Abstract

The Free Software Movement is one aspect of the centuries-long struggle for freedom of speech and the freedom of ideas. Like other aspects of that historic struggle it is joined to the related movement for social and economic redistribution. In this talk I consider the Free Software Movement in its historical context, and present my view of the issues that presently face us in relation to the larger history of our struggle.

Transcript Version 1.0, 2005-06-14, by Marcus Brinkmann, marcus@gnu.org. Thanks to Neal Walfield for proof-reading. All remaining errors are mine. The video from which this transcript was prepared is available at

http://wizards-of-os.org/index.php?id=791

"Die Gedanken Sind Frei": Free Software and the Struggle for Free Thought Wizards of OS 3, Opening Keynote

Eben Moglen*

June 10, 2004

Volker Grassmuck: It is a great pleasure to introduce the first speaker, who will give you the opening keynote, it is Eben Moglen, who is a professor for law and history of law at Columbia Law School. He is also a Board Member of the Free Software Foundation and the long standing General Counsel to the Free Software Foundation, very active in enforcing and in keeping the GNU General Public License the wonderful tool that it is.

Please welcome Eben Moglen.

[*Applause*]

Eben Moglen: Thank you. Thank you to Volker and to all of his colleagues for making this event possible for all of us. [Volker Grassmuck passes Eben Moglen a glass of water.] Ah, it's good, thank you. That's perfect.

Die Gedanken sind frei: it's a very old phrase from the 12th century, you can find it in a Minne song in the 13th century. At the beginning of the 19th it again became a popular song, which many of you have heard and some of us have sung. As reflective of a certain moment in the history of the west as Beethoven's third symphony, whose contemporary it approximately is.

The phrase travels down the European historical tradition as part of a struggle in which we too are engaged. The struggle for freedom of thought is as old as European politics and it underlies who all of us are today. It exists in relation to a long-standing struggle against various forms of control of thought each characteristic of the political and economic moment in

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which they temporarily triumphed. Whether it is the control of education and publication by the universal catholic church, the control of printing and censorship of learning by state power or the control of knowledge and culture by owners, capitalistically motivated and ideologically inclined—we have been struggling against power for the freedom of thought for a millenium.

The struggle for freedom of thought, which is universally admired, though not always actually supported, goes along with a much less universally admired struggle for economic justice and the equality of persons. "Die Gedanken sind frei:" what's its contemporary little phrase or verse? Well, I would nominate one: "When Adam delved and Eve span, who was then the gentleman?", the phrase attributed to John Ball, the leader of the peasants' revolt in England in 1381.

We have associated the struggle for human equality with the struggle for freedom of knowledge and we have associated them rightly: they belong together. Because the recognition of individual possibility, to allow each to be what she and he can be, rests inherently upon the availability of knowledge; the perpetuation of ignorance is the beginning of slavery. So we are part then of two struggles, whether we like it or not. A struggle for the freedom of thought and a struggle for justice to persons. That the ownership of culture, the commoditization of learning, poses a danger to a movement for equality and economic justice is obvious to all. This is, as Thomas Krueger just pointed out, I think, very eloquently, an inherent part of the problem of globalization, whose sunny side we are. For globalization otherwise means the impoverishment of workers through remorseless competition between the rich and poor parts of humanity. A struggle conducted for the benefit of the shareholders, that is the few, through limitations of knowledge available to the many. Accordingly, we meet the 21th century not as the inventors of something new, but as the latest generation struggling for ideals that are very old.

What differentiates us from those who have struggeled in the past, as Volker just identified for you, is a change from utopianism to practicality. From the moment at which that movement for freedom of thought and economic—or at least political—equality began to gain momentum in the middle of the 18th century, those struggeling for freedom where condemned to utopianism. The ideals of the American and French revolutions which brought what there was of freedom of thought and equality of persons into being at the end of the 18th century necessarily rested upon hopes, upon dreams and beliefs about what might be possible under conditions of tumultuous and unprecedented transformation.

The constitution of the United States, as one of its greatest interpreters has pointed out, is an experiment. To Justice Holmes and to all those lawyers and judges who over 200 years struggled to turn that experiment into practical reality much is due. But we must also recognize, as photographs from Iraq have shown this year, that it remains in substantial part a dream subject to political disruption by those operating under the control of power.

Utopianism has also the heavy drawback that the struggle to perfect a world never before experienced often turns violent as dreams confront unexpected realities and the dreamer has little choice but to lash out against the tyranny of fact. And so the struggle for freedom of thought and the struggle for economic equality has been substantially limited in prior generations by the inevitable reliance upon a dream of a perfect future never experienced before. And it is not insignificant that in all the European languages the phrase—the word—used to designate that perfection, "Utopia", means "nowhere". For it is, after all, a struggle to achieve what has never been achieved. A struggle to bring about conditions that would allow human beings to be what they have never been: new socialist man; the perfect citizen of the perfect republic. These were noble dreams, and the struggle to achieve them, even at its worst, has a nobility to which we aspire. But we are fortunate because ours is a movement built not on dreams but on actualities. Ours is an ideology of change which depends not on what might be but on what already is.

Practical revolution, the friends and colleagues with whom I have been working for the past 20 years have shown, practical revolution is based upon two things: proof of concept and running code. That is to say: do it first and allow the implications of what has been done to settle in. Technology, unlike the Hegelian or Marxian flow of history, technology itself is irreversible. That which we have is ours—not a dream—it belongs to us: it runs; we use it.

Having brought into being the tools of our liberation, it is now our privilege to use them to change the world around us. This is our special role in the long history of the struggle for freedom of thought. The conditions which brought about this unusual situation, a revolution based not on dreams about what might be but on recognition of the full implications of what is: this situation we owe to the industrial capitalism of the 20th century. It will—it must—go down in history as having adroitly worked its own destruction.

The tools that we gained from the system of industrial ownership of information thrown up by the 20th century, those tools are the tools by which we undo unfreedom and return our communities, our loves, our friends, ourselves to the condition of liberation for which we have all and for which our ancestors too long hoped. The technology of the 20th century makes our liberation possible, because the technology of the 20th century turns solidity into digital air. "All that was solid," it was said, "would melt." And so it did.

The 20th century knew information as physical artifacts, stuff, that costs money to make, move and sell. More than at any moment in the prior history of human beings, die Gedanken sind nicht frei, by necessity because the stuff had costs. Thomas Edison made it possible for music, which had been for the whole history of human beings an act of communion, a thing inherently shared, that music turned into a product, an object, a commodity. And from the commoditization of art grew the belief that art could be owned. Which made sense even when art was bumps on a thin piece of tin foil in a plastic disc. But art has returned to the formlessness from which it came. It has returned to being what it was throughout the history of human beings until Edison: it has returned being something that must be shared to exist.

The technology of the late 20th century reversed the conditions of power that made it. This is not the first time that that system of social production called capitalism has had that effect. When I wrote a little thing called "The dotCommunist Manifesto" some while ago, I was doing it in order to show that a form of social analysis characteristic of those searching for freedom in the 19th century might bear some recognition in the 21st. Not as a matter of normative political analysis but as a comment on the actualities of the day. The struggle of Burgeoise technology towards ever greater functioning such that it undermines its own conditions of existance was an observation made by shrewd onlookers a hundred and fourty years ago, and we live in the fullfillment of its truth. Ownership struggled to reduce its costs, to hold down the costs of making the commodity, in order to free itself to greater profit. And in the end, as was so shrewdly noted in the 1860s: "All that was solid melted into air, and air was something that we all knew we could freely breath."

And so we found ourselves confronting a system of power based upon ideas of property relations that the technology of the owners was already making obsolete. It is not possible for industrial organizations to do a better job of distributing music than 12 year-olds can do. Hence the world in which the music industry confronts the children on the barricades, attempts to jail them, fine them, control them, and loses. The same is true for all the other forms of art given to us by the 20th century and being freed by the very technology that the controllers of artists hoped would control art even further. This, like the adoption of movable type printing at the end of the 15th century, constitutes a moment at which the powers of control have adopted technology which transforms their conditions of existance, will they, nil they. They do not will it but it happens to them anyway. And the technology that they have freed, like the sorcerer's apprentice, finds itself overwhelmed by its own implications.

The free software movement, with which I have had some slight association, the free software movement is the beginning of the recognition of the implications of the technology. A recognition based not on the idea, "I could write better software if I could share it with other people," but rather, as Mr. Stallman made clear from the beginning, a political recognition: Freedom is a good in itself. Inhibiting sharing, prohibiting people from teaching what they know to others, and from learning what they want to know themselves is wrong. The free software movement was not a technology movement; it was the face of the struggle for freedom of thought in technological guise. It took advantage of technological reality to bring about a deeper scrutiny of political possibilities. And we are here today because those political possibilities have sunk in.

There is not a government on earth any longer which fails to comprehend the social possibilities of the freedom of software as a development strategy for an economy, as an education strategy for a population, as a reassertion of the public's right to get what it pays for, in the public servants, whom it employs to think and devise and to improve the infrastructure of social life. There is not an enterprise on earth in the technology industries which fails to recognize the enormous constructive power of unleashed creativity in individual people. This very week, an organization, SUN Microsystems, which has shown in the past a belief that great software could be made in secret behind closed doors, has decided to reconsider that proposition with respect to the most important software asset that it possesses. There is not a culture business on earth which is unaware of the competition in which its distribution arm now finds itself with freedom as its most dire competitor.

Once upon a time that this was a political movement for freedom was a secret. I knew it. Stallman knew it. You knew it. It's not a secret anymore. Everybody knows it now. What we are struggeling for is clear. There are days of course upon which we prefer not to say it too loudly. We are engaged in negotiations, quiet please. We are respectable today. We are wearing suit. But we have not forgotten what we meant to do. We meant to make freedom and we are making it.

This puts us—happily in my case, I hope happily in yours—in contention with power. Some of that power is the power of monopoly. It is Mr. Gates and his billions. Some of it is contention with habit. It takes a lot of trouble to get people to change the word processing program that they use. [*Applause*] Some of it is contention over principle: is it free when it is "freedom from", or is it free when it is "freedom to?" Which words should we use? We struggle with one another as the movement for freedom of thought always does. We are divided internally over phraseology. We sing slightly different versions of the same song to slightly different music. And it's dissonant and it jars us. The contention is good. The struggle for freedom of thought is a struggle. It has, I regret to say, even casualties. Though the good news for us is that there will be no guillotines, no blood in the streets, no commune, and no suppression of the commune. Because freed of the burden of utopian assumptions, liberated from the need to dream of what has never been, we are able to pursue our struggle relentlessly and remorselessly on the basis of what there already is today and what we with our own hands can make out of it tomorrow: proof of concept plus running code equals revolution.

The network society, which has restored our sense of primary contact, unintermediated, not through Mr. Murdock, not by way of Mr. Gates, but directly with one another. By chat, by e-mail, by video exchange, by file sharing, we are connected to ourselves. That network society recapitulates contentions among classes, communities and groups, traditional in all society. But it recapitulates those contentions in a new form, precisely because we are allowed to share. We are not struggling for primacy in the market. We are not struggling over which class will possess the means of production. We know where the means of production are: they are inside our own heads. We are struggling to come into ourselves. We need not take anything away from anybody else. There will be losers. The losers are those who have proposed to own what we have made but we are not required to do more than to exist as creators and to share our works.

In December of 1989, when some very positive events had happened in Prague, I went down into the New York City subway one day and I found a man down there who plays the violin for money in the subway at his usual place. And in the back of his violin case, where he collected the dimes and the quarters, he had put a photograph of Vatslav Havel and underneath he had written: "Artists will rule." That's us, and he is right. It's a struggle; it has winners and losers; it is a velvet revolution; it is the fullfillment of long hopes and the deepest of dreams, and we are fortunate to carry it to fruition this time.

The network makes it possible for us. What we have done is what we build on. But we have to keep it safe. We require four things: Free software, free hardware, free culture and free spectrum. I mean by those four things to set before you the pillars of the revolution we have already made, as well as those things that we must build further on.

Free software, it needs hardly any definition. It means to create technology which everyone can change, everyone can improve and everyone can share. We've done it.

Free hardware is essentially a conservative cry. It means: keep the military occupation out of the net. Keep the hardware from obeying Mr. Eisner rather than the person who bought it. Make sure that hardware responds to the people to whom it belongs not to the people who send bitstreams through it. The war for free hardware will be sharp, short and inevitably successful, but we have to fight it. There are forces in our societies which believe that only if every single electronic device is under their control is their business model safe. They are correct. [*Applause*] Left to their own devices, they would recast the network in that mold to protect their businesses. But they are not going to be left to their own devices. We have the devices and they belong to us. So our goal is to conserve that property of the network, that it is made of things that we have bought, we have installed, we possess, and that respond to our demands not the demands of some third party who has got a movie temporarily moving through them. We will win that fight and we will have little to show for it beyond what we already have. Nonetheless we have to do it.

Free culture, to my dear colleague Prof. Lessig, who has trademarked the phrase, I owe an analysis so deep and so comprehensive that there is little left to say. We must have the ability to make our various arts collaboratively out of what we have already done by adding imagination untaxed to what already is. This is a promise for an acceleration of education throughout the globe. Billions of minds hungering for knowledge and for beauty, to whom everything can now be given. In a world where everything is a bitstream, where the marginal cost of culture is zero, where once one person has something, everything can be given to everybody at the same costs that it was given to its first possessor, it is immoral to exclude people from knowledge and from beauty. That is the great moral problem that the 20th century has be bequeathed to the 21st. We can eradicate ignorance at the expense of a few. We have to do it. We cannot permit the voluntary starvation of most of the minds on the planet. We have a duty; we have a joy; we are bringing to our colleagues, the human race, everything we know and everything we love; there is no higher pleasure than delivering what we love to those with whom we wish to share it, there is also no deeper moral obligation.

[*Applause*]

Free hardware and free software are two thirds of the platform for free culture but without bandwidth, boxes sit dumb. We must recapture for everyone the common property of the electromagnetic spectrum. Every legal system at its bottom agrees that the spectrum is common that it belongs to all, and every legal system denies as practical reality what it proposes as principle. Every system continues to maintain that government must control how spectrum is used. Sometimes quite explicitely for the purpose of remaining itself in power; sometimes in a claim of some civilizing mission on the belief that government and only government can really artfully determine who ought to speak to the masses in the interest of the expansion of knowledge; and sometimes, as in my society, out of sheer venality: "We, the politicans, have taken bribes from you, the media owners, and we will faithfully reflect the interests of our masters, who have put us in." But whatever the reason may be, whether venality or lust for power or a misguided belief in the superiority of government wisdom about who should speak to many, spectrum allocation is an evil whose time has come.

[*Applause*]

This is far more complicated than the problems that we have solved in freeing software. More complicated than the problem that we face in keeping hardware free. Far more complicated than the problem of inducing 12-year-olds to share music and help free culture. But it is not beyond our power on the basis of what we already have. We need dream no utopian dreams to achieve bandwidth for all on equal terms. We possess already working code and proof of concept: it is called WiFi. It is the attempt to use a small, not particularly desirable piece of spectrum, to model the possibility of self-organized, non-hierarchical, decentralized, equal-measure access to electromagnetic spectrum and we are showing what the alternative actually is. Those of us here who work on this issue are able to show to populations all around the globe the "telephone bill"-less future. The place where nobody pays to talk to anybody else by the zip, by the minute, by the tick, by the impulse, anymore. We can build that thick mesh that embraces all of us and add at communal expense the long-haul communications portions which tie that mesh together, and we can offer people equality of communication. Mr. Murdock will be disappointed. Deutsche Telekom will be heart-broken. Tough.

Because what is at stake is exactly that moment at which we make learning open. Like the recognition that science itself can be based only upon print that is within the reach of every scientist. In the very same way that western science depended in the 16th century on the movement for freedom of thought—what more noble proposition could we take for our movement than the simple words "epursi muove" with which Galileo pointed to the intrinsic relationship between freedom of thought and scientific progress—in the same way that the scientific revolution in the west first depended upon free information exchange, so now. In the next generation we will confront once again the recognition that without a movement for freedom of thought science is tied to ownership. Does anybody who inspects the current pharmaceutical industry or the forthcoming genetic revolution doubt me? Without the free exchange of ideas, science is the servant of inequality. And it is science, the ability to know, the ability to teach, the opportunity to learn everything that any human mind can reason out: it is science which is still at the root of the development of our societies.

So the movement for free spectrum, like the movement for unlicensed printing, is a movement to put beneath science the power of all the available human minds. Like the war against censorship in western Europe, the war for free spectrum is a war for the freedom of ideas in its most valuable sense: the ideas that changed society extend life, make human existance better. We have grown so accustomed to the idea that the power to communicate with one another is something we have to buy from someone else that we are in danger of forgetting just how much rests over the long history of human beings on the inherent virtue of untrammeled communication.

So out of those parts, free software, free hardware, free culture and free spectrum, we build a society of justice, of equality, of liberty. Not in the belief that if we somehow force the aristocrats out, later society will become perfect; not out of the belief that there is some class needing liquidation, and then we imagine human beings can change; not a dream about nowhere, but an attempt to move what we have within our appartments, within our work places, within our schools, out into the larger world where it can begin to fulfill its perfectly legitimate, necessary, inevitable work of liberation.

We have turned the freedom of ideas into an instrument of social change. We have become what all our ancestors have dreamed of becoming. People who can take what is and make it the method of liberation. We have been singing it for a thousand of years:

> Die Gedanken sind frei
> My thoughts freely flower

> I think as I please
> And this gives me power
> No scholar can map them
> No hunter can trap them
> No man can deny
> Die Gedanken sind frei

In a network that circles the globe, built of freedom and responsible to no master, humanity will at last be able to hear itself think. This is what we have dreamed for; this is what we have built for; this is what we have desiged; this is what we have coded; this is what we have licensed; this is what is out there in use already.

We live amids the tools of our own dream, and this rich, shining moment is the moment were we take them up and turn them deliberately in the struggle for freedom which we have long hoped to prevail in. This is another great moment in the long history of the search for liberation and the difference is this time we win. Freedom, now!

Thank you very much.

[*Applause*]

Volker Grassmuck: Thank you very much Eben Moglen. And I would assume he is ready to take questions, comments as well, of course...

Eben Moglen: There should be at least some objections... ah, if you, yes, sorry.

Audience Member: Hello, my name is Daniel Pesano, I come from Darmstadt. I would like to point out that while we have a chance to win the war, there already is a new battle going on with TCPA, for instance, which is trying to control the hardware and the way that we compute and the way that we communicate, in the end, by cloaking it, with the excuse of making computing more secure. Which is not something new, we've seen it before also in politics and in warfare, even in the current days of our lives. My question is, how many battles will we have to endure until actually we will win the war, as you say, or as you have predicted? This is my first of three questions, and I will wait for the answer before asking the other two.

Eben Moglen: Trusted computing is one important aspect of the struggle for free hardware, right, that was what I meant to speak about. It is correct that there are, at any rate at the moment, for the moment, lots of manufacturers of hardware who see a possible advantage to them in the construction of hardware controlled not by the human being but by the bitstream that runs through it. You are right that security is one aspect of the claim made in support of such hardware; privacy, the control of personal data from inappropriate use is yet another; and of course the protection of the content manufacturers against distribution competition is the unspoken third.

My own personal belief, as somebody who works intimately on this subject all the time, is that the enthusiasm among the manufacturers for the construction of unfree hardware is not very durable. It is subject to consumer pressure: we are the consumers. It is our pressure which will determine what they try to make.

The free software movement will take some steps in the next few years to discourage the use of trusted computing hardware. Not, I hope, by sealing off the free software world from all examples of trusted hardware. That would go too far and give ground back, if you like, to the non-free side which would then have all the unfree hardware in the world to play inside. We will engage in a creative, occasionally ironic dialogue with unfree hardware. We will show that unfree hardware can be made free. And we will discourage the manufacturer of unfree hardware by helping consumers to choose freedom over slavery, wherever possible.

How many battles will there be? It remains to be seen. If we are not the last generation struggling about this, that won't be a terrible surprise. My point was: we have all been here for a very long time; we'll be here for a while longer.

What I think we can do is to use tools that are already in our possession and that dwarf anything that was ever possible before, self-consciously, determinedly, in favor of freedom. If we know that's what we are doing, if we are aware that we are running a rebellion here, we'll be are all-right. It's if we lose our way and forget what we are ultimately struggeling for, that we are in danger.

As long as you know, and I know, and everybody here knows, that we must have free hardware, we will have it. As long as we identify it as a tool of freedom; as long as we make clear to everyone we know that liberty depends upon it, we'll be all-right. But that's a teaching job we have to do.

I see this less as a struggle with the IBM corporation or the Hewlett Packard corporation or the Dell corporation as a struggle against ignorance. Less about: Can we make free hardware? Can we convince the hardware manufacturers to give up on "trusted computing?" Which my colleague Mr. Stallman rightly calls treacherous computing. "Trusted computing" it means: computers you can't trust. Right?

It is less about: can we make manufacturers do what we want? Than about whether we can make consumers demand what they need. When we have educated people, that particular problem will be a lot easier.

Did you want to follow up?

Daniel Pesano: Well, follow up question number three was already answered by, given the answer, by your mentioning of the education being the most important point in getting people, raising people's awareness about the problems they are heading right into.

Second question is more like a comment—half a comment—about the free telephone that you, or the free communication among the people that you mentioned.

I don't think that Deutsche Telekom or the MCI (do these still exist?) or any other communication company will lose in this game because they are already, well, you have flatrates for DSL and for broadband access and they already have understood that voice over IP will be the future and they are switching their telephone systems and their marketing strategies into that direction and they will be all placed in their business very well waiting for the people to pay the bills not for the minute but for the volume. So I don't think that will be a problem for them.

Eben Moglen: It is true that up until now we have dealt with unshrewd opposition. The Microsoft monopoly was not smart in its Bdealings with free software. More stupid than the recording industry it would be difficult to get. The telecoms companies have, I agree with you, a better strategy. They can pursue the task of convincing you that wireless access is something you should pay for; and they will have pretty good luck in doing so for a while.

Star Bucks Coffee, which I regret to see is also in Berlin, so I can speak about it as a thing in the neighborhood. Star Bucks Coffee, which has honeycombed the United States has a deal with T-Mobile: you can pay six dollars a day or thirty dollars a month and you can have wireless service in Star Bucks. So I built a little experiment, a piece of performance art in Manhatten Island, I found people who lived within a hundred meters of Star Bucks and I gave them wireless routers and got them high-speed service from a supplier who didn't care if they reused it and I put a costless hot spot inside the Star Bucks that way. So you walk into my liberated Star Bucks, and it just works if I'm not violating anybodies trademark in using that phrase.

So the problem for the telecoms companies is: they have very high Bcosts for construction and we can build more cheaply than they can. This is the fundamental difficulty in their model. I grant you that their model is smarter than the recording industry model: they have not yet decided that the way to deal with this is to put children in jail. But we can make them go that way, you understand, by building over them and that's what we gonna do.

And then they will face, ultimately, the same problem that is now faced by the dead distribution businesses: how much coercion can they get the state to apply in support of their business model? The liberalization movement of the 1980s and 90s consisted of the state saying: "We want to do less coercion on behalf of the telecoms giants than we did before." Pretty soon, the telecoms giants will be demanding the reintegration with the state, as the recording industry fundamentally is now demanding integration with the state in order to protect itself. It is a better game for them to play, but they will lose it anyway. Renting switching equipment is not a good business in a world where switching equipment is ubiquitous. And if we use the spectrum which belongs to us and leave them to use the copper wires and coaxial cables: we win.

Daniel Pesano: Thank you.

Volker Grassmuck: The next question, please.

Eben Moglen: No, let's take the other mike.

Volker Grassmuck: Is there, oh, sorry, I didn't see you... is the microphone...?

Eben Moglen: You are audible to me, so you are audible to everybody else I think.

Volker Grassmuck: No, please, please use the, can, can this microphone be opened please? On the... thank you.

Eben Moglen: You have to use the microphone.

Audience Member:] [inaudible that the main issue here is education on how important freedom is in order to win the free hardware war. However, when we're fighting this war, when we are educating people, we are actually competing with media which is not exactly keen to get this message through and with their minions in government—I'm from Argentina, and I must apologize here for our government who recently suggested WIPO to create an agreement that would practically prohibit computers, because it would make it illegal to possess any kind of device that would be able to aid in the decryption of an encrypted stream or something like that, and so—when we must educate the general people who actually inform themselves through the channels of the enemy, it kinda makes it an uphill battle, doesn't it?

Eben Moglen: Well, let's reach into the history of the struggle for freedom of thought to think about that. The moment where we might want to is in the place we think of it now historically as religious reformation. Those who had dissenting views concerning the doctrine and orthodoxy of the one indivisible holy roman catholic church at the opening of the 16th century found themselves pretty much in the same place. And their answer was pretty much the answer we must come to which is that contact between individuals—personal contact, word of mouth—is fundamentally the best way to teach anybody anything.

It is for this reason that Lutheran and Calvinist theology made such an enormous point about the importance of hearing the preaching of the word, because to be in personal contact with the sound waves emitted by human beings is the best way to convert a system of orthodoxy to a new idea.

The power of the electronic media is undeniable. The world of the 20th century was a world in which it was proven that radio could cause mass-murder. But that does not mean that the power of one person to one person has vanished in any way at all.

I grant you the feeling of sadness at being an Argentine, you have to sympathize with my feeling as a citizen of the American empire, [*Applause*] but it's an interesting neighborhood, yours, isn't it. The Argentines are often disturbed to find that the Brazilians are their neighbors. It's going to be a strange place in the next ten years as word of mouth percolates back and forth, maybe through Uruguay, on the subject of what it is that we can have.

Remember that the fundamental problem of the revolutionary ideology is to explain to people what is possible and the great defect of the struggle for freedom heretofore has been that explaining to people what is possible meant pointing at Utopia, at no place, at a place that never was.

It will now be possible for us to point at things that are. Very soon there will be enough municipalities around the world where free municipal wireless networks exist; where everybody is connected all the time to everybody else, that it will be possible to say to people: "Why don't you want that?" and point around the corner.

It is true of course that Mr. Murdock will not be pointing with you. But people will listen to you. You are the Apostle of a new faith and it is a faith whose miracles can be seen in front of people. They can be proven; they can be tested, they can be tried. When you have that going for you, you have much. If you retain your own faith in the ability to get that message across, you will succeed.

Volker Grassmuck: We have time for one more question. If you could be brief, please.

Audience Member: I'd like to first say that freedom is like a pyramid: it's about trying to upseat the few at the top with the many at the bottom. I come from Africa and I think that we can divide freedom into political, economic and then, finally, intellectual freedom. I believe you are talking about intellectual freedom. Africa only received this political freedom within the last half century.

Now, if we take the strugggle for freedom that you are considering and speaking about, which is removing the bonds of the few to the many, I think that the logical progression is going to be that the western hegemony over the world is going to change. I think the west is no longer going to rule the world and I want to know whether that is feasible or whether you believe that can happen. For example, nobody would ever dream of invading or bombing the smallest and weakest nation in Europe today: but we have Iraq.

So, I just want to pose this as a question for thought to find out whether freedom is real or it's only for a few people.

Eben Moglen: All questions of this kind depend upon an assessment of the time scale, right?

I have said here in the arrogance of wealth and in the comfort of my own life in the west that this is the generation in which at last we win. You are right in saying, "Maybe here, maybe for you." But what is changing, as you rightly suggest, is a fundamental shift in the global spaces of power.

Ask this question: at the moment when I began my talk in the 13th century, were the Europeans in charge of the world? No, not even close. A backwater. A place of low culture and low civilization as seen from a high civilization place take, for example, Baghdad.

What one might have said was that certain technologies, particularly the technologies of maritime commerce and naval armament, put Europeans in control of the world for five hundred years. We are now in the decay of that power. What comes next is what happens when human minds around the globe are liberated under conditions of equality. It will take generations to build that network out so that it embraces every human being who is here. But the process, once it begins, is hard to stop or reverse, as the march towards European domination of the world was hard to stop and to reverse for half a thousand years.

We, this generation, can achieve something which will change the long-term balance of power on the globe. We can't do more than that, but if we do that, we have done a good day's work and can go to rest, satisfied.

Volker Grassmuck: Thank you very much, big hand to Eben Moglen again.

[*Applause*]