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MODERATOR DAVIS: Good afternoon, Ladies and Gentlemen. Welcome to our Patent and Trademark Breakout Session.

2. We begin as we do in our conferences, with an old friend of this conference, Professor Don Chisum, who has given us the Year in Review many times before, and is back with us again today. Don, we're glad to have you and look forward to your thoughts.

After Don, we're pleased and honored to have with us top officials of the U.S. Patent and Trademark Office and the Department of Justice, who impact our lives in intellectual property law. From the PTO we have two Assistant Commissioners, and the PTO's Director of Enrollment and Discipline. We have the Honorable Lawrence J. Goffney, Assistant Commissioner for Patents, the Honorable Philip Hampton, Assistant Commissioner for Trademarks, and Cameron Wieffenbach, who is the Director of Office of Enrollment and Discipline of the PTO. Representing the Department of Justice, we have the Honorable Anne Bingaman, Assistant Attorney General in charge of the Antitrust Division. We look forward to hearing their views.

As in the past, I will not introduce the speakers in detail. Their biographies are in your kits. They really need no specific introductions. So let's get started. Ladies and Gentlemen, please welcome Professor Don Chisum.

PROFESSOR CHISUM: Reviewing the patent-related decisions of the Court of Appeals for the Federal Circuit rendered the past year and peeking at three pending en banc cases, one is struck with how fundamental the issues are. The focus is on the substantive standards for determining what is patentable and the scope of protection that a patent confers, on the allocation of decision-

making authority in applying those standards among the Patent and Trademark Office, trial judge, jury, and appellate court.

How can the issues of the day be so basic for the statutory patent system, 203 years since its creation, 40 years since the current code, the 1952 Patent Act, went into effect, and almost 12 years since this Court was created with virtually exclusive appellate jurisdiction over patent matters?

There are many potential reasons why we keep circling back to the fundamental issues of patent law. To name a few possibilities, the internationalization of commercial activity, shifts in political winds resulting, in part, from the shifting nature of economic life in this country, growth in world trade and shifts in industrial structures, challenges posed by new technologies-biotechnology and software, for example. But in part, the reason may be the eternally elusive policy conflicts embedded in the patent system, and those conflicts are not new at all to the system, but they may only be new to new generations of decision-makers.

*117 Recently, I had the pleasure of listening to a talk to a group of law students by my classmate, Anne Bingaman, who is on this program, and Anne structured her talk around Gerald Gunther's brilliant biography of Judge Learned Hand. Of course, as we students of intellectual property law know, Hand's opinions have had a huge impact on the development of patent law, and Professor Gunther carefully documents that impact, referring not only to Hand's well known published opinions, but also to preconference memoranda that Gunther had access to.

Hand's 52 years as a Federal Judge ended in 1961, but he undoubtedly would find most of the issues faced by this Court over the past year or so, all too familiar, with perhaps two exceptions. He might find novel, and perhaps odd, current preoccupations with how to structure the role of juries in patent cases, and with the standard of appellate review. But I'm sure he would have joined in the effort to resolve the confusion.

Gunther summarizes Hand's role in developing patent law as follows, and I quote. "Underlying Hand's probing of the factual underpinnings of patent disputes was his concern with clarifying the legal framework. During most of his years on the bench, Hand confronted a body of law that ranged from useless generalizations to annoying technicalities. Much of his reputation was gained by his skill in laying bare in intelligible language what was truly at stake, and in castigating obscuring platitudes."

Resolving in the context of specific controversies the policy conflicts that are within the patent system pose imponderable difficulties, difficulties that are compounded by the press of opposing economic interests, the juxtaposition of legal doctrine and administrative practice on top of technology and commercial practice, and the constraints of the legal process. All of this may push judges, who after all, have limited time and information, towards "useless generalizations", "annoying technicalities", "obscuring platitudes", and away from the fundamentals-what is "truly at stake". But it is a push that must be, and is resisted.

Chaos is, I am told, in vogue among some academic commentators. But chaos-uncertainty in the patent system-can only mean greater transaction costs, retarded development and utilization of

technology, and a diminished perception that our legal structure operates fairly and predictably.

Well, enough with useless generalizations. So let's turn to the technicalities, which I hope you do not find annoying. Over the past year, that is, from May 1, 1993 to April 30, 1994, where I've cut off my review, the Court issued about 56 published opinions on patent issues. Ten years ago the Court had about 83 published Opinions. The high month was April of this year. The low was May of 1993, with two.

Among the 56 published opinions, we are, of course, most interested in Chisum's patented "Top Ten." Actually I should have patented it. I had a patent on this technique, but the Commissioner recently ordered it re-examined. Of course, what I mean by the Top Ten is somewhat facetious, but really, what I am focusing on is ones that are most important, not in the sense of being best written or even best reasoned, but rather in the sense that the issues posed were novel, or the analysis posed were novel, or the decision suggested a new trend, or had, or is likely to have especially significant extra-judicial impact.

*118 Number 10 is *American Medical Systems v. Medical Engineering Corporation*, 6 F.3d 1523, 28 U.S.P.Q.2d 1321 (Fed.Cir.1993). If you read the opinion, you know that the technology in question is truly uplifting. The case addressed a rare visitor and a regular visitor to this Court. The rare visitor is the marking statute, which limits the patentee's ability to recover damages if it or its licensees make or sell a patented article without placing thereon a patent marking. The statute is old, but its wording provides remarkably little guidance on how it applies, which causes one to ask, why doesn't Congress reassess it and clarify it? But it's left to the Courts.

In *AMS*, this Court resolved two issues of first impression to it. First, it held that a patent owner who fails to mark for a period of time, for example, for a few months after the patent issues, may commence marking and then recover damages for infringements occurring after that date. The patent owner must, however, be "consistent and continuous" in compliance.

Second, the Court held that when a patentee asserts infringement of both apparatus and method claims in a patent, and there is a physical device produced by the method that can be marked, the patentee must mark the product to recover for infringement of the method claims. Again, the statute is less than helpful about how it applies to patents that claim both methods and products. There is long standing authority that there is no duty to mark when a patent only claims a method of making something, and one could ask: does that make sense in today's world?

In a subsequent case, this Court, in *Amsted Industries v. Buckeye Steel*, 24 F.3d 178, 30 U.S.P.Q.2d 1462 (Fed.Cir.1994) reviewed some further issues concerning marking. For example, actual notice, which will allow recovery of damages even without marking, does not include a letter to everyone in the industry demanding that all competitors respect the sender's patents. The infringer's knowledge of the patents is not alone sufficient. And indeed, somewhat ironically, the defendant in *Amsted* was found to be a willful infringer for multiple damage purposes, and yet was deemed not notified for marking purposes.

The second major issue in *AMS*, the regular visitor to this Court, was willful infringement. The Court affirmed a willful infringement finding, and a 1.5 times damage increase, even though the infringer had obtained an oral invalidity opinion, followed later by a written opinion, and it began

designing a noninfringing alternative, soon after learning of the patent. But the infringer did continue to ship its inventory of infringing items for a period of time. The oral opinion was deemed “not credible”. Indeed, the infringer's cause may have been doomed when the patent attorney testified that the opinion was preliminary, “just an off-the-cuff kind of thing”. Opinions that a patent is invalid should not come off-the-cuff. And also critical was that counsel had specifically requested comments from the client, and the client had not answered those comments. And indeed, counsel's stated understanding of the invention was incorrect, yet was not corrected by the client.

The Number 9 decision is *Beverly Hills Fan v. Royal Sovereign*, 21 F.3d 1558, 30 U.S.P.Q.2d 1001 (Fed.Cir.1994) this Court's first treatment of the issue of personal jurisdiction over foreign defendants accused of patent infringement. It held that a defendant manufacturer who purposefully ships the accused product through an “established distribution channel”-*119 that seemed to be the key phrase, “established distribution channel”, such a defendant is subject to jurisdiction in the State in which the product circulates. The Court noted that the burdens on these particular defendants, a company that was incorporated in The People's Republic of China, and its U.S. subsidiary, which was incorporated in New Jersey, of defending a patent infringement suit in the Eastern District of Virginia, was not such as to outweigh Virginia's interest in “cooperating with other States to provide a forum for efficiently litigating plaintiff's causes of action” and the plaintiff's interests, which specifically include taking advantage of the Eastern District having the “fastest mean time from filing to disposition in civil cases ... amongst all the Districts in the country”-five months. So if on the Eastern District of Virginia's docket you wish to launch your infringement suit rocket, it's all systems go, begin the countdown!

Number 8 is *General Electro Music Company v. Samick Music*, 19 F.3d 1405, 30 U.S.P.Q.2d 1149 (Fed.Cir.1994) which involved inequitable conduct. The charge here was that an attorney for an applicant for a design patent had submitted a petition to make special to obtain accelerated examination. The attorney's statement that he had conducted a thorough search of the prior art was both material and intentionally false, or so a jury found, with substantial evidentiary support. Was the false statement material, given that it did not pertain, at least directly, to any patentability issue, only with the timing in examination? This Court showed little patience with the argument that an intentionally false statement to the Patent and Trademark Office was not material. The Court made no reference at all to the PTO's Rule 56 definition of materiality.

Number 7 on the list is *In re Goodman*, 11 F.3d 1046, 29 U.S.P.Q.2d 2010 (Fed.Cir.1993) another two issue case. The first issue concerned double patenting, when an inventor seeks separate patents on a generic or basic invention, and then a species or improvement invention. The Court held that the PTO properly rejected on obviousness type double patenting grounds applicant's claims in a continuation application that were generic to claims in a patent that had previously issued on a parent application. It distinguished its 1991 *In re Braat* decision, 937 F.2d 589, 19 U.S.P.Q.2d 1289 (Fed.Cir.1991) which had applied a “two-way” unpatentability analysis. No two-way analysis is required when “PTO's actions did not dictate the rate of prosecution”.

The second issue in *Goodman* was enablement and claim scope. One of patent law's fundamental principles is that the scope of a claim must be commensurate with the scope of the supporting

enabling disclosure, which in turn, depends significantly on whether the invention is in a so-called “predictable” art, such as one involving mechanics, or electronics, or in a so-called “unpredictable” art, such as one involving chemistry, or biotechnology. To state the principle is easy; to apply it, difficult. And sound application can only occur if the decision-maker is sensitive to the underlying policy considerations, and sensitivity includes an awareness that at stake is not only how broad a patent an inventor gets, but also, when the inventor can, and should apply for a patent. An inventor who waits for further data may be preempted by a rival or the progressing art. One who files too soon receives little or no protection.

*120 In *Goodman*, the Court held that the PTO did not err by rejecting the applicant's broad claims to a method for producing mammalian peptides in any plant cell, when the specification gave only a single working example, which involved a tobacco plant and a gene encoding for gamma-interferon. The Court believed that the single example did not “enable a biotechnician of ordinary skill to produce any type of mammalian protein in any type of plant cell”. The Court's conclusion parallels earlier decisions—the 1993 *Wright* decision, and the 1991 *Vaeck* decision.

Number 6 is *Haynes International v. Jessop Steel*, 8 F.3d 1573, 28 U.S.P.Q.2d 1652 (Fed.Cir.1993) one of several notable decisions on the Chief Justice's favorite topic, file wrapper estoppel. The reason that you can not reclaim through claim interpretation or equivalency that which is surrendered during PTO prosecution to obtain a patent is common sense, but application to particular facts can be difficult, and this Court has displayed varying attitudes towards estoppel.

In *Haynes*, the Court suggested a legal standard for estoppel which seemed to be novel. It said that the test is “an objective one, measured from the vantage point of what a competitor was reasonably entitled to conclude, from the prosecution history that the applicant gave up to procure issuance of the patent.” This express reference to a reasonable competitor seemed to us new. Is it? Realistically, of course, most competitors can make neither heads nor tails of a prosecution history. And indeed, they are supposed to rely on the advice of competent counsel, who in turn, rely on what he or she predicts, this Court will rule on estoppel.

In *Haynes*, the Court considered a claim that literally required “about 22” percent of a component in an alloy. The accused product had about 20.8 percent. Is 20.8 percent about 22 percent? The patentee asserted infringement through the doctrine of equivalents, but this Court found an estoppel. The applicant had originally asserted claims with broader ranges that would have literally encompassed the accused product; for example, 20 to 24 percent, and 21 to 23 percent. To overcome an examiner's rejection of those claims based on prior art, the applicant submitted test data showing superior results, comparing its preferred sample, which was 21.9 percent—about 22 percent, if you will—to the prior art. On appeal, the Board of Appeals decided that applicant's data was persuasive as to the narrow “about 22 percent” claim but not as to the broader claims. The applicant canceled the broader claims and obtained its patent.

The majority concluded that “a reasonable competitor would have concluded that by cancelling” broader claims and obtaining the about 22 percent claim “... and failing to submit ... test data to procure the issuance of those claims in a continuation or reissue application, [the patentee] gave up coverage that would have included [the accused] alloy.”

The suggestion that the applicant should have filed a continuation or a reissue application to avoid an estoppel drew fire from Judge Newman in a concurring opinion. On rehearing, the majority modified its opinion, deleting the reference to reissue. Judge Newman was still not pleased with the continued suggestion that a continuation application should have been filed to avoid an estoppel.

*121 Number 5 is *Carroll Touch v. Electro Mechanical Systems*, 3 F.3d 404, 27 U.S.P.Q.2d 1836 (Fed.Cir.1993) also a multiple issue case. The first issue was one of claim interpretation. This Court held that properly interpreted in light of the patent's specification and prosecution history, its claims requiring that two surfaces be "spaced apart" meant that those surfaces had to be "spaced apart" over their entirety "without any intersection". Therefore they did not read on the accused device, which was so configured that the two surfaces in question intersected at some points. Of particular interest in the Court's analysis, was its emphasis on stated objectives of the invention. The patentee's interpretation would cause the claims to cover subject matter that did not achieve those objectives, at least not fully.

The second issue in *Carroll Touch* was assignor estoppel. One Lazarevich signed an assignment of his rights as joint inventor to his employer, which, of course, enabled his employer, *Carroll Touch*, to obtain a patent. Lazarevich left the company later to form his own company, and was sued for patent infringement. He and his company argued that the patent was invalid. The trial court refused to apply assignor estoppel to bar the invalidity defense, relying on Lazarevich's testimony that he didn't know what he was signing, and that he was not an inventor of the application's subject matter. He thought the application dealt with something else. The trial court was impressed with that testimony, and found that he was "led by the hand down the primrose path." This Court reversed. Lazarevich was a sophisticated individual, whose testimony was contrary to his sworn declaration. Assignor estoppel is an equitable doctrine; equity can not aid the violator of an oath.

Finally, the Court held that the District Court properly granted summary judgment, dismissing an accused infringer's antitrust and state law unfair competition counterclaim, which asserted that the patentee's infringement suit was part of a scheme to monopolize the industry in question, computer touch panels. The counterclaim, so held the Court, could not fall within the "sham" exception, to the *Noerr* immunity doctrine because the suit was not objectively baseless, as it must be under the Supreme Court's 1993 *Professional Real Estate Investor* decision.

The Number 4 decision is *North American Vaccine v. American Cyanamid*, 7 F.3d 1571, 28 U.S.P.Q.2d 1333 (Fed.Cir.1993) a fascinating application of claim interpretation and equivalency concepts to a biochemical invention. Human infant vaccines involve linking a polysaccharide to a protein. The patent claimed a "conjugate"-a conjugate wherein the protein is linked to "a terminal portion of the polysaccharide ... without significant cross-linking." Cross-linking between the polysaccharide and protein tended to hamper the immune response by blocking the polysaccharide's antigenic sites. The patent described monomers, that is, single proteins that were therefore "monofunctional" being linked to one terminal.

The accused vaccine was a "blend" of monomers, dimers, and trimers. The latter were two and three linked proteins, which in turn, linked at both ends of the polysaccharide-that is, at both the

terminals. There were two paths to literal infringement. First, monomers clearly did involve linking at a single terminal, without cross-linking. But did the claim word, “conjugate” focus solely on the individual linked protein-polysaccharide component,*122 if you will, in which case it would appear that literal infringement could be shown? Or did “conjugate” refer to the whole mix, in which case the claim would be literally met only if you could say that the two-end linked dimers and trimers were, in a sense, linked to a terminal and did not involve cross-linking? The District Court found that “conjugate” meant the whole mix. On appeal, the majority, this Court panel, seized on a statement during oral argument by counsel of the patentee, that we “are not contesting the District Court's interpretation of the word ‘conjugate’.” The moral of that is to beware of what you say in arguing a complex case before this Court. It will be used against you.

The second path to literal infringement was a two-pronged position, first, the forbidden cross-linking did not include linking at the terminals, only linking along the backbone, and second linking to “a terminal” did not exclude linking to more than one. The majority rejected both prongs. As to the first prong, it depended on a concept that was not described in the specification. It was an interesting, perhaps valid concept, but it was not described in the specification, and therefore, was not a proper basis for interpreting the claim. And as to the second prong, the Court conceded that generally, in patent claim drafting, a reference to “a”, indefinite article, means “one or more”, but here there was no indication in the specification “that the inventors had intended it to have other than its normal singular meaning.”

Judge Rader dissented as to all of the above.

Time does not permit us to explore the many lessons that may reside in North American Vaccine and similar patent claim interpretation decisions. But here is one thought: Is the Court telling us that if there are two plausible interpretations of a claim-“plausible”, in the sense that the patent specification and prosecution history do not clearly refute, and indeed, support either, or both-that the Court is apt to adopt the narrow interpretation, the justification being, after all, that the patentee is responsible for the drafting, the specification, the wording of the claim, and any uncertainty should resolve against the patentee?

The Number 3 case is *In re Schrader*, 22 F.3d 290, 30 U.S.P.Q.2d 1455 (Fed.Cir.1994) which is on the vexing problem of the patentability of algorithms and business methods, or in the language of the day, “software” patents. This Court held that the PTO properly rejected applicant's claim to an auction bidding method as a mathematical algorithm, and therefore found no need to address the issue whether the claim is to a “method of doing business.”

Of particular interest was the majority's comment on the definition of a “process” in Section 101. It emphasized that while the definition of a process requires “some kind of transformation or conversion of subject matter representative of or constituting physical activity or objects” it does not require change in a physical object. “Changes to intangible subject matter representative” of objects is included in the definition. That is certainly an idea worth further thought.

The Court leapt on the fact that limitations stressed by the applicant such as displaying the results of the defined auction were not in the claims. The Court's opinion reeks of narrowness,

suggesting, for example, that had the *123 claim required that the computed results be physically displayed, it would have constituted statutory patentable subject matter.

Judge Newman, in a separate opinion, addressed, among other things, the fuzzy “business methods” exclusion, urging that the exclusion be retired.

Also of interest in Judge Newman's comments is the question about obviousness. Many now recognize that the primary problem with patents on this “software” is that the broadly claimed subject matter is the same or similar to methods long used in analogous contexts. But those prior art uses are often not reflected in patents, or other literature conventionally available to patent examiners.

What role is there for common sense here, whether by Patent Office officials, or judges, in assessing the patentability of claims to business methods, instructional techniques, or the like? In addition to Judge Newman's short concurring opinion, the Court gave us some hints in another decision, *In re Raynes*, in which the Court referred to some other case law about “taking judicial notice of broad concepts in the realm of the obvious.”

The Number 2 case is *In re Donaldson*, 16 F.3d 1189, 29 U.S.P.Q.2d 1845 (Fed.Cir.1994) (en banc). The patent under reexamination claimed an industrial air filtering device that had dusty air enter a chamber and pass through filters. To periodically dislodge the dust, the device pulsed reverse flow air, causing the dust to fall into a hopper, where an auger screw removed it. To prevent the dust from hardening on the hopper, the invention provided that at least one wall should be flexible, which caused it to act as a diaphragm expanding with the air pulses and loosening the dust. The claim in question included as a limitation “means responsive to pressure increases ... for moving particulate matter.” The PTO rejected the claim as obvious in reference to a prior art patent that showed pulses, but didn't expressly show a flexible wall. The PTO refused to limit the claimed “means” to the specification means—that is, a diaphragm, and equivalents thereof. And it found that the prior art structure vibrated in response to the pulses, and that was a means for moving particulates.

This Court reversed in a unanimous en banc holding, in one opinion, which is a rarity. The only other case that comes to mind was the *Kingsdown* opinion. The Court held that the last paragraph of Section 112, which directs that means plus function elements be “construed” to cover the specification means, “and equivalents thereof”, governs PTO patentability examinations, as well as court infringement determinations. During examination, the PTO may give claims their broadest reasonable interpretation, but Section 112 curtails what is reasonable.

There will be several interesting things to worry about after *Donaldson*. What is the burden of proof on equivalents, and the like? Another interesting point that came up is whether the PTO's longstanding contrary interpretation of the statute was entitled to deference. The PTO urged that its interpretation should be given due deference, but it got none from this Court. “The fact that the PTO may have failed to adhere to a statutory mandate over an extended period of time does not justify its continuing to do so here.”

*124 The Number 1 case is *In re Baird*, 16 F.3d 380, 29 U.S.P.Q.2d 1550 (Fed.Cir.1994) and let me in the interests of time simplify the chemical terms a little bit. The applicant claimed a toner with a high stability and low critical surface energy. The claimed toner comprised a polyester of, let's say, B-A, which reacted, in turn, with an acid, selected from a group of three specific acids. A prior art reference (Knapp) disclosed developer compositions, in which a diphenol selected from a general formula was reacted with an acid from another general formula. Now these formulae gave broad ranges of variables, but if you pick one of them in each case, you reached the claim in question. But if you looked at the first one, in the Court's estimation anyway, it covered more than 100 million different diphenols. The applicant was only claiming three.

The prior art reference (Knapp) recited 58 specific diphenols as typical or preferred, but those were all more complex than the applicant's specific B-A selection. It was true that Knapp recited 20 typical acids, which included the three that the applicant claimed.

The PTO rejected the applicant's claim as obvious, in view of Knapp, reasoning as follows. B-A "may be easily derived" from Knapp's formula, and "all the motivation the worker of ordinary skill in the art needs to arrive at the particular polyester ... is to follow that formula."

This Court reversed. "While Knapp may suggest certain complex tools, it does not suggest" or describe, "and therefore does not motivate the selection" of the B-A claimed compound. "The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious." "A disclosure of millions of compounds does not render obvious a claim to three compounds, particularly when that disclosure indicates a preference leading away from the claimed compounds."

Well, the PTO reacted adversely to its loss in *Baird*, announcing on March 22, 1994, that *Baird* was "inconsistent with applicable binding precedent" and "involved an improper standard of patentability"-so what else is wrong with the case? It directed examiners not to follow it, and indeed, if applicants even cite it, they will be summarily taken out to Crystal Plaza and shot!

So what's behind all this? Time has run out nearly, but maybe one or two brief comments. First, the *Baird* problem, prior generic disclosure, is not a new one. There are lines of cases on variable optimization, and what Europeans call "selection" inventions. If the prior art genus or range is large, the case law consistently holds that the prior art must recognize or disclose reasons for optimizing or selecting what the applicant claims. On the facts in *Baird*, the prior art reference genus was large. And in the Court's view, the reference's specific examples did not point to, but rather taught away from what the applicant had selected.

But secondly, and the last point, it is not sufficiently clear here any more than it was in the notorious *Dillon* decision what is "truly at stake".

Are we concerned only with issues of burden of proof, as between PTO and applicant, to either establish, or disestablish, through evidence, that the claimed invention was, or was not suggested by the prior art? I believe *125 that's an issue of great importance to the practical implementation of the patent system.

But are we also concerned with the substantive rules on patentability under the nonobviousness standard? Shifting the burden of proof sometimes seems to operate to alter the underlying substantive standard. Once it's shifted, the applicant's burden becomes not, in practical terms, not only one of showing that the prior art provided no motivation to select the particular species within the genus, but also that the species displays novel unexpected properties not common to the genus.

So there we have the Top 10. It was certainly more than an above average year for Federal Circuit patent law watching. But then there is always next year. We are almost guaranteed to have a very interesting selection of cases, what with the pending en banc matters.

Thank you very much. (applause)