrow way to save validity, the court said to hell with this, we're just going to say it's invalid.

So, you know, it's the applicant's responsibility to draft good claims. So, I'm not certain that that doctrine when you read the *Philips* case was endorsed as a fundamental principle; namely, that, you know, if last resort interpret the claim narrowly to save it from invalidity.

MR. COHEN: Anyone else about narrow interpretations?

MR. MESSINGER: Well, just in practice you see many cases where courts are leaning towards narrow interpretations for finding non-infringement. And to actually find have a finding of infringement is a pretty serious remedy for a court to issue. And they tend to be looking for some real substance to support that. And that is going back to what we talked about before with the specification, the intrinsic evidence and that kind of thing, to be comfortable to find infringement.

MR. COHEN: Yes, Bob.

MR. ARMITAGE: Yes, I guess I have a couple of concerns. One is we already have a doctrine of broadest reasonable construction for examination, whatever that means. And then we construe claims as a matter of law, which means they're supposed to have an appropriate -- a single, appropriate construction. So, this is kind of a third doctrine of claim construction, and, you know, maybe it's a doctrine too far.

There's also, I think, a profound difference between saying, okay, the patent owner had a chance to define and limit the claim to non-obvious subject matter. But, actually, the way the claim is drafted, as a matter of law, is broad enough so it's not valid. You know, you're not allowed to have both patentable and non-patentable subject matter in the same claim. You keep the claim around for the patent owner to be able then to bring a lawsuit against another party on slightly different facts another day.

And, so, probably the better public policy argument for ground one and ground two is not to create yet the other doctrine. And if the claim construed as a matter of law, whatever that means today, is broad enough to include subject matter that is not patentable, then the claim's not patentable, and that is the reason the case is over.

MS. MICHEL: Bob, when you say that, are you thinking not patentable under 103 or not patentable under 112?

MR. ARMITAGE: It could be either. So, for example -- I mean, let me give you an example, and it goes back to a case decided a long time ago, *Amgen v. Chugai*. Where GI, Genetics Institute, had a patent on a purified erythropoietin defined by bioactivity where the claim included the word “about.” So, that, you know, I mean, how many patent claims have the word “about” in them? What, about a third? I mean, in certain areas it's a lot.

And, you know, the court said, you know, this simply could have two meanings. We could probably give it a narrow meaning, but in this case it has to distinguish over the prior art. It's not clear that it does. And, therefore, gone on indefiniteness grounds. That's probably better than giving that claim a very narrow reading and preserving its validity depending on how narrow you actually construed it because there wasn't a clear intent in that case, I think, to, at least according to the court, distinguish over the prior art.

MS. MICHEL: What about in the sense of written description requirement and enablement? To what extent do we let that body of law drive claim interpretation in order to preserve validity? Whether we give a claim term a broad

interpretation or a narrow interpretation, whereas the broad interpretation you're going to have an invalidity problem under written description requirement.

MR. ARMITAGE: You know, again, I'd have to say the better way to do this, for the long-term health of the patent system, is to invalidate those claims. You'll create a body of law on invalidity that will feed back into patent examination. That body of law is tools for examiners to help fine tune claims in the future.

But if you don't do that, you're going to -- I mean, let's say I'm a patent owner who's been vague and greedy, you know, the folks that you deal with, who want -- according to what you've testified to earlier, the people who have these aggressive patent claiming practices. If you don't have some strong disincentive, what will happen in litigation is they will actually go back to their own specification and start reading in limitations that really aren't in the claims that narrow their scope that then

MR. COHEN: Arti?

MS. RAI: So, maybe I'm going to phrase what Bob is saying in a slightly different way, which shows why I think what he is saying is exactly right. That basically you're -- if you let the court save the patentee expost, you're encouraging them exante to act really badly. So, and I think that is what you're saying, that you were basically saying, okay, we're going to save you at the back end, so at the front end do whatever you want and create this horrible patent that you then can threaten people with and we'll save you at the end by rendering it valid by construing it narrowly.

MR. COHEN: The discussion has been in terms of whether the broad -- has been on the basis of the thought that the broad construction would lead to invalidity. Is that what you're likely going to be facing in reality, or are there going to be a significant number of cases where you could have either a narrow or a broad interpretation, both of which would be valid, one of which would lead to more infringement and might surprise third parties? In that instance, perhaps the narrower interpretation serves the notice function, but you're not dealing with a validity/invalidity choice. Or does that just not arise?

Are you always likely to run into prior art when you go to these broader interpretations? Stephen.

MR. KUNIN: I'll try to answer the question

different light and this would go back to another aspect of intrinsic evidence. And that is assuming for argument's sake that, given the fact pattern that I just gave, add an additional nuance that during the prosecution history somehow the applicant, in making arguments, made arguments which were reasonably construed that the claim could only read on one embodiment, but not on both embodiments, and then was changing his tune in court, there, I think, you'd have perhaps a disclaimer of claim scope through prosecution history, and in that circumstance you hold it against the patent owner. But, again, it seems that you end up having to build up, you know, a record in order to reach that conclusion.

MR. COHEN: Any other thoughts?

Okay. Let's turn to examination and the source of this prosecution history that Stephen's relying on. Perhaps the place to begin would be asking would notice be meaningfully improved if applicants were required to do more? And let's lay out one possibility. What if they were required to provide claim charts? Would that be beneficial? Or would there be too many downsides to that? And would you get anything useful out of that? A whole set of questions. Terry.

MS. REA: I wasn't sure what you meant by claim charts. Was that like taking each recitation within the

MR. COHEN: -- why it wouldn't work.

MS. REA: -- Assuming that maybe there is not support in the application as originally filed for all of the recitations in the claims and that maybe if you neglected to define or describe an element, that would be apparent if you were supposed -- if you were forced to do a claim chart. Is that sort of what you were thinking? But just coming up with your own definition, even a definition, it's not going to take away much of the vagaries that will occur with litigation, in my opinion.

MR. COHEN: And, again, but you're placing the focus again on the specification, on tracing back to support in there. I'm trying to suggest or ask about what if the focus is on third parties and whether useful additional information would be provided as to the intended scope of that claim through a device of this nature.

MS. REA: Just not relying on a dictionary necessarily or dictionaries?

MR. COHEN: Yeah. No, this would be the applicant's expression of what the claim means.

MS. REA: I don't think much additional notice would be provided to third parties via such a claim chart.

MR. COHEN: David.

MR. KAPPOS: Yeah. I tend to think that claim charts, if I understand what you mean, probably would not be

very helpful and add much to the notice function. I do, on the other hand, think that there are several things that applicants can be doing and they're really along the lines of providing more correspondence or a glossary, in effect, so that it's -- it's easy for the examiner to be able to find for each claim term where it was used or defined in the specification and not have to hunt around for it.

Or just, you know, later on the public learns that the term wasn't used or defined anywhere in the specifications. So, I think that kind of sort of factual, I call it a glossary of terms, is something that would be very helpful. I also think that it would be great to see applicants and even the Patent Office use some of the tools that are already available that could help in this regard, right? You know, technology-based tools that can be applied to electronically filed applications already exist that can identify terms that are used in claims and aren't found anywhere in the specification. So, that is a tool that, you know, applicants should be using so they can fix those problems before they put them over and lay them on the doorstep of the Patent Office.

And to the extent applicants aren't using them, the Patent Office can use those tools, enabling examiners to

what is going on here?

So, I would see a role for, you know, glossaries and tools that can do a better job of establishing notice.

MR. COHEN: Stephen.

MR. KUNIN: I'll go back to a point that Rob Clarke made earlier, and that is, I don't see the claim charts would be particularly helpful, particularly for the patent examiners. That when issues are joined during prosecution in terms of what I would call the significant interpretations of claim limitations for any given condition of patentability, that is an issue that the examiner is dealing with, that as to that particular matter, during the prosecution there is going to be an indication from the applicant as to what the applicant means. Particularly in relationship to –- if the examiner has a different interpretation, and the examiner's different interpretation is a basis for rejection.

So, to me, the aspect of focusing on the critical issues during prosecution and developing that record, at least from a perspective of my experience within the PTO, is more valuable to the examiner than having claim charts would be.

MR. COHEN: Could the examiner do more to elicit responses from the applicant that would create a stronger prosecution history as to what is meant?

whether or not, you know, whether and when we were going to go forward with more of the rich text format of a file wrapper.

MR. COHEN: Chris.

MR. COTROPIA: Kind of two points off of some of the comments that have already been made. I think, you know, maybe it's just that examiners need to know part of -- and they might know this or not know, part of the use of what they're doing is -- is going to be used in claim interpretation going forward. So, that when they make rejections, they don't just simply say all the elements. You know, they might make that next step, the processor is found on page X, so that starts to lay this foundation of kind of definitional type of linkage between –- there would be the claim term and the prior art, which then would force some reaction back by the applicant to say, well, no, that doesn't properly disclose our processor, et cetera. That would be used better in prosecution history.

The second thing, and this kind of goes to Rob's point, and back to this discussion about, well, should we invalidate the claims or should we simply just construe them narrowly? I think there is some feedback function, even if it's about interpretation. If I know that if I add claims that have terms in them that are not in the original specifications, and I know that there is an automated tool

that is going to kick back an automated rejection that says, you know what, there is no 112.P1 support for that new claim. You need to show it to me. What is the reaction going to be?

The reaction is going to be, I'm going to make sure I draft applications or use terms, because I don't want that friction in my prosecution history. And this is where I kind of push back a little bit with I think if you interpret, in light of validity, most people -- who are not the, maybe the bad, vague people -- are going to say, you know what, I want claims that have broader scope than narrower scope. And if it turns out I start getting hit in litigations where my scope is being narrowed because I don't

effect here if examiners kind of knew what was being created and how it was going to be used.

MR. COHEN: Bob.

MR. ARMITAGE: Yeah, I thought maybe for the benefit of the youngsters on the panel I would provide some early history of the patent system.

When I started work, examiners did have actually rich text tools because patent applications were shorter and prior art searches -- there was a lot less prior art in those days –- so the tool they used was reading the patent specification and knowing exactly what was in it. And as a result, the use of claim charts, at least by me, was ubiquitous, in this sense. I never –- I wrote hundreds of patent applications, and I never once wrote a patent application without taking exactly the claim that I was going to try to get. And I started by writing the claim, not the specification. And I put the claim in the patent application right under the summary of the invention.

And then I methodically went through all the terms in the claim and explained in the patent application what they meant, knowing that the examiner would actually be using his rich text tool to understand what it was the invention was. So, I am concerned that we artificially create this other extrinsic document to the specification. I think that is a make work project. But I do think we need

to perhaps go forward, to go a little bit backward in terms of how patent applications are drafted and how much fidelity you have to a written description and/or enablement requirement.

And when you amend your claims, I don't ever remember in the -- any of the amendments I ever did to a patent application where I didn't go back in the specification, find the part of the application that supported the amendment and put that in my amendment to the claims, largely because if I didn't do it, I was going to get a rejection from Rob's folks.

MR. COHEN: Just to pull together a number of the suggestions we've heard, and to get any additional reactions from any of you. We talked about claim amendments. What if applicants were required to provide written statements with the purpose of claim amendments? That's one possibility. Another might be reasons for allowance which we've heard talked about. What if examiners were required to supply reasons for allowance that are directed toward revealing what they understand the claims to mean? Would that be useful?

We've heard about the idea of the PTO selecting default dictionaries or setting glossaries. We've heard about the idea of applicants being required to define terms.

Just opening it up to everybody before we move on

encouraging that literal language in the claims themselves to be strong. And my concern with the claim charts, A, it's

five years later.

MR. COHEN: Arti.

MS. RAI: So, this isn't what I was originally going to say. But it does worry me when I hear people say it's very hard to do claim construction without an accused product because I think that really does undermine the certainty rationale that we're trying to, you know, advance in this context, because there are all sorts of reasons why, you know, you don't want to have to wait until the accused product comes along before you want to have a pretty dispositive claim construction.

And that relates to the point I was originally going to make, which is, there is a question in paragraph six under Section 3 on will these questions like, for example, if the examiner made a statement regarding what a claim term meant and that was part of the prosecution history, would that be regarded as part of prosecution history and intrinsic evidence or would there be a deference piece to it? I think as a strictly legal matter, I would predict the Federal Circuit would only look at it in terms of prosecution history, because currently it views claim construction as entirely a matter of law to be determined de novo. Now, that may change, but I think that is currently the way they view things.

MR. COHEN: David?

MR. KAPPOS: Yeah, thanks, Bill. So, you know, I would identify a number of the sort of exchange of written comments that you've mentioned, and for the most part I

not lend patentable weight to it or to be unimportant. And, so, the more precision that can be put in those reasons for allowance, the more value you're going to get and the more of an exchange you're going to have on the record, which all inures to the benefit of the public.

MR. COHEN: Bob.

it didn't make any difference to this particular accused device, the case should be over there. I mean, there should be no -- the case not dispositive over, but the issue doesn't arise in that case. It shouldn't even be decided.

So, I think the more context you have and the more you assure that you're just construing those things that are necessary to understand, non-obviousness, novelty over the prior art and infringement, the better claim construction will work.

MR. COHEN: When Bob accepted the invitation to join us, he let us know that he had had a prior commitment. He's going to have to leave a little bit early. I want to turn into one more area while you're still here, of particular importance, and that is the issue of timing and how that relates to notice. And we'll pick up other issues after -- after you've left us.

As to timing, I'm thinking here in particular about a set of issues that would involve continuations, reissuance, provisional applications, deferred examinations, all of this. But starting just with continuations, let me throw something out and see if everybody agrees. Do all the panelists agree that there is some tension between continuation practice and public notice? I see everybody shaking their heads yes.

MR. ARMITAGE: My head was entirely motionless.

MR. COHEN: Oh, you're the -- one motionless head.

MS. RAI: No tension whatsoever.

MR. COHEN: But no -- no no's. No heads going back and forth with a no. If so, is the tension serious? Anybody want to jump in there? Stephen?

MR. KUNIN: Well, I think it's serious enough that a lot of people are writing about it. And I think where we see some of the, you know, the issues being joined has to do with particularly the issue of what I would call the broadening continuation, filed substantially years after original application was filed. And, of course, you have the tension on one side with respect to -- but if the claims have 112 first paragraph support, then, you know, what is the harm of writing claims that might read on what is in the marketplace that you hadn't thought about maybe earlier on?

And on the flip side, we're seeing a number of people who believe that perhaps in some time-limited circumstance, perhaps a form of intervening rights should be applicable for this so-called late claiming. And then there is everything in between. You know, when you have a situation where perhaps the applicant was seeking those claims all along, and was going through myriad appeals in order to successfully convince the PTO, the Board of Patent Appeals and Interferences, and maybe the Federal Circuit of the correctness of your position, and, therefore, it took a

long time to be vindicated. So, you know, in that circumstance, I think there is a lot of fact-specific considerations, but certainly I think under the broad issue of the -- I would say the broadening continuation late filed has certainly been a subject of discussion. It came up not too long ago at the PTO's roundtable on deferred examination that some of us participated in.

MR. COHEN: Let's go down the table this way. We'll get to Bob before he has to leave at 4:30. Terry.

MS. REA: Very quickly. I wanted to say that some continuations are filed because one was unable to arrive at allowable subject matter with the examiner in a particular case. And, so, a lot of continuations are not necessarily voluntary. Now, that does work, you know, adversely to the notice function because you're delaying identifying what you think you have a right to or right to preclude others from practicing. But in the area of biotechnology, in particular, it takes a number of continuing applications typically to arrive at allowable subject matter with the examiner. And, so, to get your first application allowed may necessitate, very easily, three applications.

And we're dealing in difficult economic times right now. Everybody, including the Patent Office, has rather extreme budget constraints. And, so, at least that is one art area or technology where there does seem to be a

delay in the notice function because it's a delay in getting an agreement as to potentially allowable subject matter in the PTO.

So, I just -- continuations can be filed voluntarily by the applicant. You can get allowable subject matter, and then voluntarily file a continuation and that is one scenario. But in some areas of technology, biotech, in particular, you need to do it just to get something that you think you have a right to allowed and hopefully you are successful.

MR. COHEN: David?

MR. KAPPOS: Yeah, so, I would add what I think is kind of an intersection between continuation practice and publication right, 18-month publication, which is of course not required. Most applications are published anyway, but not all of them. And one -- where the problem of the notice function gets to be acute is with those applications that are elected out of publication, and then potentially have lots of continuation practice. And it brings up the old issue that we used to call submarine patenting.

So, you know, putting another sort of a radical idea on the table here. Perhaps some consideration should be given to prohibiting the filing of continuations or at least, you know, some excessive number of continuations, at least for those applicants who elect not to publish. That's

the case where you have to put the patent application most in conflict with the notice requirement.

MR. COHEN: Bob.

MR. ARMITAGE: We know particularly in the era since the doctrine of equivalents fell into disuse that patent owners file continuing applications to use different words to describe their inventions, sometimes a little broader, et cetera. And the rationale being they're going to be stuck with whatever the literal language of the claims mean in all likelihood, and, therefore, they want as much different ways of expressing the language as possible. So, if we assume that magically -- magically somehow you had the perfect doctrine of equivalents that was used when it was needed, and erased the tyranny of language in that sense, then, you know, it's clear that the ideal patent system would, in a very rapid fashion, resolve the scope of the protectable subject matter.

And it would do so -- it would do so in a way that, for example, instead of when the examiner and you disagree about whether something is patentable, you have access to a timely appeal at the Patent Office Board of Appeals and Interferences. If I go back to the way the world was when I started, you know, there was a rare situation when I would file a continuing application. There was the common situation where if the examiner and I didn't

agree, I just took the case up on appeal, and that was the end of it.

And so, you know, I think this is a very, very hard issue for the patent profession. We've become really addicted to a continuation practice, to some degree. Throughout the 20-year term on some occasions, intemperately, called it the opiate of the patent profession, because you just can't resist one more continuation, one more chance to a few more claims.

But, you know, if we're really honest and we resolve the DOE issue, it's terrible for a property rights system. It's just absolutely terrible for a property rights system.

MR. COHEN: What is the case for allowing applicants to claim through continuations market developments that evolve years after an initial application? Would anybody want to state it? Anybody want to take -- anybody have that point of view that there is a need for that? Some of that, at least.

Stephen?

MR. KUNIN: Well, I'm not necessarily going to defend that, but I think there is -- there is longstanding case law that says there is nothing wrong with that so long as there is 112 support for the claims. So, in view of the fact that this is not an issue that the courts haven't dealt

with in the past, and that we've got case law, maybe Bob can correct me if I'm wrong. My recollection was the *Standard Havens* case was a case that in the opinion addressed this issue and basically said there wasn't anything fundamentally wrong with late claiming so long as it had 112 first paragraph support, even if it was reading on what was happening in the marketplace that, you know, the applicant was not aware of, without obviously letting the continuation practice exist and see what the market did.

MR. COHEN: Michael.

MR. MESSINGER: Yeah, I just want to bring us back to the world of practicing entities in terms of what often happens is, you know, you're the first to invent, and you're developing your product, and you're rolling your product out, and you're laying out your patent portfolio to sort of track that. And, so, in a way you've created the marketplace and you're following the marketplace. And so, I think the public policy analysis is different when you're sort of following the practicing entity as they legitimately hit the marketplace the first time with their invention and cover it.

And what I see in that situation a lot, and Bob touched on it, is you file your first case with what you think you're entitled to. They tend to be pretty broad claims, and then there is a negotiation. At some point

there is often a deal cut and -- and it makes a big difference to those early days of commercializing your product to have the issued patent versus the application. So, there is a lot of strong incentives to not just sort of go up to appeal on that first asset, so that you get one asset. And I would argue in other ways that is very good for the notice function, in that you do have one clear asset out.

People have mentioned, well, what do you do with a continuation? And often you file a continuation. In my experience, for the practicing entity, often they tend to very much go back, not necessarily broader than the original filing, but just further refinements. And in that sense, I think the public notice function is pretty clear. You still want fast patents, settled rights, and all of that, but we have many times been in situations we're monitoring this for competitors, and you're sort of watching what is going on at the Patent Office. The Patent Office has some pretty good tools, rich text or image, and you can sort of follow the continuation.

And sometimes on that broad continuation, it is still within the same scope of what they were originally asking for, and you've got that, you've been following it, and you're hoping the Patent Office is going to maintain its rejection, if you're sort of the third party, but you're

able to watch all that, and you monitor it. The difficulty is what other people have mentioned, when all of a sudden, it's either not published, or for some surprise turn of events, they go in a very different direction that is very broad compared to the original filing. And that is -- but there are some sort of issues.

I mean, they're only entitled to assert claims once it issues, and then it's the patent term, and maybe there is some intervening rights issues or remedies like Steve was suggesting for -- for very late claiming.

MR. COHEN: Bob, I want to get you in as much as possible before you have to go.

MR. ARMITAGE: Yeah. You know, I developed stronger feelings on this issue having one client in private practice that was a small company in New England, and they were infringing a patent, and they engineered around the patent. They were in litigation, engineered around the patent. And, you know, the damage phase of the trial was still going on. And then the patent owner issued a second patent, and sued them for infringement a second time. So, they reengineered the product the second time to avoid the second patent, and that case was still going on, even though it was, you know, validity and probably if the patent is valid, is there going to be infringement? And then the third patent issued in the continuation chain, and they were

sued for infringement on the second modified embodiment on the third patent, at which point they just gave up and got out of the market altogether and settled the case.

And you're right. You're right. As a matter of law, there is nothing wrong with doing that under the patent statutes. You're perfectly entitled to do it and follow the market, and claim your invention in as many ways as your original disclosure can support. But I don't think that that is good for the patent system. And I don't think, frankly, there are too many people who think it's good for the patent system if they're honestly looking at patents, and trying to respect them, and trying to understand what is going to be claimed and what is not going to be claimed.

In this particular case, I doubt that after the first patent the other two were really ever going to be upheld on validity grounds for many reasons. But there was never going to be an issue. At some point, we will have created a patent system that is so expensive to operate, continuations being one reason, that as for a determined infringer, they never have to worry about a patent owner of limited resources. And for a determined patent owner, they never need to worry about what allegations of infringement they make against a resource-limited infringer.

MS. MICHEL: We heard yesterday some panelists talking about they actually would look at a specification, a

published specification, and try to predict the claims that would come out of it and design around those to try to avoid what your client went through. Did your client try that? Is that a possible thing?

MR. ARMITAGE: Yeah. The difficulties, the one I alluded to, if you look at what might be validly patented, that was going to turn out to be irrelevant because you were never going to be able to afford to be in a relatively modest business with someone who simply was going to continue issuing patents and bringing new allegations of infringement. And they were not, you know, there wasn't a rule 11 issue where you could go back. The Patent Office issued the patent, presumptively valid.

They deliberately wrote the language to read on the device, so your defense would be the Patent Office doesn't know how to apply 112 or some similar defense.

MR. COHEN: Let me throw that more broadly. It's kind of a key question in this area. Does the 112 requirement -- or how do you feel about whether the 112 requirement -- does it adequately protect against broadening of claims over time in ways that third parties are unlikely to foresee? Arti, yours is up.

MS. RAI: Yeah, it is up. Although, could I --

MR. COHEN: For this?

MS. RAI: Could I make another --

MR. COHEN: Yes. Yes.

MS. RAI: -- comment because I think it's relevant to our discussion. I've been looking at data on

consistent right now. So, sometimes yes, sometimes no.

MR. COHEN: That would be part of the question. Certainly another part that floats in there is the basic question as to whether a doctrine that is -- do you find in terms of showing whether the applicant was in possession of the invention is an adequate doctrine for giving third parties notice of what could emerge when you're all done with the process? Do they line up well enough that third parties are protected? Stephen, you're up.

MR. KUNIN: Well, my short answer is no. Before I elaborate on that, I just want to make a couple points in response to what Arti said and what Terry said. I think there is really unevenness with respect to application of 112 first paragraph by technology.

Certainly from my own experience, some years ago there was a significant problem that was brought to my attention when I was the deputy commissioner having to do with the famous form factor patents. And for those of you who aren't familiar with form factor patents, it's basically disc drives in computers, where, generation to generation,

second action final practice to not let the applicant move forward. And, so, part of it is essentially the whole problem with respect to getting new examiners properly trained in areas with large backlogs. So, I would submit to you that in your analysis, I would hope that you could get some insights in terms of that phenomenon of the examiners.

But I guess coming back to your point, if you could repeat. I apologize.

MR. COHEN: Is a doctrine that is focused on determining whether the inventor was in possession of that invention as of the time of the application a doctrine that will give adequate notice to third parties, as to what can emerge years down the line?

MR. KUNIN: Thanks. Thanks for repeating. My answer, as I said before, was no, and it's still no. And to a large degree, the reason why I believe it's no is not so much in terms of the chem-biotech area, but in other areas. And I submit to you that when I was involved in writing those written description guidelines that ultimately were published in 2001, much of what we did in putting together those guidelines was, in fact, trying to make sense of a mixed bag of case law.

When you look at enablement and you have got the *Wands* factors, you look at written description with respect to claims drawn to a genus, part of what we were doing is

making it up as we went along in trying to come up with the written description equivalent of the Wands factors, without having a coherent body of case law on written description from the court giving the equivalent of the *Wands* factors.

So, the reason for my answer being no is until there is a coherent set of factors for making that determination, it is going to be difficult to have the public have adequate notice on the written description requirement.

MR. COHEN: I think I should go to Rob, since we've been talking about the PTO.

MR. CLARKE: Well, I just wanted to point out that in September of '08, the office did issue two memoranda to the corps on appropriate use of 112 second paragraph in an attempt to arrive at a greater consistency in its application across the examining corps. So, you know, to say that the office has been deaf to that concern, I think, is over a little overblown. But it does show some recognition by the Patent Office that we could do a better job in that area.

MR. COHEN: Let's take David and then Chris.

MR. KAPPOS: Okay. Thanks, Bill. So, a couple

necessary tension between the doctrine that is keyed to the applicant demonstrating that she or he was in possession of the invention, and that requirement then being what we depend on to protect the public, so long as it's being -- as the doctrine is being policed well enough, and that applicants are being required to put enough information in the record. Because if the standard really is the skilled artisan, right, the person having ordinary skill in the art, I think you -- you inherently wind up with enough disclosure that it winds up not being a problem for third parties to read and understand and be able to make the invention.

I would add relative to the problem, though, just finishing on that thought, is, of course, the requirement, you know, isn't being policed well enough. And as others have pointed out, there aren't good enough rules, and isn't good enough law in place. Right? There isn't the framework within which it gets policed in the Office, so the Office is very disadvantaged in that respect.

112 enablement in the IT area is, most certainly, not being tightly examined. It's rare, you know, in our portfolio, which is individually about 3 percent of what goes on in the Patent Office. So, we've got an enormous base in one company, it's, you know, we rarely see rejections coming up in the enablement area.

And then -- and then lastly, you know, I do agree

that setting aside the biotech area that has got these, you know, sort of specific concerns relative to RCEs, there is a problem with RCEs and overuse of them in the IT area. And it was the recognition of, you know, long strings of RCEs. It's not one or two that is a problem. It's the five, six, seven, eight, nine, you know, sort of the asymptotic level that we were concerned about. That caused, you know, IBM to take the view, which we still hold, in support of limitations on continuation practice. And not one continuation, but some reasonable number. You know, we thought that two was possibly workable, at least in the IT area, with some reasonable ability for applicants to show that there was good cause to file more than that. And we still do believe that some limitation on practice, at least for the IT field, makes sense.

MR. COHEN: Chris?

MR. COTROPIA: Two comments. One on the direct conversation and one on an earlier conversation. I mean, I think 112 paragraph one written description, I mean, as formulated, I agree with David, is it should -- should work. I mean, I think it's -- it's a difficult doctrine. I mean, there are a lot of difficult legal doctrines to nail down.

I'm not sure necessarily, kind of, waiting for more case law is the way to go, because in some ways that is what has created some of this problem we have now. We have

got this idea that the Federal Circuit has told us one area is a predictable technology, one is not, so, apply 112 ¶1 in bio, don't apply it in electrical. And, I think that, kind of, people think of it, okay, great, there is just these two giant areas of technology, when really there is a lot of fidelity. And the more they really, kind of, would look at it on a case-by-case basis, maybe 112 paragraph one would actually do a better job. So, I don't know necessarily if more case law is the way to go or watch out for.

One, kind of, comment back, why we have continuations, and this is where I think kind of notice overlaps with kind of substantive effect. And I think this piggybacks off of Michael's earlier comment. I mean, we have an early filing system. We force you to file very early in the development of a technology. And in the end, if the goal is that I want a patent to create shelf space for my end commercialized product, well, things are going to change from the time when I file that product as I develop that product along, and eventually get out there on shelf space-wise. And in some ways, if I'm kind of -- kind of locked in early on, I might not get the shelf space room that I eventually want.

Now, that doesn't necessarily mean that continuations need to say -- stay to assure that it proceeds to that substantive function. But we should look at, well,

are there other things to maybe help out these individuals that have been forced to file early in development, but in the end would like a patent to give them the space they might have when they get the product to the market, such as, and this is one of those, deferred examination, or something that allows them to do that. Because I'm sure some people are filing continuations not to try to capture other people, but to change as their development changes, as they go along. There's a new feature. Well, I, you know what, I didn't know that was going to be important, so, I need to draft a claim for that.

So, that would be where, if you're looking for notice, and I'm going to knock down continuations, you have a substantive effect, the patent process is not as great for me anymore, and we should be, you know, kind of recognize that impact and take that into consideration.

MR. COHEN: Related to continuations, I'm going to raise the topic of reissuance. And I'm wondering, you know, if you see the same types of tensions with regard to notice that are -- that would be raised by a broadening reissuance. I'll throw out the whole package of questions at once.

Are there the same types of tensions with notice? Does the requirement that reissuance be based on some type of error significantly enhance any protections for third parties in practice? And does the ability to secure

that way. They think of reissue practice or reissuance of an application as not something that is not planned for or expected. It's a safety net you take advantage of. So, you don't plan on reissuing an application. I have been doing this since 1980 and I've never had a client that has had that philosophy. That doesn't mean it hasn't existed. And if Bob was here, you know, he could tell me what they did in the old days.

MR. COHEN: Mike.

MR. MESSINGER: I agree with everything Terry said. She had a good summary, I think, of some of the key differences with reissue. There is another aspect that also limits it in that there is kind of a strong doctrine of recapture that -- that very much limits your ability to kind of go back and do some maybe broadening that people would think was not in the public interest.

One thing, the situation, and I agree it's not a vibrant practice. I think the last time I looked, it was about two years ago, it was, like, running, like, 500 reissues a year or something. No, that's re-exam. Anyway, the -- 5,000, yeah. How many?

MR. CLARKE: Five thousand.

MR. MESSINGER: Yeah, 5,000. But I think there might have been a recent uptick in it. But where I see it getting looked at by third parties is when they're involved

not have to come under doctrine of equivalents, recognizing, again, you know, the recapture doctrine plus the intervening rights as a limiter.

smaller topics, but still significant. Maybe we can get some -- some feedback on some of them. Provisional applications would be one.

Does the filing of provisional patent applications detract from the notice function? How has that turned out to work? Stephen, you're up.

MR. KUNIN: Very shortly, no. I think that the provisional application is nothing more than an internal priority document. It puts U.S. citizens on the same basis as foreign applications. And since 18-month publication occurs from the earliest priority date, I see no problem whatsoever with respect to provisional applications being problematic.

MR. COHEN: What about deferred examination? Another topic that is coming up these days. Would -- I mean, are some -- are all of the suggestions such that there would be a possibility that publication might be delayed? Has that been looked at? Would anything about these proposals make search more difficult? Would the time that claims are subject to evolution be extended through this? David, let's start with you.

MR. KAPPOS: Right. Thanks, Bill. So, I think the answer to all of those questions is it depends on what design point you choose for deferred examination. A design point that I would recommend would actually resolve and --

party intervening rights and the like, I think that the best practice for deferred examination would be that, indeed, prior users would be protected from the -- from the patents that issue under the deferred system, and that any third party should have the right to trigger examination, and, therefore, get clarity as to the deferred application when, at any point, when that party wants to pay the fee.

MR. COHEN: Stephen?

MR. KUNIN: Well, I'm very much against deferred examination. And I think in part, as Dave pointed out, the devil is really in the details in terms of how you design it. Right now, I would think that it would be an absolute disaster because of the de facto deferred examination system that the PTO currently has. And until PTO can master its workload and get pendency down, to add a deferred examination system in front of a de facto deferred examination system and say, oh, well, this will be great because it will give the PTO the freedom for three years to be able to work off its backlog.

Of course, it won't have any money to do anything because PTO works off current fee revenues. On the applications they'd be examining, they already spent that money. And the idea is, oh, well, you'll have a lower filing fee, and, so, this will encourage people to file maybe too much and file frivolous applications. You could

have the situation where, oh, gee, if the PTO really needs to have the money, it may end up bumping up those filing fees in order to have operating revenues. And then you've just removed the incentive for people to defer if they have to pay so much money.

The idea with deferral also is to perhaps produce a reasonable amount of dropout rate, 10 percent or more, to reduce the burden on the PTO of not having to examine unnecessary applications. And, of course, while I agree

those concerns, you know, I'm open-minded to be convinced.

But at this particular point I think there are many things that have to be addressed, both from the standpoint of the PTO's existing workload and funding situation. I just don't think right now the timing is right. And I haven't seen the perfect design of how to really make it work. So, I'm a skeptic, and I'll let Dave prove me wrong in the foreseeable future, but I just don't think deferred examination right now is a -- is an immediate panacea.

MR. COHEN: Arti?

MS. RAI: So, there are two questions. One is the

for the patent system right now.

MR. COHEN: And Terry.

MS. REA: Thank you. First of all, publication has to occur at 18 months. That's just an international

knowing that I have this number of land mines, this number of pending patent applications out there? And, so, this delay mode seems to be pervading a lot of our society right now. And I don't want the extension of nobody wanting to spend money and take action, to go to the point where people are delaying filing patent applications or asking for deferred examination, and then not making R&D investments because there are some of these pending applications out there.

MR. COHEN: We have just two more topics that I'd like to touch on. I think if we keep our answers short, we can get you out pretty much as scheduled.

One is publication, which we've heard about a lot in the context of deferred examination. We've got the 18-month publication for most patent applications. How would you feel about the effects of notice and any downsides that might result if you were to go to a system requiring 18-month publication for all applications? Terry, you can resume.

MS. REA: Very quick, that's what it should be.

MR. COHEN: Stephen?

MR. KUNIN: I agree that is what it should be. Certainly, the major concern that I have heard from -- from many sectors has to do with, I would call, the tech transfer aspect of where these applications are being published, and

it permits, you know, the third parties to see what is happening and perhaps jump on using that technology in foreign countries. It's a form of, you know, maybe an unintended consequence, but I'm still a firm believer in 18-month publication.

But the one thing that I think we need to think about is the PCT model, and that is 18-month publication with a search report and written opinion. That, to me, is the best model from the standpoint of helping to facilitate notice function.

MR. COHEN: And Chris.

MR. COTROPIA: Yeah, I mean, I agree with the earlier comments. Just an even broader, this is to your, kind of, your second question. I think it would also be nice if we really are going to go to kind of a real text format, just to make it easier and quicker to grab information from the PTO's website from PAIR, et cetera. I mean, I know from, and, obviously, I'm not the primary person you should be going toward as somebody who is trying to just do empirical research, but it is just tough to get a lot of information quickly and easily from PAIR. And it would be great if the information was just more readily available, more easily searchable, et cetera. And, I think that would help the notice function as well.

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that some serious efforts should be made to look at industry-based classification systems with respect to technology, and to add that type of classification to patents in addition to the U.S. patent classification system. Because I have heard, for many years, that industry has its own standard of classification of technology, and why can't the Patent and Trademark Office have its classification system reflect that? And I think if that -- we're in an electronic world. We can add additional indices. I think that would be a great addition for industry.

MR. COHEN: Arti.

MS. RAI: So, I wasn't sure, the search questions you had listed here are searching basically freedom to operate type searches.

MR. COHEN: That was what my idea was.

MS. RAI: Yeah. So, I'm going to say a little bit about that, although I concur with the prior art search stuff --

MR. COHEN: Yes, please.

MS. RAI: -- that Dave and Steve are referring to very strongly. And particularly the classification system. I take it that examiners have been wanting a change in that classification system for a while.

So, but anyway, to the questions you asked. Now,

this is not something I know a lot about, but one thing I have heard is that it would help not only to know the patents in doing freedom to operate, and also it would help not only to know the patents, but also who the actual assignees are. And, so, that information is also useful. And I take it that you're supposed to report that information if you assign the patent, but that doesn't happen very often. I don't know a lot about this, so, I would defer to others, but that is one thing that I have heard. Maybe Dave could speak to that.

MR. MESSINGER: Real quick. Well, as a member of the advisory board of the Peer-to-Patent review, I concur with everybody's comments on Peer-to-Patent. It would encourage us to at least extend it to the green and clean technologies so we can really send a good message that the

article, and perhaps there are some ways to do that that have the appropriate safeguards that give a good notice function on how that conversation can happen, but at the same time get a good read on the level of skill in the art into the -- into the record.

MR. COHEN: And David?

MR. KAPPOS: Yeah, so, back to Arti's point on freedom to operate searches. And, Arti, I want to see if you can just repeat your --

MS. RAI: So, I've heard --

MR. KAPPOS: -- point for a second?

MS. RAI: -- it, I'm not entirely sure what the contours of this concern are, but the problem seems to be that it's hard to figure out who really currently owns a patent because it could have been assigned and reassigned. And then, I take it, there are also shell company concerns.

MS. MICHEL: I've heard of the shell company --

MR. KAPPOS: All right. So, let me -- so, there are two --

MS. RAI: Yeah, there may be two different concerns.

MR. KAPPOS: So, that's a great point. So, there are two issues that come up there. One is during the application phase, when a patent application publishes, there is currently no requirement that the assignee of the

patent be listed. And that creates a significant notice problem because it becomes very hard to tell, for those of us who have literally hundreds of cross licenses, it's very difficult to tell if we're licensed to -- to many patent applications. So, you've got a notice problem there. And that is a pretty easy one to fix, actually, by requiring identification of assignee on published applications.

And then the second and more troubling and liability creating problem is, upon assignment, we are seeing instances, you know, broad-based ones, of assignees registering the patents or listing as the assignees, essentially fictitious or shell companies, typically with fanciful names, and making it as difficult as possible, apparently, to trace back to the true assignee of the patent. So, we get into another notice problem there.

Once again, we can't tell if we're licensed to the patent because we can't really tell who it was transferred to. Ultimately, we can usually figure that out, although it takes a lot of effort. And, so, you know, why should the public be forced to go through that effort to find out who really owns the asset? And in some cases you can't figure it out at all, so, you don't know who you need to go to in order to find out if you need to get a license and under what terms you can get one.

MR. COHEN: Well, listen. You've all been great,

and you've gone a long time with me. I did promise you the opportunity to add in anything that you wanted that you hadn't been able to get on the table to this point. You have that chance, if anybody wants to. You may all be talked out. I don't see any signs going up on this.