

**KEYNOTE ADDRESS:**

**THE DOCTRINE OF EQUIVALENTS  
AND PROSECUTION HISTORY ESTOPPEL:  
UNITED STATES DEVELOPMENTS**

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It is indeed a pleasure for me to be addressing this distinguished audience. One of the advantages of these conferences is that you meet new people over the years and see a lot of old friends. Under Professor Takenaka's leadership, conferences such as this one have become an exciting event. Also, I've had many wonderful experiences with Judge Michel, who has come and helped me teach seminars two or three times in the past. After reading the reviews, I noticed that a lot of people commented on how much they enjoyed Judge Michel. From his talk today, you can see how people enjoy his lectures; his talk simply covered the waterfront of the American doctrine of equivalents cases and theories.

I would like to wrestle a bit with the question that Judge Michel posed for us to discuss, which stated, "We know that in all major countries today, there is a doctrine of non-textual infringement." I don't like the doctrine of equivalents as a name because we get equivalents associated with the *function way and result*. If you say and think of non-textual infringement, you would immediately know that we are talking about getting outside of the language of claims in a system that uses claims.

All major patent systems use claims to define the scope of the monopoly that is bred ordinarily by a patent law office. There has been a big discussion about whether Japan has some kind of non-textual infringement that has now been settled by decisions of the Japanese Supreme Court. It is quite a good decision. It made only one serious error, which was talking about material versus immaterial limitations. A very serious error was in copying the errors from British law that the English tried to avoid in the *Catnic* decision.<sup>1</sup> Then, another serious error was made in instituting purposes of construction, which now will have to be taken out when non-textual infringement next goes in front of in front of the House of Lords.

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<sup>1</sup> *Catnic Components Ltd. v. Hill and Smith Ltd.* [1982] R.P.C. 183.

If you step back and ask why we have these issues today, Judge Michel put it best when he said, “I thought we have a claim-based system. We are using claims. Now you are telling us, for whatever reasons, we make it up as we go along; we have *Graver Tank v. Linde*<sup>2</sup> in the United States, which was fixing the error.” This is not non-textual infringement because there were claims that covered the theories of products and processes. The claims were directly covered. So, in the sense that it is not a non-textual infringement case, it is terribly confused. Justice Jackson was a great prosecutor at Nuremberg. However, he was not a great patent lawyer. We should also not blame the U.S. Supreme Court. We have excused the House of Lords in *Catnic*, the German Supreme Court in *Formstein*<sup>3</sup>—all of which are full of problems. So, the Japanese Supreme Court should not get mixed up with material vs. immaterial limitations.

I will suggest that what the courts and often commentators have not done is to step back and ask, what do we need this doctrine for? If we ask that question, we have to ask, why do we use usually use it? I want to go back about ten years, to select U.S. cases to illustrate that almost always the problem involves fixing a drafter’s mistake. Typically, there is a problem with the claim, and it often is a problem that most patent attorneys could pick up if they read the claims carefully. When there was something wrong with claims, the fix was to use the doctrine of equivalents, or the doctrine of non-textual infringement, because a person should not really be able to benefit by some draftsman’s error. Unfortunately, the doctrine has often been used that way.

Now, let’s look at what the patent attorney has available, at least in the United States. It may be different abroad, and there also might be a different basis for a non-textual infringement doctrine under a different system. Let’s just look for the moment at the U.S. System.

We have claims that are framed in terms of either *structure* or *function*. Let’s just stick with structural claims. I can claim structures, which really have to be structures available at the time of filing. Let us just take the filing-date as the critical date, for the moment. If I use structural terms that have a fixed meaning, and there are decisions on this, they have a meaning as of the filing date. If I use structural limitations, then the language does not cover a change from that structure. So, one would say “Well, that’s a problem, immaterial limitations have to be covered.” We have Section 112, paragraph 6, which allows for the functional claims—which means the structures disclosed or defined in the specification plus immaterial changes. So, we are then able to claim variations, immaterial changes. The Federal Circuit has said that the time for determining those changes is the issue date of the patent. Now, you might quarrel later that it should be the filing date

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<sup>2</sup> *Graver Tank v. Linde Air Products Co.*, 339 U.S. 605 (1950).

<sup>3</sup> *Formstein*, [1991] RPC 597 (German Federal Supreme Court 1986).

rather than the issue date, in terms of which date makes more practical difference. That creates a problem because immaterial changes come up *after* the patent is granted.

Is that fair to let somebody make an immaterial change with respect to a limitation, while I'm claiming, deliberately, that I am entitled to those changes—just because it came up *after* the issue date? The answer is no. This is something that U.S. Law has dealt with very adequately; that any after-arising variation is covered under the doctrine of equivalents under U.S. law. And there can be no prosecution history estoppel in any sense later, because that variation was not really in existence. So, how could you disclaim this? It would be very difficult to disclaim what is not. So there are no prosecution history estoppels. This is essentially U.S. law.

Now, why then should we not have the same rule for structural limitations? Why should we not say that we will hold you to the structure that you claim at the time you claimed it, based on a particular point in time, let's say the filing date? You had better get it right if you want to claim more the first time. U.S. law even goes further—and I think this is a very good thing and I would liberalize this practice—it says, if you make a mistake in your patent issues, we will let you go back and fix it by re-issue, but we only let you fix it for two years. Currently, many shrewd practitioners have continuations on file for important cases. So, they are able to fix these things using continuation practices, which the casebook calls the “Bogle-trailer practice,” for technical reasons. This practice even gets you out from under the limitations of the reissue statute.

The point being that U.S. law is quite liberal on protecting you from mistakes. So, I would assert there is no reason, in a system like the United States' system, for any kind of non-textual infringement, except when you have after-arising technology, something that was developed and came up in the future. It was not reasonably foreseeable.

I have the notes of Judge Rader's speech in London, in which he uses a kind of *reasonable foreseeability* as a test. I think that is very good language; it's better than my formulation. If something is reasonably foreseeable to address, you should draft it. A good example of this is the *Maxwell*<sup>4</sup> case. It is a brilliant case, because it is certainly foreseeable that somebody will make an embodiment that is disclosed in your patent but not claimed in it. If you disclose it and do not claim it, you certainly can foresee that somebody might use it. How can you possibly have the gall to go into court and argue that you should be able to get, under the doctrine of equivalents or non-textual infringement, what you disclosed but did not claim? You may say that you made a terrible mistake. You might walk in and say “I really blew it”; but that's not the issue, that is certainly not for using some non-textual infringement.

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<sup>4</sup> *Maxwell v. Baker*, 86 F.3d 1098 (Fed.Cir 1996).

Now you might ask, what kind of cases you are talking about? You may not remember that when *Hilton Davis*<sup>5</sup> was decided there was another case called the *Paul*<sup>6</sup> case. *Paul* was the poster case for the doctrine of non-textual infringement. It involved somebody who was using the same invention but at the time that the infringer had developed its product. There was a new nylon on the market that people knew had essentially the same properties as other nylons on the market. This nylon was tested and it worked, and it was used. It was basically a new form of nylon. So, it was an after-arising technology, in all practical senses. I think this is a very clear case of non-textual infringement.

Another example—one of the best—is the famous *Epilady* case.<sup>7</sup> Everybody in Europe knows about the *Epilady* litigation; my colleague John Thomas mentioned it today. The case involved an after-arising technology that should have been held in all countries to be an infringement under a solid doctrine of equivalents. However, it was not held to be an infringement in England when Lord Hoffman reformulated the *Catnic* rules. He stumbled on rule number three, which does not make any sense.

Now, if what I am saying is right, we ought to limit the doctrine of equivalents to after-arising technology. We can then eliminate some of the problem areas that Judge Michel has discussed. For example, the prosecution history estoppel. My colleague, John Thomas has argued in a very interesting manner concerning the burning of the file wrappers. I don't know whether he wants to do this by the use of one great bonfire or exactly how the burning should take place, but he says we don't need them. Under this approach, if we get after-arising equivalents, there cannot be any prosecution history estoppel. Now the Federal Circuit may say otherwise in *Festo*,<sup>8</sup> but it cannot make any sense that patentees could disclaim something that was not there, unless they say "Oh, if something in the future is developed like this, I hereby disown." That is not how the real world functions. So we

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<sup>5</sup> *Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512 (Fed.Cir. 1995).

<sup>6</sup> *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211 (Fed.Cir 1995).

<sup>7</sup> *Epilady* in essence comprised an electrically powered rotating, helical spring. As the spring rotated, the windings of the spring were compressed causing hair to be plucked from the skin. A competitor, Remington, developed "Lady Remington Smooth and Silky," which featured a flexible rod with slits; as with the *Epilady* device, the slits would pluck hair as the rod was span. Although the *Epilady* patent claims would not reach the Remington device literally, a convincing case could be made for infringement under the Doctrine of Equivalents. *Epilady* therefore sought to enforce its patents against Remington in many European fora, but was plagued by inconsistent holdings.

<sup>8</sup> *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. Ltd.*, 172 F.3d 1361 (Fed.Cir. 1999).

can, as John suggests, at least burn the file wrapper for prosecution history estoppels. This should be very upsetting because I am destroying a lot of legal fees. However, there is enough business even without this.

As for the *Maxwell* rule, naturally something disclosed is disclaimed and is not after-arising. I read *Dolly* and *Sage* as being very close to the after-arising idea, essentially saying that it is reasonably foreseeable. If you put those words in the claim you are bound by them, so spend a little money. You should look at the words in the claim. Unfortunately, that would mean that there would be more work for patent prosecutors, because it won't be enough to say, "Give me about \$500 worth of prosecution on this case."

I don't want judges like Judge Cohn fixing those patents under some non-textual infringement. Do it right or fix it by reissue. Otherwise, unless the technology has developed in a way you could not reasonably foresee, I think that the doctrine should not be involved at all.

I will close with some observations, which I think Judge Michel essentially made, about the different views. Do we use prosecution history estoppel, or do we use some other test? I can show you prosecution history estoppel cases from the Federal Circuit where you have to ask the question: "How did it get to that? Why do we need the prosecution history?"

There is a recent case where there was some kind of float that had been used that had three specific ingredients. The accused used one different one. Well, you put three. Obviously, when somebody uses a different one, he or she does not infringe, and it was now an after-arising situation. Nobody used prosecution history estoppel when they needed it. An estoppel case would have been long, and the claim was cleared. There have been several recent cases when the claim was not infringed.

So, at the end of a day, the doctrine should not be used except where it is needed. And we can figure out now where it is needed. For example, after-arising technology is a good example. There may be other examples and some have been suggested. I think that it is an interesting topic. However, the doctrine should not be used in the United States. Further, we should not make it as complex to do what we are almost doing in the U.S. anyway—you should not need to be making a list of these complex issues. When we look at the theory, is it very simple to understand how to use this doctrine.

I will end my lecture; it seems I have used up my time. Thank you.

**Mr. Whealan:** Professor Adelman, if you are right, and in *Hilton Davis* there is no doctrine of equivalents, and the Supreme Court should have remanded the case back to the federal circuit, and if they did, how do you reconcile those matters?

**Prof. Adelman:** As I indicated, I don't think *Hilton Davis* was the best case; I don't know whether it involves after-arising technology. I have heard that what the accused had discovered was that, but there was not an after-arising test. If you increase the test, it was the pressures above the range which can

reduce the pH. So it is an after-arising development. If that was not the case, then I don't know, it should have been remanded. The court should have said, "Well, they should have claimed it." In my understanding, there might have been some discovery made by the accused to avoid the claim without doing anything differently.

**Judge Michel:** I think the technology even gets mixed up a little bit. In the *Warner-Jenkinson* opinion, Justice Thomas talks about the need to find out the reasons for the amendment, presumably a narrowing amendment. But the reason for a narrowing amendment is pretty self-evident: you are trying to convince the examiner to allow it sooner and more easily, so you can get a patent. And you'd rather do that than appeal and hope for some broader coverage. So, I have trouble understanding why the reasons for the amendment have any significance, unless the word *reason* is the proxy for the word *surrender*. I don't believe the word *surrender* appears in *Warner-Jenkinson*, and yet if you look at our case law, it is all about the word *surrender*.

The other thing that is odd about *Warner-Jenkinson* is the whole concept which is highlighted throughout that opinion, the concept of *Pennwalt*. But again, I don't believe that the *Pennwalt* case was cited anywhere in *Warner-Jenkinson*. So there are a lot of mysteries in either case.

**Audience member:** Professor Adelman, you seem to say that one reason for having the doctrine of non-textual infringement is that somebody screwed up in the writing and he should be penalized for it. I would like to add to your comment.

The first possible reason is mere economy. There may be equivalents to a certain element, and to write it all out would use a lot of paper in the text and a lot of claims.

The second possible reason is only for United States patent law, and it shows the fear of favoritism toward unskilled inventors. We are led to believe that there are reasons that inventors do not need to be skilled in the art. It's entirely possible that the inventor himself might not know some equivalents, and we might still want to give him a patent that is strong enough. Do you have a comment?

**Prof. Adelman:** Let's take them one at a time. You have a group of equivalents. The one thing you can do if you know five equivalents is that you should be able to mention them in the claim, that it is malpractice, even if you have a doctrine of equivalents, not to do that. You should also understand that if you don't care which one of the equivalents is used in the combination, you should have functional claims, or functionally-defined elements, because that gives you the immaterial or insubstantial variation, according to the federal circuit. So you can do that by proper claim drafting, and I think you should.

I will concede that there is an economic argument in saying, “it’s better to have a bunch of sloppy patents because it is cheaper, and we don’t have to do any work, and then later, okay, some unfortunate things will happen and we’ll pay a price there, but it will still be cheaper because we’re saving a lot of money on prosecution.” You can make that argument. If you don’t make that argument, then the drafter can fix your first problem.

The second problem is ignorance, reasonably foreseeable ignorance. I do not know if we have a special rule for ignorant inventors, or better yet, ignorant small inventors. I mean that may be the American myth, you know, we protect the small guy. And even though there might be only a little bit of that in U.S. law, we really are the most favorable to small inventors of any system. Where else but in the United States would you get a jury that you could confuse and maybe get a big judgment? So, you now want to go further and say, “Not only are we going to give you the jury to confuse the system, but we are going to let you go to the jury and convince them that even though you did not claim it, you did not disclose it, and you probably did not make it, somehow it’s fair to get a big a verdict.” I am not very sympathetic to that notion, though some people might be.

**Judge Michel:** I am now going to show that I am an all-purpose critic of the Supreme Court’s dabbling in patent law. I would like to criticize the *Warner-Jenkinson* decision to some extent for concepts and language that I find confusing. I believe I am perfectly equipped to pick on the *Graver Tank* court as well, because one of the justifications suggests that, as I read it, the technology is inherently too difficult to put into legalistic words that can be used for claim drafting purposes. I think that is a very questionable assumption. In the United States, almost every patent is drafted and prosecuted by a highly specialized lawyer who does this for a living, as pretty much a full-time sub-specialty. So the idea that these people are helpless and cannot express what they need to express is an exaggeration. I can’t figure out the basis of the Supreme Court’s assumption as it is articulated in 1950, in *Graver Tank*.

**Prof. Adelman:** A comment on Judge Michel’s point. You have to go back and read *Graver Tank*. The key to that decision is that the claims that covered the accused product, the flux which was disclosed and was claimed, were held invalid for technical reasons. Under the practice in 1950, which is no longer true today, the drafter probably should have gotten the benefit of the doctrine of equivalents because the claims that were left had to be expanded a little bit, since at the time you could only claim three species, and you could not file a second patent because that would be double patenting. Today all of that is gone. That is not in the law, but it was in the law and practice then. Now, I hate to say it, but this is one of the few times that I have to agree with something in the opinion by Justice Black and Justice Douglas, where they talked about reissue. Maybe that could have been fixed

on reissue. But it was a technical problem in the law—which I would add to my list if it still existed as a problem, but it is not a problem today.

**Audience member:** Maybe I'll take a shot, even though this may be a naïve question. I don't know if I understand the doctrine of equivalents in terms of protecting the patentee, and in terms of colorable differences....

**Prof. Adelman:** You can claim colorable differences if you want them. You can say, "I want what I disclose plus colorable differences." Our law provides that. Here we are talking about situations where you did not claim it. For example, let us take *Graver Tank*, but let me redo it. Let's say that the case fit the opinion. However, the facts don't fit the opinion. That is why Mr. Justice Jackson was a better prosecutor in Nuremberg than a drafter of opinions. The facts were very different. But let us say that the disclosures only disclose the alkaline-earth silicates. That's all they had done at the time. It's all they could practically do. So, they filed the claim and got alkaline-earth silicates. Later somebody read that patent and said, "I'll bet if we do some experiments, we will find that manganese is going to work like an alkaline-earth." That would then set the stage for an argument.

The argument would be that now it was an after-arising development. So, are we going to extend the patent that might get into technical arguments? That was not *Graver Tank*. Manganese was disclosed to work, it did work; it was claimed, but the claim that caught it went for technical reasons which I don't think were very good technical reasons. I think the Supreme Court was hostile to patents when they struck down the claim that covered it. Then, they granted the petition for rehearing—only four petitions for rehearing in this century were granted as of that time. However, they may have felt bad about the injustice they had just done, so they screwed up the law for fifty years to fix that one case. That is what happened.

**Prof. Kesan:** An argument can be made for after-arising acknowledgement, because it seems to me that patentees always like to claim that future developments are things they have contemplated all along. However, defendants are always going to turn around and say that what was disclaimed was not just for this claim specifically, but estops clients through a wider range, and what I am doing is merely an extension of what was disclaimed. So those arguments still work for after-arising developments.

**Prof. Adelman:** The question relates to whether you or somebody could look at the arguments and say, "Oh, you disclaim even what was developed in the future." Yes, you could make those arguments, but I do not understand how in the real world one can be held to have reasonably disclaimed what was not reasonably foreseeable. Maybe a person could make these arguments; I would not find them acceptable. I would say that if it were after-arising, it does not really relate to your prosecution history.

We were talking about a time as of the filing date or the issue date. Now we got a new situation—technology moves along. You know, the rubber-rod in *Epilady* was developed to replace the spring but it worked exactly the same way. How could you disclaim a rubber-rod? You could have said the spring is very important to the invention. Well, of course the spring was important to the invention, but I would not treat that as a disclaimer of the rubber-rod.

**Judge Michel:** Now, someday somebody will litigate the meaning, in the Constitutional clause itself, of inventors being entitled to protection for a limited time, seventeen or twenty years. Because in the context that it is now being debated it is not necessarily clear, at least to me, that the patentee is truly the inventor of the combination when you add in a later-developed technology. There might be some cases where you could say he was the inventor, but I can think of lots of cases where it would seem he is distinctly not the inventor of the later version of the similar device. So that is another problem that has nothing to do with whether one can disclaim.

**Adelman:** I fully agree with Judge Michel, therefore, I would put in an obviousness test similar to the one that Lord Hoffman used in his *Epilady* opinion, where he said, in effect, “Okay, let’s look at that rubber rod. That was developed later. Would it have been obvious at the time of the invention? If somebody had handed you a rubber rod, would you have known it would work in the same way? If so, then it is the same invention. If not, even if it does work in the same way, you would not have known it. Then there is another invention, therefore you are not the inventor.” I would argue for such a test, but we did not get to that point today.

**Judge Michel:** I think a lot of the tests as they exist today could fairly be described as being under-developed. We just had a perfectly a legitimate question about colorable differences. That is such a crude, elemental kind of analysis. It may work in certain legal contexts in a way that is acceptable to this society—lawyers and judges and practitioners—but that is so vague. It seems to me that the arguments should not need a broad or narrow doctrine of equivalents. What we need is a doctrine of equivalents such that eighty or ninety percent of you in this room would agree on a given set of facts, which either creates a non-textual protection or does not. If it is a complete coin toss, and nobody can agree, then nobody can plan.

In the end, we might even have to resort to a sort of sociological or economic question. Actually, Judge Rader has written about this in various contexts in a way that I find quite helpful. He talks about on whom should the risks of problems fall, as between the specialist’s claim drafter and the legitimate law-abiding competitor in the same technological industry. It also goes to the question of the economy and of how much is spent on the prosecution, \$1000 or \$10,000 or whatever it should be. But in the end, assuming

we're within the zone of the ability of the average claim drafting specialist, we should be able to articulate it sensibly. Then, in that context, why should the competitors—there are may be fifty of them—bear the economic burden of the risk of being charged with infringement and spending millions of dollars in legal fees in discovery, to defend themselves against the preventable error of the claim drafter? It may make more sense as an overall society to say “too bad for the claim drafter, he could have saved himself.”

Ultimately, we should be trying to get more rational, more consistent, and also more sophisticated in the final test; to get away from the crudest ideas, like *colorable differences* or *substantially*, because we have lived with those for a long time. To me, they don't work well enough. We need to improve the product.

**Audience member:** I appreciate the need for objective, or more objective, criteria and a standard that would allow the public to know what the scope of the invention is, and to design around or avoid infringing because that is the legitimate need on the part of the competitor. However, I am wondering about the principle that I thought I saw in this *colorable differences* doctrine of protection against fraudulent activity, where somebody changes the letter and may be infringing in some way.

**Judge Michel:** Well, I don't think it's a too tortured analogy, even though there are differences, of course. A comparison can be made between land and patent grants. If the boundary line of the claim is drawn in a certain way and I build a house outside of that boundary, why should anybody ever have a right to complain about that? I am outside the boundary that you drew. So, I don't understand this notion that there is a fraud on the patent. If somebody builds a product, like my building a house across the land-border, in an adjoining area not covered by the patent, it seems to me that that person ought to be considered a law-abiding actor, not somehow a defrauder of the patent. He did not defraud the patent. He worked outside the lines drawn in the patent by the patentee. It is hard to me to understand the equity that is so compelling to some of my forebearers in the judicial system.