Retranscription d'une conférence de Eben Moglen à Harvard à propos de SCO, du droit des brevets et de la démocratie.

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Voici une retranscription de la conférence donné par Eben Moglen à Harvard le 23 février 2004 à propos du droit des brevets et de la démocratie. Cette transcription est originellement disponible sur le site de GROKLAW, un site américain dédié à l'affaire SCO. N'hésitez pas à le visiter pour profiter de leur forum.

GROKLAW : http://www.groklaw.net/article.php ?story=20040226003735733

La conférence en real : http://jolt.law.harvard.edu/p.cgi/speakers.html

Mike Zarren : Can you hear me OK ? All right, here we go.

Welcome, everyone, to tonight's event. I just have a couple of quick announcements. I'm Mike Zarren, the editor-in-chief of the Harvard Journal of Law and Technology. Two quick announcements. First is, if you don't know about our Journal, you should check out our web page. It's jolt.law.harvard.edu. Our fall issue, which I know it's not the fall any more but it's just coming out now, has some great articles in it which I won't repeat all the topics, but they're cool.

The second announcement is that our next big event is our symposium. It's our annual spring symposium. This year the symposium is on innovations and ownership issues with regard to media. The symposium is going to examine how technological innovation and the digitization of print and broadcast media are impacting ownership and control of media distribution channels, as well as consumer access and choice. So please look at our website for current list of participants. There is a whole bunch of people coming and talking here, and that event is also open to the public and will also be webcast.

Special thank you to those of you who are watching online. The last JOLT webcast was the most watched webcast in the history of Harvard Law School, so that's exciting. I don't know what that means but.... [laughs] Anyway, without further ado, I would like to introduce Jonathan Zittrain, who's not only the co-director of the Berkman Center for Internet and Society -- there we go --as well as one of the best professors here at Harvard Law School.

Jonathan Zittrain : Hi, there. This session is something of a bookend to the session a couple of weeks ago. Maybe we should just find out, right ? How many of you were here at the last session ? You know what I mean, right ? How many of you were here ? How many of you were not here ? All right, so the not-heres have it over the heres from the last session. It's a bit of a bookend from the presentation by . . . Problems ? OK. OK, ma'am, turn down your radio.

OK, so this is a bookend to a session that started with Darl McBride of SCO, the Santa Cruz Operation two, Santa Cruz Operation Jr., who presented a number of theories about their ownership of UNIX and how that impacts Linux. I understand that there were people at the event, handing out copies of Linux as a form of civil disobedience. I don't know how many people made use of their copies to install Linux on their coffee makers or reinstall it on their TiVos.

I was disappointed to see that there was no one, I guess, in converse fashion, frisking people in their way in, looking for copies of Linux to seize, as a form of civil obedience by the powers-that-be. But in some important respects, too, I am not sure this will be a bookend, and that's because of who is

speaking, Eben Moglen. Eben Moglen is a scholar of the first order, somebody who thinks very big, and yet also very deep. And therefore, my guess is he will not be looking at this problem solely as a lawsuit that has certain facts and issues of law to be decided and here's how it ought to come out.

Of course, he is also looking at it that way, because he is, among other things, counsel to the Free Software Foundation, and therefore, Richard Stallmans' lawyer, and somebody who is the legal, and in other important respects, public face of the Free Software Foundation and the Free Software Movement.

This is probably an appropriate job for him to hold. In other lives, he has been a computer programmer. As early as 1973, at age 14, he was contributing to the development of VSAPL, the little-known successor, APL II, and PASCAL, at IBM Santa Teresa Laboratory. He has since, aside from being a historian, been a law professor at Columbia University, where in a way that is truly scholarly, in the sense that it depicts that a true relish of knowledge and of not just stockpiling knowledge but challenging conventional wisdom and making new knowledge out of old, new analysis, he has taken on a number of sacred cows, including, some of you may be chilled to find out, the law review establishment, which I think he probably still thinks is overripe for change and renewal, to put it lightly.

How does Eben Moglen describe his own mode of scholarship ? He says it is basically a two step, purely experimental paradigm. Step 1 : try to create freedom by destroying illegitimate power sheltered behind intellectual property law. Right ? What could step 2 be ? Step 2 : See what happens.

So far, he reports that early results are encouraging. So you are all part of the grand experiment that is really just Eben Moglen's research agenda, but obviously there is something a little more to it. There is a sense that this isn't just an economic or financial issue, that there really are broad-brushed social and cultural things at stake, and I'm sure that's what you are going to hear about today. So with that, please join me in welcoming Professor Eben Moglen.

Eben Moglen : Thank you. It's a great pleasure to be here. I want to thank the Journal of Law and Technology and Jonathan Zittrain for combining to set things up for me in this delightful way. It is true that I feel somewhat overwhelmed at the prospect of trying to talk for any substantial length of time about a lawsuit that isn't going anywhere very much. I am, however, going to mention the SCO lawsuit from time to time in my remarks.

Mr. McBride, when he was here, was kind enough to mention me once or twice, and I am going to do him the same favor. I hope you will feel, those of you who followed the conversation, that I am responsive to his remarks, though I don't think that doing it in the form of he said, I say, would lead, as Jonathan suggests, to a particularly intellectually challenging evening.

Free software, you will know, I am sure, that I didn't make this up, is free as in freedom, not free as in beer. One of the primary problems with the conversation we have been having about this lawsuit, in your distinguished speaker series this year, is that at least so far it had apparently been suggested that the goal of those of us who believe in the free software movement was primarily to prevent people from earning a profit in the computer industry.

This results, it is sometimes suggested, from some wild antipathy to the idea of economic benefit or some particular antipathy to the idea that people ought to have incentives to do what they do. I shall along the way suggest that we believe very strongly in incentives, though we see the problem of incentive perhaps a little bit differently than Mr. McBride. But it isn't, after all, and we need to begin there, it isn't, after all, about making things free as in beer. It is about making things free as in freedom.

[7:21] The goal of the Free Software Movement is to enable people to understand, to learn from, to improve, to adapt, and to share the technology that increasingly runs every human life.

The fundamental belief in fairness here is not that it is fair that things should be free. It is that it is fair that we should be free and that our thoughts should be free, that we should be able to know as much

about the world in which we live as possible, and that we should be as little as possible captive to other people's knowledge, beyond the appeal to our own understanding and initiative.

This idea lay behind my dear friend and colleague, Richard Stallman's, intense desire, beginning in the early 1980's, to bring about a world in which all the computer software needed by anybody to do anything would be available on terms which permitted free access to the knowledge that that software contained and a free opportunity to make more knowledge and to improve on the existing technology by modification and sharing.

This is a desire for a free evolution of technical knowledge. A descent by modification untrammeled by principles that forbid improvement, access and sharing.

If you think about it, it sounds rather like a commitment to encourage the diffusion of science and the useful arts by promoting access to knowledge.

In short, the idea of the Free Software Movement is neither hostile to, nor in any sense at cross-purposes with, the 18th century ambition for the improvement of society and the human being through access to knowledge.

The copyrights clause in Article 1 Section 8 is only one of the many ways in which those rather less realistic than usually pictured founding parents of ours participated in the great 18th century belief in the perfectability of the world and of human life.

The copyrights clause is an particular legal embrace of the idea of perfectability through access to and the sharing of knowledge. We, however, the 21st century inheritors of that promise, live in a world in which there is some doubt as to whether property principles, strongly enforced, with their inevitable corollary of exclusion -- this is mine, you cannot have it unless you pay me -- whether property principles best further that shared goal of the perfectability of human life and society based around access to knowledge.

Our position has been for twenty years that to the extent that existing copyright rules encourage the diffusion of science and the useful arts, they were good. And to the extent that they discouraged the diffusion of knowledge and the useful arts, that they could be improved.

We have, pardon me for taking credit for something, we have improved them, substantially, not by negating any of the existing rules of copyright. On the contrary, we have been quite scrupulous about that.

One of the things which amuses me amidst the rhetoric that is now being thrown around, is how oddly orthodox I seem to me when I consider my weekly activities as a lawyer.

Though not necessarily welcome in Los Angeles, I find myself behaving very much like an awful lot of lawyers in Los Angeles. I want my clients' copyrights respected, and I spend a fairly large amount of tedious time trying to get people to play by the very rules embodied in the Copyright Act that I am supposedly so busy trying to destroy.

Free software is an attempt to use the 18th century principles for the encouragement of the diffusion of knowledge to transform the technical environment of human beings. And as Jonathan says, my own personal opinion on the subject is that the early going in our experiment has worked out pretty well.

It is because it has worked out pretty well that there is blowback from it, and one of the little pieces of that blowback is the controversy now roiling the world entitled SCO against IBM, which apparently is supposed to become, Mr. McBride said it when he was here, SCO against something called the Linux Community.

I don't think that's actually what's happening, but it is certainly what Mr. McBride came here to say was happening.

So I'd best talk for a moment or two about how we see the situation that Mr. McBride describes as a great test of whether free goods are somehow going to drive out the incentive to produce in the net.

Free software, of which the operating system kernel called Linux is one very important example among thousands, free software is the single greatest technical reference library on Planet Earth, as of now.

The reason I say that is that free software is the only corpus of information fixed in a tangible form, through which anyone, anywhere, can go from naivete to the state of the art in a great technical subject -- what computers can be made to do -- solely by consulting material that is freely available for adaptation and reuse, in any way that she or he may want.

We enable learning all over the world by permitting people to experiment, not with toys, but with the actual real stuff on which all the good work is done.

For that purpose, we are engaged in making an educational system and a human capital improvement system which brings about the promise of encouraging the diffusion of our science and useful art in a way which contributes to the perfectability of human beings.

[15:02]

That's what we were trying to do, and we have done it. We are, as it happens, driving out of business a firm called the Santa Cruz Operation [sic] - or SCO Ltd. That was not our intention. That's a result of something called the creative destruction potential of capitalism, once upon a time identified by Joseph Schumpeter. We are doing a thing better at lower cost than it is presently being done by those people using other people's money to do it. The result - celebrated everywhere that capitalism is actually believed in -- is that existing firms are going to have to change their way of operation or leave the market. This is usually regarded as a positive outcome, associated with enormous welfare increases of which capitalism celebrates at every opportunity everywhere all the time in the hope that the few defects that capitalism may possess will be less prominently visible once that enormous benefit is carefully observed.

Mr. McBride does not want to go out of business. This is understandable. Mr. Gates does not want to go out of business either. But they are both on the wrong side of a problem in the political economy of the 21st century. They see software as a product. In order to make their quote "business model" close quote work, software must be a thing which is scarce. And out of the scarcity of software there will be a price which can be extracted, which will include an economic rent, from which Mr. McBride has suggested somebody will be enabled to buy a second home.

Mr. McBride thought it was the programmers who would be able to buy a second home but people who actually understand the current state of the software industry recognize that programmers are not buying second homes these days. I think Mr McBride means the executives who employ programmers and the financiers who employ executives to employ programmers will buy a second home on the software-is-product business model for a little while longer.

We think that software is not a product, because we do not believe in excluding people from it. We think that software is a form of knowledge. The International Business Machines Corporation, the Hewlett Packard Corporation, and a number of other organizations either represented here in body or in spirit this evening have another theory, which is that software in the 21st century is a service, a form of public utility combined with knowledge about how to make best use of the utility, which enables economic growth in peoples' enterprises generally, from which there is a surplus to be used to pay the people who help you produce the surplus, by making the best possible use of the public utility.

I think it would be appropriate to suggest, if you like, that where we now are is in a world, where, if I may employ a metaphor, Mr. McBride and his colleagues -- I do mean those in Redmond, as well as those in Utah -- think that roads should all be toll roads. The ability to get from here to there's a product. Buy it, or we exclude you from it. Others believe that highways should be public utilities. Let

us figure out how to use the public highways best, so that everybody can profit from them - from the reduction of the costs of transportations of goods and the provisions of services -- and by the by, there will be plenty of money to pay traffic engineers and the people who fix the pot holes.

We believe, for what little our view of the economics of the software market may be worth in the 21st century -- after all we are the people who transformed it -- we believe that the public utility service conception of software better reflects economic actuality in the 21st century. We are not surprised that Mr. McBride is going out of business on the other business model.

Mr. McBride's claim is that he is going out of business because somebody has taken what belongs to him. That's a lawsuit. As it turns out, however, the people he believes have taken what don't belong to him aren't us. His theory is that various people promised AT&T at various times that they would do or refrain from doing various things, that some of the people who promised AT&T in the old days to do or refrain from doing various things broke those promises, and that out of the breaking of those promises, Linux, a computer program distributed under free terms, benefitted.

[20:09]

Mr. McBride may be right about that or he may be wrong. We do not know what the contents of those contracts are in general terms, and we do not even know, as Mr. McBride pointed out to you when he was here, that he is the beneficiary of those contracts. He is presently in litigation trying to prove that he has what he claims to have -- certain contract rights which he claims were conveyed to him by Novell. I have no opinion about whose rights those are, and I wish Mr. McBride luck in his litigation over that question.

But what Mr. McBride has also claimed is that our creative works are somehow dominated by those contract disputes, dominated in the sense that he has claimed, though so far not behaved in concert with the claim, that users of free software are liable to him, or to his firm, on the basis of claims that grow out of the contractual relations between AT&T, Sequent, IBM, and others, over time.

I have spent a fair amount of time tediously reflecting on whether each piece of the story, as Mr. McBride and his colleagues have told it, could amount to a copyright claim against third parties.

I have spent that time because there were lots of third parties out there in the world who were concerned about assertions of copyright problems that Mr. McBride was making. I have confronted wraithlike examples of what were said to be derivative work but weren't derivative work under copyright law, or asserted copyright claims that turned out to be based on code that nobody owned ascertainably and had been in the public domain for a lengthy period of time, or code that Mr. McBride claimed he was entitled to prevent people to stop using long after he had deliberately given to people that very code under promises that they could use it, copy, modify it and distribute any way that they want.

And bit by bit, I have found myself unable to discover a single way in which Mr. McBride's firm could claim against third parties, not those who had ever been in privity of contract with AT&T or its successors over code in the Unix operating system, anything that could force them to pay damages or stop them from using free software.

This is the thing we call SCO, not a lawsuit actually brought on the basis of promises exchanged between IBM and AT&T, but a mysterious belief that somewhere out in the world tens of thousands of people might have to stop using billions of dollars worth of software that we made it possible for them to have at marginal cost solely because of some agreement between AT&T and somebody else to which Mr McBride's firm is a successor in interest.

I see no substance to that claim. And I am prepared, under the guidance of your searching and hostile questioning, to explain bit by bit why I think that's true.

But I have published those various inquiries, and I don't want to recapitulate them here this evening. I

think that that would be a poor use of our time together. At www.gnu.org/philosophy/sco, all of it in lower case letters, you will find the various papers that I have written and that Mr. Stallman has written on these subjects, and there I hope we will have taken up in detail all the various points.

But it's hard to resist talking about the United States Supreme Court in a classroom at Harvard Law School. And so, for just a moment, I do want to engage in a little court watching with you.

Mr. McBride, when he was here, had much to say about a case called Eldred against Ashcroft, in which Mr. McBride discovers that the United States Supreme Court came out 7-2 against free software and in favor of capitalism [laughter from audience]. The odd thing is that on the very day when Mr. McBride was standing here discussing that subject with you, I was in Los Angeles discussing the very same thing with a fellow called Kevin McBride, Mr. McBride's brother and the actual author of the document from which Mr. McBride was speaking.

[25:08]

Kevin McBride has the advantage in this discussion of being a lawyer, which is a little bit of help in discussing the United States Supreme Court. But it is not quite enough help.

The primary trick in discussing cases - I shrink from saying that even in this room where I have taught first-year law students -- the primary trick in discussing cases is to separate holding from dicta, a job with which many lugubrious Septembers and Octobers have been occupied by lawyers all over the planet and by every single one of you here.

The McBrides, jointly -- I feel sometimes as though I'm in a Quentin Tarantino movie of some sort with them [laughter] -- the McBrides have failed to distinguish adequately between dicta and holding.

I do not like Eldred against Ashcroft. I think it was wrongly decided. I filed a brief in it, amicus curiae, and I assisted my friend and colleague Larry Lessig in the presentation of the main arguments which did not, regrettably, succeed.

Oddly enough, and I will take you through this just enough to show, oddly enough, it is the position that we were taking in Eldred against Ashcroft, which if you stick to holding rather than dicta, would be favorable to the position now being urged by Mr. McBride. What happened in Eldred against Ashcroft, as opposed to the window dressing of it, is actually bad for the argument that Mr. McBride has been presenting, whichever Mr. McBride it is. But they have not thought this through enough.

Let me show you why. The grave difficulty that SCO has with free software isn't their attack ; it's the inadequacy of their defense. In order to defend yourself in a case in which you are infringing the freedom of free software, you have to be prepared to meet a call that I make reasonably often with my colleagues at the Foundation who are here tonight. That telephone call goes like this. "Mr. Potential Defendant, you are distributing my client's copyrighted work without permission. Please stop. And if you want to continue to distribute it, we'll help you to get back your distribution rights, which have terminated by your infringement, but you are going to have to do it the right way."

At the moment that I make that call, the potential defendant's lawyer now has a choice. He can cooperate with us, or he can fight with us. And if he goes to court and fights with us, he will have a second choice before him. We will say to the judge, "Judge, Mr. Defendant has used our copyrighted work, copied it, modified it and distributed it without permission. Please make him stop."

One thing that the defendant can say is, "You're right. I have no license." Defendants do not want to say that, because if they say that they lose. So defendants, when they envision to themselves what they will say in court, realize that what they will say is, "But Judge, I do have a license. It's this here document, the GNU GPL. General Public License," at which point, because I know the license reasonably well, and I'm aware in what respect he is breaking it, I will say, "Well, Judge, he had that license but he violated its terms and under Section 4 of it, when he violated its terms, it stopped working for him."

But notice that in order to survive moment one in a lawsuit over free software, it is the defendant who must wave the GPL. It is his permission, his master key to a lawsuit that lasts longer than a nanosecond. This, quite simply, is the reason that lies behind the statement you have heard -- Mr. McBride made it here some weeks ago -- that there has never been a court test of the GPL.

To those who like to say there has never been a court test of the GPL, I have one simple thing to say : Don't blame me. I was perfectly happy to roll any time. It was the defendants who didn't want to do it. And when for ten solid years, people have turned down an opportunity to make a legal argument, guess what ? It isn't any good.

The GPL has succeeded for the last decade, while I have been tending it, because it worked, not because it failed or was in doubt. Mr. McBride and his colleagues now face that very same difficulty, and the fellow on the other side is IBM. A big, rich, powerful company that has no intention of letting go.

[30:02]

They have distributed the operating system kernel program called Linux. That is, SCO has. They continue to do so to their existing customers because they have a contractual responsibility to provide maintenance.

When they distribute that program called Linux, they are distributing the work of thousands of people, and they are doing so without a license, because they burned their license down when they tried to add terms to it, by charging additional license fees in violation of Sections 2 and 6 of the GPL.

Under Section 4 of the GPL, when they violated it, they lost their right to distribute, and IBM has said as a counterclaim in its lawsuit, "Judge, they're distributing our copyrighted work, and they don't have any permission. Make them stop."

If SCO played smart, they would have said, "But your Honor, we do have a license. It's the GNU GPL." Now for reasons that we could get into but needn't, they didn't want to do that, possibly because it would have affected adversely their other claims in their lawsuit, or possibly because they had taken a 10 million dollar investment from Microsoft, but we'll talk about that a little further, I'm sure, in the question period.

At any rate, they didn't say that. What they said back is, "But Judge, the GNU GPL is a violation of the United States Constitution, the Copyright Law, the Export Control Law", and I have now forgotten whether or not they also said the United Nations Charter of the Rights of Man. [laughter]

At the moment, we confine ourselves solely to the question whether the GPL violates the United States Constitution. I am coming back to Eldred against Ashcroft along the way.

In Eldred against Ashcroft, 435 Congressmen and a hundred Senators had been bribed to make copyright eternal in a tricky way. The bribe, which of course was perfectly legal and went by the name of campaign contributions, was presented to the Congress for a copyright term extension.

In 1929, "Steamboat Willy" first brought before the public a creature called Mickey Mouse. The corporate authorship term under copyright being then, as almost now, 75 years, had it not been for action by Congress in the year 2004, Mickey Mouse would have escaped control of ownership, at least under the Copyright Law. This, of course, necessitated major legal reform to prevent the escape of Mickey Mouse into the public domain.

Copyright term extension now provides that, whether or not a Sonny Bono skis into a tree again in the next ten years or so, every once in a while Congress will extend the term of copyrights a little while longer. And then, as the ball approaches midnight in Times Square, they'll extend it a little longer. And so on and so on. Nothing need ever escape into the public domain again, least of all Mickey Mouse.

Professor Lessig, Eric Eldred, I and lots of other otherwise sensible people in the United States thought

that this did not actually conform to the grand idea of the perfectability of human beings through the sharing of information. We doubted that securing perpetual ownership a slice at a time was actually a form of encouraging the diffusion of science and the useful arts, and we suggested to the Supreme Court that on this basis alone, the Copyright Term Extension Act should fall. We were, as Mr. McBride rightly points out, soundly repudiated.

It turns out that there's no such thing as an unconstitutional copyright rule, if Congress passes it, and if it observes the distinction between expression and idea, which the Supreme Court says is the constitutional guarantee that copyright does not violate the freedom of expression, and provided that fair use rights are adequately maintained.

In short, the actual holding of Eldred against Ashcroft is, Congress can make such copyright law as it wants, and all licenses issued under the presumptively constitutional copyright law are beyond constitutional challenge.

I have news for Mr. McBride. The existing copyright law is constitutional and our license, which fully observes all the requirements that the copyright law places upon it, are also presumptively constitutional. Only in the world in which we succeeded in Eldred against Ashcroft, in which if you like there would be substantive due process review of copyright licenses to see whether they met the form of copyright called for in Article 1 Section 8, could Mr. McBride and friends even stand in a United States courtroom and argue that a copyrights license is unconstitutional.

[35:17]

Regrettably for Mr. McBride, in other words, we lost Eldred against Ashcroft, and the very claim he now wishes to make perished, along with some more worthwhile claims, at that moment, at least until such time as the Supreme Court changes the holding in Eldred against Ashcroft.

Mr. McBride takes a great deal of cold comfort from the pro-capitalist rhetoric in which Justice Ginsberg announced the decision of the Supreme Court. And, as yet another disgruntled observer of Eldred against Ashcroft, I wish him luck with his cold comfort, but he and I were on the same side of that case, little as he knows it, and the legal arguments that he would now like to present unfortunately failed. Mind you, even if he were allowed to present to the court the idea that copyright licenses should be judged for their squareness with constitutional policy, we would triumphantly prevail.

There is no copyright license in the United States today, I will lay this down without further demonstration but we can talk about it if you like, there is no copyright license in the United States today more fitting to Thomas Jefferson's idea of copyright or indeed to the conception of copyright contained in Article 1 Section 8, than ours. For we are pursuing an attempt at the diffusion of knowledge and the useful arts which is already proving far more effective at diffusing knowledge than all of the profit-motivated proprietary software distribution being conducted by the grandest and best funded monopoly in the history of the world.

But, sorrily for us all, Mr. McBride will not get us to the stage where we are allowed to tell that to the United States Supreme Court, where we would prevail gloriously, because the United States Supreme Court's already decided that copyright law is presumptively constitutional as soon as Congressmen have taken the campaign contributions, held the vote, and passed the resulting gumball-like statute to the White House for the obligatory stamping. But I welcome Mr. McBride to the campaign for a less restrictive copyright in the United States, as soon as he actually figures out, from the legal point of view, which side his bread is buttered. Unfortunately, as you all realize, we cannot hold our breaths waiting for enlightenment to strike. If only Mr. McBride attended Harvard Law School.

That's, I think, enough about SCO, truly, though I am delighted to answer your questions in due course about it. It's actually a copyright lawsuit desert. There aren't any copyright claims in it. There are some contract claims between IBM and SCO, and those will, in due course, be adjusted by the courts, and I

look forward with a moderate degree of interest to the outcome. A threat to the freedom of free software, it ain't. One hell of a nuisance it most certainly is. And I, unfortunately, expect to continue to spend a good deal of my time abating the nuisance, but without much sense of the presence of a hovering threat to the things I really care about, of which this is not a very good one.

So instead I want to talk about the legal future of free software as it actually is, rather than as Mr. McBride sees it, some titanic clash between the American way of life and whatever it is we're supposed to be. I should say about that titanic clash between the American way of life and whoever we are that it rings familiar to me. Increasingly I listen to Mr. McBride and I hear Mr. Ballmer, as perhaps you do as well. That is to say, I treat SCO now as press agentry for the Microsoft monopoly, which has deeper pockets and a longer-term concern with what we are doing.

[39:38]

Microsoft's a very wealthy corporation, and it could succeed on a business model of software-as-a-public utility surrounded by services in the 21st century. But for all the profound depth of Mr. Gates' mind, the idea of human freedom is one of those things which doesn't register very well with him. And the idea of transforming his business into a service business, for reasons that are, I think, accessible to us all, doesn't appeal. Therefore, for the survival of the Microsoft monopoly, and I do actually mean its survival, the theory being presented by Mr. McBride that we are doing something horrid to the American way of life must prevail. Regrettably for Microsoft, it won't, because what we are actually doing is more apparent to the world than that propagandistic view will allow for. We at any rate have to go on about our business, which is encouraging the freedom of knowledge and in particular the freedom of technical knowledge, and in doing that, we have to confront the actual challenges presented to us by the world in which we live (which aren't SCO), and so for just a few more moments I want to talk about those.

Software is, in our phrase, free, libre. That is to say, we now have a body of software accessible to everybody on earth so robust and so profound in its possibilities that we are a few man months away from doing whatever it is that anybody wants to do with computers all the time. And of course new things are constantly coming up that people would like to do and they are doing them. In this respect -- I say this with enormous satisfaction -- in this respect the Free Software Movement has taken hold and is now ineradicably part of the 21st century. But there are challenges to the freedom of free software which we need to deal with.

Patent law, unlike copyright law, presents certain features which are egregious for the freedom of technical knowledge. If the copyright law presents a workable form of the great 18th century ambition of the perfectability of human kind, the patent law regrettably does not. This is not surprising, 18th century thinkers were a little dubious about the patent law as well. They had a concern for statutory monopolies and a deep history of English law that made them worry about them very much. Patent law in the 21st century is a collection of evil nuisances. There's no question about it. And in the world of software where we exist, there are some particularly unfortunate characteristics of the way that the patent law works. We are going to have to work hard to make sure that the legitimate scope of patent, which is present, but which is small, is not expanded by careless administrators any further in the course of the 21st century to cover the ownership of ideas merely because those ideas are expressed in computer programming languages rather than in, say, English or mathematics.

This is work for us, and it is work for us which a lot of smart lawyers are doing, but they are doing it around the world in various licenses and other legal structures connected with software in inconsistent ways. And the inconsistency among the ways in which lawyers are attempting to cope with the threats posed to software by patents are a serious difficulty for us. We need to conduct a very high-level seminar in the next five years around the world over the relationship between patentability and free software ideas and get square for ourselves what license terms and ways of working minimize the risks posed by patents. There is what I would characterize at the moment as a constructive diversity of views

on that subject. But the diversity will have to be thinned a little bit through an improvement of our thought processes if we are by the end of this decade to have done what we need to do in subduing the growth of inappropriate patenting and its effect on our particular form of human knowledge enhancement.

As you are aware, and as I am spending a year writing a book about, there are lots of other things going on in the Net about ownership. Music and movies and various other forms of culture are being distributed better by children than by people that are being paid to do the work. Artists are beginning to discover that if they allow children to distribute art in a freehanded sort of way, they will do better than they do in the current slavery in which they are kept by the culture vultures, who do, it is true, make a good deal of money out of music, but they do so primarily by keeping ninety-four cents out of every dollar and rendering six to the musicians, which isn't very good for the musicians.

So there is a great deal of fuss going on about ownership in the Net, and since I care about more than just free software, I care about that fuss. I have a side over there too. But the important thing for us in the conversation we're presently having is that the owners of culture now recognize that if they are going to prop up their own methods of distribution, a method of distribution in which distribution is bought and sold and treated as property -- and you can't distribute unless you pay for the right to do so -- unless they can prop up that structure, they are done in their business models. And for them that requires something which I truly believe amounts to the military occupation of the Net. They have to control all the nodes in the Net and make sure that the bitstreams that pass through those nodes check in before they go some place that the right of distribution hasn't been bought or sold in order to permit that bitstream to go.

It is precisely because software is free, that the owners of culture have to occupy the hardware of the Net in order to make good their business model. Free software, like, for example, Ian Clark's Freenet or other forms of free software that engages in peer-to-peer sharing of data, or for that matter just free software like TCP/IP which is meant for sharing data, presents overwhelming obstacles to people who want every single bitstream to bear requirements of ownership and distribution inside it and to go only to the places that have paid to receive it. The result is an increasing movement to create what is in truly Orwellian fashion referred to as trusted computing, which means computers that users can't trust. In order to continue to move for the freedom of knowledge in 21st century society, we have to prevent trusted computing and its various ancillary details from constituting the occupation of the hardware of the Net, to prevent the hardware from running free software that shares information freely with people who want to share. Beating the trusted computing challenge is a difficult legal problem, more difficult for the lawyer in dealing with licensing and the putting together of software products than the original problem presented by freeing free software in the first place. This, more than the improvement of the free software distribution structure as we currently know it, is the problem most before my mind these days.

But I would take one more step with you to discuss the problem that lies behind the problem of free hardware. We are living now in a world in which hardware is cheap and software is free, and if all the hardware continues to work pretty much the way it works now, our major problem will be that bandwidth is now treated in the world also as a product, rather than a public utility. And you are allowed to have, in general, as much bandwidth as you can pay for. So then in the world in which we now exist, though hardware is cheap and software is free, there are major difficulties in disseminating knowledge and encouraging the diffusion of science and the useful arts, because people are too poor to pay for the bandwidth that they require in order to learn.

This arises from the fact that the electromagnetic spectrum too has been treated as property since the second quarter of the 20th century. That was said to be technically necessary as a result of technical problems with interference that are no longer relevant in the world of intelligent devices. The single greatest free software problem in the 21st century is how to return the electromagnetic spectrum to use

by sharing rather than use-by-propertization. Here again, as you will notice, free software itself, free executable software, has a major role to play. Because it is software-controlled radios, that is to say devices whose operating characteristics are contained in software and can be modified by their users, that reclaim the spectrum for shared rather than propertarian use. Here is the central problem that we will be dealing with, not at the end of this decade, but for the two or three decades that follow, as we seek to improve access to knowledge around the world for every human mind. We will be dealing with the question of how to make the technical and legal tools under our control free the spectrum.

In attempting that trick, we will be confronting a series of owners far more powerful than Microsoft and Disney. You need only consider the actual embedded power of the telecommunications oligopolists in the society around you to recognize just what an uphill battle that one will be. That's the one that we must win if we are to approach the middle of the 21st century in a world in which knowledge is freely available to be shared by everybody. We must see to it that everyone has a birthright in bandwidth, a sufficient opportunity to communicate, to be able to learn on the basis of access to all the knowledge that is there. This is our greatest legal challenge. The freedom of the software layer in the Net is an essential component in that crusade. Our ability to prevent the devices that we use from being controlled by other people is an essential element in that campaign.

But in the end, it is our ability to unify all of the elements of the information society -- software, hardware, and bandwidth -- in shared hands, that is in our own hands, that determines whether we can succeed in carrying out the great 18th century dream, the one that is found in Article 1 Section 8 of the United States Constitution, the one that says that human beings and human society are infinitely improvable if only we take the necessary steps to set the mind free. That's where we are really going. Mr. McBride's company's fate, whether it succeeds or fails, even the fate of the International Business Machine corporation, is small compared to that. We are running a civil rights movement. We're not trying to compete everybody out of business, or anybody out of business. We don't care who succeeds or fails in the marketplace. We have our eyes on the prize. We know where we are going : Freedom. Now.

Thank you very much. [applause]

[51:32]

I'm delighted to take your questions :

Zarren : So, I've been asked by the media services people to make sure that when people ask their questions, if they could speak into the microphone, that would be good. There's a little button that turns it on.

Q : I just wanted to ask a question clarifying and, well, anyway. . . You seem to, or not, have expressed a dichotomy between software and hardware, in the sense that software needs to be free, software is a utility, a public good. Hardware you don't talk about so much. And by hardware, initially I mean related to software but then generalizable to machines, just any kind of machine. How do you distinguish why should software be free and hardware not ?

Moglen : The 21st century political economy is different from the past economic history of the human beings because the economy is full of goods that have zero marginal cost. Traditional microeconomic reasoning depends upon the fact that goods in general have non-zero marginal cost. It takes money to make, move, and sell each one. The availability of freedom for all in the world of bitstreams hinges on that non, on that zero marginal cost characteristic of digital information. It is because the marginal cost of computer software is zero that all we have to do is cover the fixed costs of its making in order to make it free to everybody, free not just in the sense of freedom, but also in the sense of beer.

Hardware, that is computers and, you know PDAs, as well as shoes and tables and bricks in the wall and even seats in a Harvard Law School classroom, has non-zero marginal cost. And the traditional

microeconomic reasoning still continues to apply to it in pretty much the way that it did for Adam Smith, David Ricardo, or Karl Marx. Reasoning about hardware is, in that sense, like reasoning about the economy we grew up in and presents all of those questions of how you actually cover the costs of each new unit that the market is designed to help us solve. It's precisely because so much of human knowledge and culture in the 21st century no longer participates in the traditional microeconomics of price, asymptotically reaching towards a non-zero marginal cost, that we experience so much opportunity to give people what they never had before. And when I speak to you about the difference between hardware and software I'm implicitly observing the distinction between the traditional non-zero marginal cost economy and the wonderful and weird economics of bitstreams, in which the traditional microeconomic theory gives the right answers, but traditional microeconomic theorists don't like what they see when they do the chalk work.

Q : (unintelligible) Would you then advocate to, in other words, because knowledge can be contained in hardware, and also hardware has this additional marginal cost, would you advocate every, that for instance, for every computer to come with chip diagrams so that the knowledge in the hardware is free while you can still collect on the marginal cost ?

Moglen : Sure, it would be a very good idea, and if you watch and see what happens in the 21st century you'll see more and more manufacturers deciding to do precisely that, because of the value of empowered user innovation, which will drive down their costs of making new and better products all the time. Indeed for reasons which are as obvious to manufacturers as they are to us, the softwarization of hardware in the 21st century is good for everybody. I'm writing a little bit about that now. I don't mean to plug a book, but wait a little bit and I'll try and show you what I actually think about all of that in a disciplined sort of way.

Q : I was wondering if the SCO lawsuit might be the first of what could become a series of lawsuits filed ad seriatim and in parallel against free software ? And wanted to get your view on two possible types of lawsuits that could follow on the heels of SCO, regardless of whether SCO won or lost. The first would be a lawsuit filed by a company that to its shock and amazement found that instead of its programmers hoping for their first house, working on the stuff they were supposed to work on by day, they were in fact spending most of their time Slashdot and the rest of their time coding free software, and then occasionally staying up late to do something for the old man. If those programmers have signed, which is typical, agreements with their company that says any software they write actually is property of the company, maybe even a work for hire, what is the prospect that a company could then say, Our code through that coder has been worked in to something like Linux, and it is now infringing unless we are paid damages ? The second possible way in which you could see this kind of lawsuit come up would be, oddly enough, through the thirty-five year termination rule, something that normally would be heralded by people in your position, to say copyright law allows musicians and artists who stupidly signed agreements when they were but small peons, without legal assistance with big companies, thirty-five years later can take it all back, no matter what. They can reset the clock to zero and re- negotiate. I call this the Rod Stewart Salvation Act. [laughter] And while that might be helpful for the artists, much as the music industry hates it, couldn't that also mean that free software coders, who willingly contributed, weren't even blocked by their employers, to contribute to Free Software Movement, could -- down the line -- and thirty-five years isn't that long in the history of Unix, say, "We take it all back ?"

Moglen : So, those are two very good questions. If I answer each one of them fully, I'm going to take too long. Let me concentrate on the first one, because I think it's really quite important. What Jonathan's question does is point out to you that the great legal issues in the freedom of free software have less to do with the license than with the process of assembly by which the original product is put together. One of the legal consequences of the SCO affair is that people are going to start to pay closer attention all the time to how free software products are put together. They are going to discover that what really matters is how you deal with the questions of, for example, possible lurking work-for-hire

claims against free software. They're going to discover that in this respect, too, Mr. Stallman was quite prescient, because they are going to recognize that the way they want their free software put together is the way the Free Software Foundation put it together since now more than twenty years. The way we're going, they're going to discover that they really would like to have it, is for each individual contribution of code to a free software project, if the guy who contributed the code was working in the industry, they would really like to have a work-for-hire disclaimer from the guy's employer, executed at the same time that the contribution was made. And the filing cabinets at the Free Software Foundation are going to look to them like an oasis in a desert of possible problems. We saw that problem coming. We have tried in our act as stewards over a large part of the free software in the world to deal with it. People are going to want to have that up front for everything that they can possibly, and they're going to be much more reluctant to rely on software that wasn't assembled in those ways.

If you are thinking about working in the law of free software, and gosh, I hope you are, one of the things you might want to be thinking about working on is the software conservation trusts that are going to be growing up around this economy in the next five years. I'll help you make one, or you can come to work in one of mine. We're going to need to spend a lot of time doing work which is associated with trustees. We're going to be spending a lot of time making sure that things are put together and they are built well. And we are going to be doing that on behalf of a third-party insurance industry which is going to be growing up, is growing up before our very eyes now, which is learning that it really cares how the free software is assembled.

[60:05]

When you go to an insurance company and ask for fire insurance on your house, they don't want to know how your house is licensed. They want to know how your house is built. And the questions you are asking about how the free software is built are about to become really important questions. What will abate those lawsuits is that we did our work well or that we are doing our work well as lawyers, assisting programmers to put projects together in defensible ways that protect freedom.

Up until the day before yesterday, there were probably three lawyers on earth who cared a lot about that, and two of them are in this room. There will be more in the near future. I will say quickly about your second question, Jonathan, that the problem presented is a serious problem, but, at least from my point of view, a manageable one, and I'm willing to talk more about why, but I think we ought to get more voices into the conversation.

Q : Without disputing the importance or difficulty of the spectrum battle, or the . . . clearly the copyright battle and progress is very immediate, but it seems to me that most worrisome right now is the patent battle that I expect to come next. Compared to that, the whole thing with SCO, well, SCO is a paper dragon, a hollow threat. Can you say anything about what you expect that battle to look like ? And how it will be fought ? How it can be ?

Moglen : Sure, Jeremy[?]. Patents are about politics. I thought that the pharmaceuticals companies did my side a favor by buying us 12 trillion dollars in free publicity in the last half decade by teaching every literate twelve year old on earth that "intellectual property" means people dying of preventable diseases because the drugs are too expensive because patents cover them.

Patents are politics. Patents are about how we distribute wealth over very long periods of time, in quite absolute ways. We're not going to have an answer to our patent problem which lies in courtrooms or in laboratories. We're going to have an answer to our patent problems which lies in the actual conduct of politics.

You saw the beginning of it this past summer when the European Parliament decided, in a very unusual move, to refuse, and to refuse promulgation to the European Commission's preferences with respect to changes in patent law in Europe regarding inventions practiceable in software.

The European Commission put forward a suggestion for change and harmonization in European patent law which would have made the issuance of patents for inventions practiceable in software very much easier. The European parliament after a lengthy campaign, led in part by the Free Software Movement in Europe -- that's Euro Linux and the Free Software Foundation Europe and a lot of small software houses in Europe benefitting substantially from the new mode of software as a public utility -- a campaign which involved in the end 250,000 petition signatories, the European Parliament decided to say no. And two parties, Greens and Social Democrats, in the European Parliament now understand that patent policy in Europe is a partisan issue. That is to say that there are sides, and that electoral politics and party organization can be conducted around those sides.

Our society is a much less aware one on that subject. For those of us who live here, the task of getting to the standard set for us by our colleagues in Europe this past summer is the first and most important challenge. We must make our Congressmen understand that patent law is not an administrative law subject to be decided in the PTO, but a political subject to be decided by our legislators. We may have to restore actual democracy to the House of Representatives in the United States in order to make that possible, and there are many other aspects to the challenge involved.

But this is one of the primary respects in which technically sophisticated people in the United States are going to have to get wise to the mechanisms of politics, because we're not going to solve this in the Supreme Court, and we're not going to solve this in the work station. We are going to solve this in Congress, and we're going to have to build our muscles up for doing that.

[1:00:05]

Q : Related to that point, I'm curious, this isn't so much a legal point as a, maybe even a public relations point. You opened up your talk by saying, This is about freedom not free beer. But when you, I think, listen to people like Jack Valenti and the RIAA, you know, and, Mr. McBride, the constant drumbeat is of this idea of free beer and teaching kids that they can't steal from, you know, Big Music. How do you win that battle of public relations on the ground, which ultimately will have ramifications in Congress ? How do you, how do you convey that message outside the technology community ?

Moglen : Well, one of the things that I guess I would say about that is that English language fights us on it, right ? One of the things that has happened over the course of time in our European environments, where the word for free in the sense of costless and the word for free in the sense of liberated are two different words, is that people have twigged to the distinction much more easily.

Software libre works nicely, or logiciel libre if you have to truckle to the Academie Francaise, in a way that free software doesn't at making that distinction. It was in part for that reason that some folks decided in the late 90's, that maybe they ought to try and find another phrase and settled on open source. That turned out to have more difficulties, I think, than benefits for the people who did it, though it now works very nicely as a way for business to identify its interest in what we do without committing itself to political or social philosophies that businessmen may not share or at any rate don't need to trumpet just in order to get their work done from day to day.

So one of the things that we do, for those who speak English, is we actually have to reinforce from time to time -- that is all the time -- the distinction between free beer and free speech. On the other hand those of us who live in the United States and speak English shouldn't have quite that much trouble because free speech is a way more important part of the American cultural landscape than free beer is. At least it was in the world that I grew up in, whatever Rupert Murdoch may want to say about it now.

We are the party of free speech, and we need to point out to people that if you allow anybody, including a well-dressed lobbyist of ancient, ancient vintage, to declare that a love of free speech is like taking a CD out of a record store under your arm, game's over. Not game about free software, but game about liberty and life in a free society.

We stand for free speech. We're the free speech movement of the moment. And that we have to insist upon, all the time, uncompromisingly. My dear friend, Mr. Stallman, has caused a certain amount of resistance in life by going around saying, "It's free software, it's not open source". He has a reason. This is the reason. We need to keep reminding people that what's at stake here is free speech. We need to keep reminding people that what we're doing is trying to keep the freedom of ideas in the 21st century, in a world where there are guys with little paste-it labels with price tags on it who would stick it on every idea on earth if it would make value for the shareholders. And what we have to do is to continue to reinforce the recognition that free speech in a technological society means technological free speech. I think we can do that. I think that's a deliverable message.

That's what I spend a good deal of my time doing, and while it's true that I bore people occasionally, at least I think I manage, more or less, to get the point across. We're just all going to have to be really assiduous about doing it.

Q : I'll ask a question. You talked a lot about distribution and how you think that ought to be free, and I think I see that argument much better than I see the argument about how creators of zero-marginal-cost distribution goods will necessarily be compensated for what they create, and so I've heard a lot of, I don't think these are any of your arguments, but I've heard, OK, well, that the musicians will go on tour, so they'll make it back that way, you know, whatever time they put in. Or people will keep creating whatever it is they create -- and this applies to more than just, you know, movies or music -- it applies to books, or even non-entertainment-style knowledge-type things, there's gotta be, you hear people will still do the same amount of it because they love to do it or are interested to do it, but I don't think that quite compensates for the compensation that many of those creators now receive. And so I was wondering if you would comment a little bit on how the free distribution world, which differs from the current world in that many of the current distribution regimes were created specifically only to compensate people, will differ in terms of compensating creators.

Moglen : I will say a little bit now, and in the interests of time also say that you can find in the Net where I put stuff which is at http://moglen.law.columbia.edu a paper called "Freeing the Mind", which addresses this question, I hope comprehensively, or at least a little bit. Now, let me give you an answer.

[1:10:17]

Historical perspective is useful here. Before Thomas Edison, there was no way for culture to be commodity. Every musician, every artist, every creator of anything before Thomas Edison was essentially in the business of doing what we now have go back to doing, except those who lived in a world of goods that could be distributed in print, for whom you only have to step back to before Gutenberg. Right ?

The commoditization of culture is a phenomenon of yesterday, with respect to the deep history of human creativity. Whatever else we believe, and the problems are serious, we have to remind ourselves that there is no prospect that music would go away if it is ceased to be commodifiable. Music is always there. It always was.

What you are asking about is, why do people pay for the things they care about, in a way that will allow creators to go on making them ? And the answer that I need to give you is that people pay out of the personal relationship that they have to the concept of making.

Musicians got paid by people who heard music, because they had a personal relationship to musicians. This is what you mean by going on tour or the Grateful Dead or anybody who uses the non-zero marginal cost of the theatre seat as a way of getting back, just as people merchandise as a way of getting back.

Think for a moment about the coffee house folk musician, the singer/songwriter. The simplest case in a way of the transformation of the music business. Here are people who are currently on tour 40, 45, 50

weeks a year. What happens is, they go to places and they perform and at the back, CDs are on sale, but people don't buy those CDs as a kind of, you know, I would otherwise be stealing the music ; they buy it the way they buy goods at a farmers market or a crafts fair, because of their personal relationship to the artist.

So let me tell you what I think the owners of culture were doing in the 20th century. It took them two generations from Edison to figure out what their business was, and it wasn't music and it wasn't movies. It was celebrity. They created very large artificial people, you know, with navels eight feet high. And then we had these fantasy personal relationships with the artificial big people. And those personal relationships were manipulated to sell us lots and lots of stuff -- music and movies and T-shirts and toys and, you know, sexual gratification, and heavens knows what else. All of that on the basis of the underlying real economy of culture, which is that we pay for that which we have relations with. We are human beings, social animals. We have been socialized and evolved for life in the band for a very long time. And when we are given things of beauty and utility that we believe in, we actually do support them.

You think that this isn't true, because the current skin at the top of social life says that that's not a robust enough mechanism to sustain creation, and that the only mechanism that will sustain creation is coercive exclusion -- you can't have it, if you don't pay.

But they can't be historically right, because the ability to coerce effectively is a thing of yesterday. And the longer, deeper history of culture is the history of the non-coercive mechanisms for securing compensation to artists, only some of which we are now in a position to improve immeasurably.

Q : But what about the software writer ?

Moglen : Ah, the software. . .

Q : That's the kind of stuff I think I was more getting at with my question. So you have somebody who creates something useful but it has a zero distribution cost, and it's useful in a way that's not, not useful like celebrity, though I'm not sure, I don't think that's useful in some ways, but it's useful in the different sense that it takes a long time to create well.

Moglen : See, the programmers I worked with all my life thought of themselves as artisans, and it was very hard to unionize them. They thought that they were individual creators. Software writers at the moment have begun to lose that feeling, as the world proletarianizes them much more severely than it used to. They're beginning to notice that they're workers, and not only that, but if you pay attention to the Presidential campaign currently going on around us, they are becoming aware of the fact that they are workers whose jobs are movable in international trade.

We are actually doing more to sustain the livelihood of programmers than the proprietary people are. Mr. Gates has only so many jobs, and he will move them to where the programming is cheapest. Just you watch. We, on the other hand, are enabling people to gain technical knowledge which they can customize and market in the world where they live. We are making people programmers, right ? And we are giving them a base upon which to perform their service activity at every level in the economy, from small to large.

[1:15]

There is programming work for fourteen-year-olds in the world now because they have the whole of GNU upon which to erect whatever it is that somebody in their neighbourhood wants to buy, and we are making enough value for the IBM corporation that it's worth putting billions of dollars behind.

If I were an employee of the IBM corporation right this moment, I would consider my job more secure where it is because of free software than if free software disappeared from the face of the earth, and I don't think most of the people who work at IBM would disagree with me.

Of all the people who participate in the economy of zero marginal cost, I think the programmers can see most clearly where their benefits lie, and if you just wait for a few more tens of thousands of programming jobs to go from here to Bangalore, they'll see it even more clearly.

Q : So, author writes software. The moment the software is fixed in a tangible medium, copyright attaches ; others can't use it without further action by author. Author chooses to adopt the General Public License to govern what others can do with the software, and you made the intriguing point then that the General Public License gives, with certain limits, and that's why, you point out, nobody is really wanting to challenge it all that much because it would be a Pyrrhic challenge. If you win and the license evaporates, then it rubber-bands back to the author. That seems so persuasive, and almost proves too much, doesn't it ? Because, suppose another author writes software, writes for now with the author and chooses to license it under the Grand Old Party License, by which only Republicans may make derivative works, and other, what would otherwise be copyright-infringing uses of the software. One, do you think such a license should be enforced by the courts ? And two, couldn't you say the same logic would apply, that nobody would dare to challenge it because half a loaf is better than none ? At least, let the Republicans use the software.

Moglen : So, fundamentally I think the question that you asked is, Has the law of copyright misuse evaporated entirely ? And I think the answer, notwithstanding the Supreme Court's current deference to whatever Congress chooses to say, is no. I think there's still a common law of going too far out there, and as a lawyer who works on behalf of people who are fairly militant on behalf of sharing, I hear proposals all the time about stuff that they think it would be really neat to do that I don't think the copyright law, unalloyed by further contractualization will permit them to do.

I think the actual tool set of Berne-harmonized copyright law has certain limits on the power of the licensor, and I believe that those limits are capacious enough to allow us to create the kind of self-healing commons we have created, but I'm not sure that they would be strong enough to permit the importation of lots of additional contractualizing restrictions as though they were part of the body of copyright law itself.

Moreover I'm pretty sure that if you tried to do it and succeeded in one jurisdiction, you would find that the Berne Convention didn't actually export all of those propositions around the world for you, and that therefore you would have difficulty erecting a worldwide empire around the GPL Public License.

But I think you're correct to say another thing, which is that if there were a number of self-defending commons raised on different principles around the world, that that would create undesirable dead weight lawsuits, which is why I spend a fair amount of time trying to help people see why the GPL is good and doesn't require to be turned into the XPL and the YPL and the ZPL around the world. In fact I think in the next few years, we're going to have a greater consolidation of licenses, not a greater multiplication of them. But it's a conceptual issue of importance, and it depends upon the belief that copyright law all by itself permits some things and not others, and that you can only fill those gaps with the kind of contract law that we try not to use.

Q : Can you recommend any economists who have studied zero marginal cost economics ?

Moglen : Well, see now, I sometimes joke with my dear colleague, Yochai Benkler at Yale Law School, that Yochai is well-positioned now to win the final Nobel Prize in economics. But I fear that that's not quite correct and that people are beginning to flood in. I have a little bit this sort of feeling that sooner or later I'm going to wake up and find out that in Stockholm they've decided to award a prize to guys for teaching economics that we have known for 25 years.

[79:57]

Eric von Hippel is doing very important work about that, if you want to take just people living in the neighborhood. We are beginning to get in our business schools a bunch of people who are actually

trying to think about these questions, because they see billions of dollars being bet and in good business school tradition, they tend to figure out that what rich businessmen and their investors are thinking about is something they might want to pay attention to.

In the pure economics departments, unfortunately we remain a phenomenon too disquieting to consult just yet. But PhD students, of course, do not always do what their professors do, and my guess is that we are merely a few years away from the beginning of some rocket science on these subjects.

It's an enormous, beautiful opportunity for the revision of a field. Even in an economic, even in a discipline like economics, it is only so long that people can be prevented from working on really interesting problems. And the day is coming.

Q : Just a general question on market forces and the free software economy. Even in an ideal world, wouldn't you say that, you know, because of the market forces and then we, you know, a group of players become especially successful, then they actually -- even though it's an ideal world -- they actually become powerful enough and they monopolize under standards again, and we come back to the same system we have today. So, I guess the question is that whether this product-type system economy we have, is that just a function of the structure we have, or is that, you know, a result of just market forces ?

Moglen : Well, the structure that we have constitutes what we call market forces. I wouldn't want to take the position that the market was a Newtonian mechanism that existed in the universe independent of human social interaction.

Look, what we are doing is trying, through legal institutions directed at the protection of a commons, to prevent that commons from suffering tragedy. Because the content of that commons is capable of renewal and has zero marginal cost, the tragedy we're trying to prevent is not Garrett Hardin's one, which was based upon the inherent exhaustibility of natural resources of certain kinds. But there is no question that the commons that we are making is capable of being appropriated and destroyed in the ways that you suggest.

Those of us who believe in the GNU GPL as a particularly valuable license to use believe in that because we think that there are other licenses which too weakly protect the commons and which are more amenable to a form of appropriation that might be ultimately destructive -- this is our concern with the freedoms presented, for example, by the BSD license -- we are concerned that though the freedoms in the short term seem even greater, that the longterm result is more readily the one that you are pointing at, market participants who are free to propriatize the content of the commons may succeed in so effectively propriatizing it as to drive the commons out of use altogether, thus, if you like, killing the goose that laid the golden egg in the first place.

So, to some extent, I would say, avoidance of the tragedy of the commons in our world depends upon the structuring of the commons. Institutions alone, as I also pointed out earlier in this conversation however, commons resources need active management.

You, as a lawyer, will either engage in assisting to protect the commons or not protect the commons. This is a form of natural resources law for the 21st century. It is about the recognition that no machine will go of itself, that it will require assistance to achieve its goals precisely in the way that you have in mind.

The best National Park Law on earth won't prevent the poaching of the park if there are not committed people willing to defend it. So you offer a general theory of the possibility of commons destruction and I agree with you. I say two things. We can design a better commons, and we can work our tails off to keep that commons in being healthy, strong and well. That's what I'm up to. That's what I hope you'll be up to as well.

Zarren : Please join me in thanking JOLT and Professor Eben Moglen.