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Keynote: "The Future Is in Our Hands"

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PROF. LIM: Let me say a few introductory words about Judge Newman. Again, I wish that she could be here with us, but she is listening to us now and you'll see her in a few moments.

Too many accolades for me to recite, but I'll just share one recent one that I had the privilege of being part of. She received the American Inns of Court 2018 Lewis F. Powell, Jr., Award for Professionalism and Ethics at the Supreme Court on October 20th. It's given to "a person who has rendered exemplary service in the areas of professionalism, ethics, civility, and excellence." The regard that I saw for her by both the bench and the bar clearly showed the respect and standing that she has and continues to enjoy today. It's something to marvel at. It's something to be grateful for.

She can hear you, and therefore I say please join me in welcoming Judge Newman.

JUDGE NEWMAN: Good morning, everyone. I very much regret that I am not there with you in the flesh at such a timely program and with such a powerhouse of participants.

This is my theme: the need for understanding the relationship between patent law and economic progress.

Patent law is a law of practical economics. It's not whether patented products are overpriced, as is often told to the courts. The real question is whether these products would exist at all, whether the research, development, and investment would have been undertaken, without a system of patents or something like it, something to balance the risks.

A good example is in the Orphan Drug Act,[1] which is considered to be quite successful. But I haven't seen such a deep economic analysis of general

[1] Orphan Drug Act of 1983, Pub L. No. 97–414, 96 Stat. 2049 (Jan. 4, 1983).

applicability, although every inventor and every investor conducts such a study at the threshold.

I'm told that today's technology is too complex and varied for general economic theory, but we need enough of a framework to apply the present law appropriately, to write the present law, and to consider whether larger changes are needed, maybe a special law for software, maybe a special law for diagnostics. We need to understand the relationship between patent law and these new technologies.

This concern isn't new. History shows a pattern of the law adjusting to change in the common law tradition.

As you consider this adjustment in this conference I encourage you also to look ahead. How should Section 101, for example, treat artificial intelligence? Can a robot be an inventor; and, if not, why not? If the Postal Service is a "person," as the court has held and as the Supreme Court has agreed to review,[2] why not a robot?

The purpose of patents has always been the economic incentive to serve the national interest through ingenuity, industry, employment, trade, and their products for the public. So I say these aren't new questions, but they've avoided adequate depth of economic analysis maybe because of their complexity, for it seems that they are likely to reach the courts before they go through scholarly review.

We decide specific cases on specific facts, but the impact is usually wider, again in the common law tradition. That's what happened with the Supreme Court's decision on obviousness in *KSR*[3] and its decisions on Section 101.[4]

My proposal to this group this morning is that we should fix what has gone wrong as well as plan ahead — not just that we should fix it, but that we can fix it. I can think of no better group than this assemblage.

Let's learn from history. Throughout history every upheaval in patent law has been the product of technological change. We're now in what's called the Fourth Industrial Revolution. Each revolution had a counterpart in the patent law.

The First Industrial Revolution is attributed to the power of steam and mechanical advances, such as the railroads. That was the era of Article 1 Section 8 of the Constitution.[5] You may recall that the Constitutional Convention in

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[2] Return Mail, Inc. v. United States Postal Serv., et al., 868 F.3d 1350 (Fed. Cir. 2017), *cert. granted*, Docket 17-1597 S.Ct. (Oct. 26, 2018).

[3] KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398 (2007).

[4] See Bilski v. Kappos, 561 U.S. 593 (2010) (rejecting the Federal Circuit's holding that the "machine or transformation" test is the sole test to determine whether a process constitutes patent-eligible subject matter, and refocused the subject-matter eligibility test on the three judicial exclusions "laws of nature, physical phenomena, and abstract ideas"); Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S.CT. 1289 (2012) (invalidated attempt to patent natural law); Association for Molecular Pathology v. Myriad Genetics, Inc., 132 S.Ct. 1794 (2013) (invalidated patents on naturally occurring DNA segments but not on non-naturally occurring cDNA); Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. CT. 2347 (2014) (invalidated patent based on abstract idea and set forth a two-part test for analyzing whether an abstract idea claim is patentable).

[5] Copyright Clause: U.S. CONSTITUTION, Art. 1, § 8: "The Congress shall have power ... To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

Philadelphia adjourned so that the delegates could view a steamboat on the river. In the first century of this nation U.S. patent law was stable, emphasizing incentive and creativity.

Then came the Second Industrial Revolution, with the maturing of the sciences of electromagnetism and chemistry and physics, leading to the telephone, electric light, power, photography, and flight.

Then came the large boost to science of the two World Wars. This led to the 1952 Patent Act,[6] for it became clear that the rules of the past were not optimal for the future. The 1952 Act corrected some judge-made law, like the requirement of a "flash of creative genius."[7] The 1952 Act also removed the concept of inventive step, a concept recently restored by the courts.[8]

So please think about it. That was an era of dramatic industrial growth that lasted for over two decades, and the patent law didn't quite keep up. The law lives in the past — that's its strength, its stability — but technology was changing faster than the law that administered it.

We in industry knew the culprit. It was the courts, judges, mostly elderly judges, who didn't understand how science worked, how technology developed, how innovation was achieved, how industry invested, and the role of competition.

This led to the Court of Appeals for the Federal Circuit. I stress this history, for my message to you is that the law is not fixed. It's in your hands. Today we see the same kinds of problems we set out to solve with the Federal Circuit.

A quick history of how this all started. After the Vietnam War, the nation was in a severe economic recession. There was industrial retrenchment, high unemployment, mass layoffs of scientists and engineers, high inflation, a prime rate of over 20 percent. For the first time in our history as a nation the United States had a negative balance of trade. This was the background of the Federal Circuit.

The concerns of industry were heard by President Jimmy Carter, himself a businessman. He understood about profit and risk and incentives. He also understood that new things, new ideas, were a prime mover in commercial activity.

Also, new sciences were maturing — chemical and biological sciences, material sciences, and agricultural sciences — but they were expensive to develop, it was easy to fail, and it was easy to copy the successes after someone else paid for the failures. This is the turf of the patent system. It always has been.

In 1978 President Jimmy Carter convened a study, *The Domestic Policy Review of Industrial Innovation*.[9] The purpose was to understand how government action, law, policy, and regulation can affect industry and new things in innova-

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[6] U.S. Patent Act of 1952, 35 U.S.C. §§ 1 et seq. (Pub. L. 593, 66 Stat. 792) (as codified and enacted as of July 1952).

[7] Cuno Eng'g v. Automatic Devices, 314 U.S. 84 (1941).

[8] *See generally*, Jacob S. Sherkow, *Inventive steps: the CRISPR patent dispute and scientific progress. The recent patent decisions about CRISPR tell us a lot about how advances in biology are actually made—and how they are not*, EMBO Rep. 2017 Jul; 18(7): 1047–1051 (May 23, 2017) doi: [10.15252/embr.201744418] PMCID: PMC5494531PMID: 28536246 Science & Society.

[9] U.S. DEP'T OF COMMERCE, UNITED STATES ADVISORY COMMITTEE ON INDUSTRIAL INNOVATION, FINAL REPORT (September 1979).

tion. This study included all the areas of possible impact on innovation: labor law, labor practices, federal tax structure, federal regulations, competition law and policy, trade law and policy, and the patent system. At the end, some of us thought it was an afterthought.

The group that was studying the patent system contained economists, research directors, in-house counsel, litigators, the Commissioner of Patents, and representatives of large and small business. Don Dunner was a member. I was a member. Our charge was to find what needed fixing in the law and then to fix it. This is my charge to you today. I'll skip the details for these few minutes; Don Dunner can fill you in. We came up with some proposals that guided the patent system for the next few decades until, again, technology has outpaced the law.

First, we proposed a system of reexamination. This was our most controversial proposal. It was not met with enthusiasm by the patent bar, but it was eventually adopted into law, opening the door to the latest version in the America Invents Act (AIA).[10] The AIA is in my view a good idea, but it too now needs some fixing, and there is now enough experience to do so. At least you know where to start.

But to go back to history, in addition to reexamination, the Carter Commission proposed that federally funded discoveries should be open to exclusive licensing, for we heard many tales and many witnesses about good academic ideas that were never developed.

This became the Bayh-Dole Act.[11] We proposed a self-sufficient patent office through a system of maintenance fees. This too was adopted.

We also proposed consolidation of patent appeals in a single court. We had the example of the Court of Customs and Patent Appeals (CCPA) with Judge Rich and Judge Markey. We knew that judges could get it right.

This was not at all controversial in the patent bar, but it got the most attention elsewhere. The litigation establishment as well as constitutional scholars brought out their big guns to oppose it. This is a long story, but it showed me that it's quite possible to penetrate the establishment if you're on the right side. The right side was to provide a more predictable framework for commercial investment, stability of law, and consistency of judicial decisions. We recognized that, whatever else we fixed in the patent law, unless there was confidence in the law and judicial rulings, the goal of industrial innovation wouldn't be achieved.

At that time, even if the patent was sustained at the start, it could be attacked in circuit after circuit until it fell. That was the *Blonder-Tongue* case,[12] and the circuits had vastly different views of the patent monopoly. Some circuits hadn't sustained a patent in eighty years and bragged about it. Forum shopping decided the case and was a factor in every investment decision.

Most of us on the Carter Commission knew nothing about the exotic aspects of reorganizing the federal judiciary. There had been earlier studies of judicial structure. Don Dunner was involved, and he warned of the difficulties.

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[10] Leahy-Smith America Invents Act, Pub. L. 112-29 (Sept. 16, 2011).
[11] Patent and Trademark Law Amendments Act, Pub. L. 96-517 (Dec. 12, 1980).
[12] Blonder-Tongue Labs., Inc. v. University of Ill. Found., 402 U.S. 313 (1971).

However, by then economic times had again changed for the worse. The United States had the highest percentage of obsoleted industrial plants of any industrial nation, in part because the plants had been rebuilt in other countries after World War II. But we also had the lowest percentage of capital investment, the lowest growth of productivity and savings. Everyone was worried. So we took on this controversial idea.

I was surprised at the vigor of the opposition. They said that forum shopping was overstated and that circuit diversity was healthy. This is the percolation theory of Supreme Court review. They said that diversity is an American tradition, the free competition of ideas, and this is as desirable in law as in anything else. They said that the variety of judicial attitudes reflects the variety in the nation and helps the Supreme Court to find the right answer.

In turn, the Congress listened to the industry representatives, but they were much concerned about a different aspect about the formation of a specialized court. There was bad experience with specialized courts. There was a recent court, called the Temporary Emergency Court of Appeals, formed to handle the oil and gas litigation during the Nixon price controls, and it was viewed as a disaster. So neither the House nor the Senate would introduce our legislation.

Then a solution appeared from an unexpected source. Professor Meador of the University of Virginia, who was the head of the policy section of the Justice Department, proposed a solution, to form a nonspecialized court by combining the existing Court of Claims with the Court of Customs and Patent Appeals, both already national courts, so that solved that problem. At that time, adding the patent appeals that were in the regional circuits would provide a total of 12 percent of patent cases in the caseload, including the prior patent jurisdiction of the CCPA. So this would be far from a specialized court. And it worked. The legislation was introduced. The story of its enactment is not simple — perhaps Don can help you — but it was enacted.[13]

For our first couple of decades the Federal Circuit indeed stabilized the law. We even got some credit for moving the nation out of recession. Industry blossomed, and many nations copied our systems, our jurisprudence, and our judicial structure. Those were heady times.

They were also simpler times, for as new forms of technology appeared, new ways of doing business, and new complexity of competition and innovation, the law didn't keep up.

Law lives in the past, again, that's its strength, but science and the new technologies are the future. A reliable and predictable patent law is more necessary than ever, for technology is a much larger part of our industrial product than ever. The recent Supreme Court attention to patent cases reflects their importance to the nation.

The balances are not simple, the fresh balances among creativity, business risk, competition, trade, the creation of new knowledge, the production of industrial capital, and fairness, justice. There is no room in the United States for second best. You and we, lawyers and judges, share this responsibility.

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[13] Federal Courts Improvement Act of 1982, 96 Stat. 25 (Apr. 2, 1982).

I wish I were there with you, but I am tuned in, and, with thanks to Professor Lim and all of you, please proceed. I'll be with you from the cloud throughout this important conference.

PROF. HANSEN: I thought that was interesting, excellent, and inspiring.