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The People Own Ideas!

By Lawrence Lessig June 2005

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We entered the youth camp that morning by passing down a long, white gravel road and under a wooden gate. Spread to one side, and for as far as you could see, were rows and rows of tents. In front were scores of showers, with hundreds of kids in swimsuits milling about, waiting to rinse. It felt like a refugee camp.

In a sense, it was. More than a hundred thousand had descended upon Porto Alegre, Brazil, to attend the World Social Forum, a conference intended to offer a progressive alternative to the much smaller, and much more famous, World Economic Forum meeting at Davos, Switzerland (see "Letter from Davos," April 2005).

Just past the showers was a sprawling collection of wooden huts, connected by a canvas spread across their roofs. This was the free-software lab. To the right, there was a training room, with more than 50 PCs arranged along long tables. At the far end was a large screen, where 20 to 30 kids were watching an instructor explain the workings of some video-editing software. Every machine was running free software only--GNU/Linux as the operating system, Mozilla as the browser, and a suite of media production software, most of which I had never seen on any machine anywhere.

The room was being prepared for what seemed like a disco. Three DJ-like characters were huddled over a table full of machines, testing sound and

twiddling fantastically elaborate controls. They were not DJs, however, but VJs: video jockeys who were preparing a demonstration of the tools they had built (as they described it) for "recycling culture." The music would, for all I know, not have been out of place in the coolest New York dance club; but the images were a collage of television and color presented in a way that I had never seen before, anywhere. As the music played, video samples were scratched across the screen. The VJ operated a turntable-like controller, which drove powerful digital video equipment designed to mix images, not records.

In another room, the yellow light filtering through the canvas roof bathed another 50 machines. John Perry Barlow, former lyricist for the Grateful Dead and cofounder of the Electronic Frontier Foundation, sat stooped over his PowerBook chatting with someone. He looked up with a smile. "It's [New York Times writer John] Markoff at Davos." Obviously, Wi-Fi bathed the room as well.

Inside the room, a group of five or six Brazilians was waiting there to meet us. A film crew waited as well. They were shooting a documentary. The Brazilians were our guides, and I was there to understand what a "free software lab" was all about.

Stallman's Good GNUs

Everyone who reads Technology Review must have heard of "free software." It was on MIT's campus twenty years ago that the Free Software Foundation was born; it was an MIT researcher, Richard Stallman, who presided at its birth. Free software is code that carries a promise. Actually, it carries five promises (four explicitly, and one by implication), according to the foundation's definition of free software. Geekily numbered starting with zero, the promises are

- (0) The freedom to run the program for any purpose;*
- (1) The freedom to study how the program works and adapt it to your needs;*
- (2) The freedom to redistribute copies so you can help your neighbor;*
- (3) The freedom to improve the program and release your improvement to the public, so that the whole community benefits.*

The first and third freedoms imply a final, and equally important, freedom: access to the source code of the program. Software that offers anyone these freedoms is free; software that compromises any of them is not.

Stallman launched his movement as a reaction to changes in the environment within which software was written. In the world he had known, programmers were a sort of ethical scientist. Coders worked on common problems; they shared the knowledge that their work produced. More than 60 years ago, sociologist Robert Merton said of science, "Incipient and actual attacks upon the integrity of science have led scientists to recognize their dependence on particular types of social structure"; so, too, did Stallman believe that the freedom of programming faced "incipient and actual attacks." Its defense, he believed, would depend upon "particular types of social structure." He thus set out to build one: a social structure that would help coders preserve the integrity that he thought their discipline should have. The foundation of this structure would be a "free" operating system, inspired by Unix, but not actually Unix (and thus cleverly named GNU--GNU's Not Unix).

At the time, Stallman's ambition seemed to many unachievable. No single person, and no collective of volunteers, had ever succeeded in finishing a software project on the scale of a complete operating system. There was no reason to believe Stallman and his followers would succeed. But they began with first steps--the tools and scaffolding with which everything else could be built. These included some of the most important bits of GNU, like its compiler, the GNU Compiler Collection (GCC), and some of the most beautiful, like the Emacs editor. And each bit was wrapped in Stallman's single most brilliant

idea: a license that would assure that the code he was building would forever remain free.

The GNU General Public License, or GPL, is a copyright license. In the language of the free-software movement, it is also a copyleft license. Like any copyright license, it imposes conditions upon some uses of the products it governs. Like any copyleft software license, it includes among those conditions the requirement that changes to the protected code must be shared if they are redistributed. The copyleft requirement is a benefit for some (those who share the goal of spreading free software); it is a curse for others (those who would like to add to the project and benefit exclusively from what they add). Stallman bet there would be enough who saw it as a benefit to build a free operating system.

Six years into the project, however, GNU still lacked a heart--that is, the "kernel" of an operating system that provides control of a computer's hardware. That part would not come from Stallman. In 1991, Linus Torvalds, a Finnish undergraduate, announced the beginnings of a kernel governed by the GPL. Hackers started integrating that kernel--which they dubbed "Linux"--into GNU. By the middle 1990s, there was a full, functioning, free operating system spreading across the Internet. By the end of the 1990s, GNU/Linux had become a powerful and free competitor to Microsoft's Windows operating system (see "How Linux Could Overthrow Microsoft," p. 64).

Proprietary Systems

There are a million details to fill in before the story of free software makes sense to anyone who doesn't already know it. Can free software be used commercially? Yes, freedom promise 0 requires it. Can free software be sold? Yes, for whatever price the market will bear. Can businesses make money producing or supporting free software? Some think so, as the billions invested by IBM and Hewlett-Packard suggest. Does free software destroy the financial incentive to produce new software? Not necessarily. Free software simply makes improvements transparent, as they are in any number of other healthy, competitive markets.

But let's put those questions aside and focus instead upon a historical pattern: a practice is at one time "free"; something changes; that freedom is lost; in response, activists work to restore that freedom. Thus, coding had been free; changes in the market had rendered it unfree; free-software activists acted to restore that freedom.

As I listened to the Brazilians explain the free-software lab, I began to realize that this pattern was recurring. They were doing for culture what Stallman had done for software. The lab was not so much about "free software." It did not, for example, teach people how to make free software. Its aim instead was to help them build free culture using free software. The lab offered "workshops about video editing, audio editing, collaboration tools, [and] online collaboration," all "on top of free software." But the objective of this teaching wasn't, or wasn't just, better software. The objective was a different economy for culture. Culture itself, as one Brazilian explained to me, should be free, meaning, he said, "free as in free software."

The parallel between free software and free culture is strong, though bringing it out will require some distinctions. For unlike software, culture has always had an element of proprietary control. And for most of our history, proprietary culture has actually encouraged free culture. But changes in the way culture is owned now make necessary the free-culture movement that Brazil is promoting. To understand that movement, we must understand what provoked it.

Proprietary culture is rendered proprietary by a system of regulation we call "copyright." In the U.S., copyright regulation was slight at first. In effect, the law reached only to the printing press, and by design, it regulated only a small proportion of creative work--just "maps, charts, and books." Very soon, however, the scope of the law began to grow. By 1831, it covered music. In 1870, it expanded to cover paintings, statues, and, most importantly, "derivative" works,

meaning work based upon an earlier work--a translation, for example, or a play based upon a story.

These expansions were reasonable enough, each the product of a self-conscious legislative change. But early in the 20th century, the law became latched to a device that would produce unimagined changes in copyright's reach. For in 1909, through a mistake in codification (literally: it was an error in the wording used in the statute), the exclusive right that copyright protected was defined to be not only the right to "publish" or "republish" but the right to "copy." That change didn't matter much in 1909: the machines for making copies were still printing presses, and no one believed a schoolchild writing out a poem 50 times so as to memorize it was committing a federal offense. But as the machines that copied became more and more common, the reach of copyright law became more and more extensive. At first it was commercial machines that bore the burden of the law: player pianos, radio, cable TV. But in the 1970s, and for the first time, a printing press to which the common folk had access--the "copier"--became the target of extensive litigation.

These expansions in the law were balanced by important, built-in limitations on copyright. "Fair use" is one important limitation. But the most important was the product of a formality. To get the benefit of copyright protection, an author had to "opt in" to the copyright system: a work had to be registered; after an initial term, the registration had to be renewed; and the work had to be marked (©). No more than 50 percent of work published in the 19th century was registered. More than 80 percent of that registered work was never renewed. Copyright law thus automatically narrowed its reach to work presumptively needing the protection of copyright. It left much published work (and the overwhelming majority after an initial term) free.

This opt-in system was changed, however, in a series of amendments to American copyright law beginning in 1976. After these changes, creative work was automatically protected by a federal copyright, whether or not the work was registered, without any need to renew the copyright, and whether or not the work was marked with a funny little ©.

Copyright law had always been conditional. It was now unconditional. It had always automatically narrowed its reach to work presumptively needing the benefit of copyright protection. It now reached all work, regardless of whether it needed any copyright protection. There was no evil conspiracy behind this change. Its purpose was perfectly benign: to simplify copyright law. The formalities of the old system were a bother. Abolishing them would remove that bother. But the consequences of abolishing these formalities were dramatic: we moved from regulating a minority of creative work to regulating all of it. Call this copyright's "first big change."

The second change is even more dramatic. To see the point, notice first how little the law of copyright regulates ordinary uses of creative work. Reading a book, for example, is not a regulated (by copyright law) use of the book. It's a free use: reading a book creates no copy. To lend someone a book is not a regulated use: it creates no copy. And to sell someone a book is not a regulated use: it creates no copy. These ordinary uses are beyond the reach of copyright law. Or put differently, copyright law leaves these ordinary uses immune from regulation.

But in the digital world, this immunity disappears. It is the nature of digital technologies that every use produces a copy. Thus, it is the nature of a copyright regime like the United States', designed to regulate copies, that every use in the digital world produces a copyright question: Has this use been licensed? Is it permitted? And if not permitted, is it "fair"? Thus, reading a book in analog space may be an unregulated act. But reading an e-book is a licensed act, because reading an e-book produces a copy. Lending a book in analog space is an unregulated act. But lending an e-book is presumptively regulated. Selling a book in analog space is an unregulated act. Selling an e-book is not. In all these cases, and many more, ordinary uses that were once beyond the reach of the law now plainly fall within the scope of copyright regulation. The default in the analog world was freedom; the default in the digital world is regulation. Call this copyright's "second big change."

When you tie these two big changes of copyright together, you get a "truly profound change." Not only is the reach of the law dramatically larger because copyright now regulates all rather than a minority of work, but the effective scope of the law is dramatically larger because copyright regulates all uses rather than just some. The U.S. Congress self-consciously made one of these two big changes, but it didn't know how far-reaching its legislation would be, since it couldn't foresee the eventual universality of machines that copy.

Control Issues

But if in fact the scope and reach of copyright law have expanded so radically, why hasn't anyone noticed? Why aren't copyright holders celebrating?

Simple answer: the expansion of copyright regulation has been offset by an equally radical diminution of its effectiveness. Though in theory an opt-out copyright regime plus digital technology means that everything is presumptively regulated, in practice, digital technologies have meant that this regulation is irrelevant. Digital technologies were designed to enable perfect copies; they were not designed to enable control over these copies. The perfection and freedom of digital technology, including the Internet, have thus led to a Roman feast of copyright infringement. Digital tools make it simple to share data with your 10,000 best friends, so people share data with their 10,000 best friends. The United States may be a nation of drivers who stop at red lights--even deserted red lights, in the middle of the night--but its citizens didn't even hiccup when slurping down peer-shared creative content, copyright notwithstanding. Whatever the law says, actions speak louder than words. And it is the actions of ordinary users that worries industries that depend on copyright, such as publishing, music, film, and software.

That worry has now prompted a response, and it is this response that in turn worries the free-culture movement. Digital technologies are only technologies: they are made by humans, and they can be remade by humans. If existing digital technologies have so far denied copyright holders control over how the fruits of their creativity get used, then future digital technologies can be remade to restore control to those same copyright holders. In fact, that's just what is happening.

This restoration of control operates under the name "digital rights management" (DRM). DRM, and the myriad of supporting changes in technology that it will demand (for example, the addition of dedicated "trusted computing" chips to new computers), will build back into the architecture of the digital world the control that the original architecture of the digital world disabled. Nor will it stop there: copyright owners want more. Current DRM proposals reach far beyond the balance of proprietary and free culture in the analog world. If enacted, they would enable a copyright holder (or software creator) to, for example, dictate how many times you can read the e-book you've "bought," or how many times you can move it from one machine to another. Whatever uses you can imagine for a digital device, imagine DRM controlling them. That's the potential of this technology--a potential that reaches far beyond the limits of predigital copyright regulation.

Now, economists and others of a capitalist bent (see "The Creators Own Ideas," p. 56) will argue that it's not at all obvious that expanded regulation would be bad. They'll tell you that in many cases, giving property holders the power to control (or "discriminate") in uses of their property actually increases the total wealth of society. So we shouldn't necessarily condemn the tightening of control that DRM will produce in cyberspace, at least if it increases social wealth.

I don't want to quibble with economists (although I do answer Richard Epstein's objections to this essay: see "Rebuttal" on page 63). My point is less ambitious: it is simply to remark that the prospect of such tight controls would have seemed bizarre even three decades ago, and that we need to think quickly to decide whether we want such controls in the space of culture. When the Internet gives copyright owners perfect control of their content, then, since it's all automatically copyrighted, every use of it will presumptively require permission. We will then no longer live in a free culture, but in a "by-

permission" culture. And these permissions will no longer be policed by courts or the law but rather by software code.

This is the control that the free-culture movement fears. Theoretically, digital technologies give the law the right to regulate culture to an unprecedented extent. DRM will turn that theory into practice. Do we know enough to conclude that the benefits of that practice will outweigh the costs? Do we even know enough to understand the costs?

DRMatically Bad

The case against DRM comes in two flavors, the familiar and the more obscure.

The familiar complaint is about the exclusivity of markets: maybe the price of reading an e-book will be too high; maybe too many people will be shut out of the market. That's a real concern in developing nations around the world, where the cost of both proprietary code and proprietary culture is wildly beyond the means of most people. Still, it's a concern that market apologists can quickly dismiss (see Epstein).

But consider the second complaint against DRM--one generally missed by the market apologists. This complaint is more fundamental: DRM abridges our personal freedoms and inhibits cultural transmission. To appreciate it, step back from the digital for a moment. Think instead about human culture as a whole. Participation in cultural life involves a practice that we could call "remix." You read a book. You tell the story to friends. You see a movie that inspires you. You share its story with your family, to spread that inspiration.

Remixing uses the fruits of someone else's creativity. There's no guarantee that it does any favors to the work that is remixed. There's no requirement that it treat the work respectfully or kindly. The freedom to remix is a freedom to ridicule or respect. Fairness is not the measure. Freedom is.

It is almost impossible to imagine a culture thriving if its people are not free to engage in this kind of practice. Remixing is how culture gets made. The acts of reading, or criticizing, or praising, or condemning bits of culture are how we create things. This is true whether the culture is commercial or not: you cannot limit remixing to things in the public domain. In our tradition, we have been free to remix, whether the stuff remixed is copyrighted or not.

This freedom, however, has been limited, historically, by an important technological fact. Since the dawn of humankind we have been free to remix, but the technology of remixing has been words. We use words to remake our culture. We use words to criticize or incorporate. The ordinary ways in which culture gets made are textual. No one restricted the freedom to remake culture because, in free societies at least, no one purported to restrict what ordinary people did with ordinary words.

So what happens when the ordinary ways in which culture gets remixed change? What happens when the ordinary tools of remixing change? Do the freedoms to remix change as well? Will we be more or less free to remix culture in the 21st century than we were in previous centuries?

Consider how the kids in Porto Alegre think about remixing. They remix culture with words, certainly. But they want to build the capacity to remix more than words. They hope to use computers to remix culture. For most of us, computers are a way to type fast. But for most of them, computers will be a way to speak, using sounds and images, synchronized or remixed, to make art or remake politics.

It is extremely hard to describe the new kinds of remixes that digital technologies enable. That may be their point. You could look at some examples at [atmo.se](#). But if you're stuck with your imagination, then you need to extrapolate from examples you've seen so far. Think about the very best examples of digital media that you've experienced (perhaps the JibJab remix of "This Land Is Your Land"), and then remember they're not likely the product of Sony or Disney. Digital technologies have inspired an extraordinary range of creativity, in part because they lower the media market's barriers to entry, which in turn invites a much wider range of participation.

We're just now beginning to see the consequences of this democratization of artistic means. A couple years ago, for example, a young filmmaker named Jonathan Caouette began playing with his boyfriend's iMac. The iMac came bundled with Apple's iMovie program. Caouette was smitten with it. And while he had never studied film, he had shot an extraordinary amount of video growing up. He began obsessively to digitize this video. Then, using iMovie, he remixed it. The result was a film that was the hit of Sundance and Cannes in 2004: *Tarnation*. It cost Caouette just \$218 to make this film.

The point is not that anyone can make a Cannes hit. But it is enough to recognize that many more people (indeed, millions more) could make good films. New digital technologies could enable an explosion of creative work.

Now there's no problem, of course, with this sort of creativity if the underlying remixed culture is "free": Jonathan Caouette didn't have much trouble making his film since he remixed his own footage. But what if you wanted to use these technologies to remix copyrighted content with your own content?

The short answer is, you couldn't. Under today's rules, remixing copyrighted digital content is infringing the rights of the copyright holder.

That in turn makes concrete the second, less familiar, complaint against DRM: if the technology permits the most extreme interpretation of existing copyright law, remixing will not become merely difficult. It will be effectively impossible--without clearing the rights first. If content is locked in code that requires permission before it can be reused, or remixed, then that permission will poison the practice of remixing. A kind of creativity--familiar since the beginning of culture--will thus be lost to digital culture and, as digital culture occupies more and more of our activities, to culture as a whole.

This, finally, is the link between the free-software and free-culture movements. In both, there was a practice that was essentially free. In both, a change in the environment of the practice removed that freedom. With free software, the change was the rise of proprietary code. With free culture, the change was the radical expansion of the reach of copyright regulation. Technology made both of these changes possible. Both the free-software and free-culture movements in turn use technology and law (through copyright licenses) to restore the freedoms that proprietary code and culture removed. Each proceeds through the voluntary efforts of creators to preserve a wider range of freedoms for their successors. Each seeks a world without the controls that the extremes of proprietary assertion produce.

Truly Free Markets

When most people trip upon these free movements, their initial reaction is that both are implausibly utopian. They read "free" to be a rejection of basic economic principles.

But the economy of free software is still an economy. It produces wealth; it inspires growth; it spreads services broadly within a society. It functions differently than the economy of proprietary software--different scarcities are traded--but it is still an economy. And literally billions of dollars have been invested to make it flourish.

The same is true of free culture. Many read "free culture" to mean that artists don't get paid. But here, too, the difference is not that one approach (proprietary culture) builds an economy while the other (free culture) does not. In the way that I've use the term, free culture describes the economy that governed creative industries for at least the first 186 years of the American republic. More importantly, proprietary culture has never yet governed any creative economy, anywhere. No society has ever imposed the level of control that the proprietary culture of digital technologies and DRM would enable.

The kids in Porto Alegre were resisting economic shifts away from the old balance that has defined the Western tradition. The economy that they would build doesn't deny the importance of copyright (indeed, the licenses necessary to build free software and free culture depend upon copyright). But it revises copyright to fit a digital age more effectively. It structures the law in light of technology, to produce the greatest opportunity for creativity and growth that the technology might offer.

These are improvements in efficiency. They aim at increased wealth. But there is a growing politics supporting both movements that has little to do with efficiency or wealth. This is payback politics, tied less to ideas than to an increasing global frustration with the United States.

The cause is not hard to see: according to the United States, Brazil, for example, is a pirate nation. The International Intellectual Property Alliance (which, its name notwithstanding, represents U.S. copyright interests) estimates that this piracy cost United States copyright industries close to \$1 billion last year. Consequently, the U.S. has begun to put pressure on Brazil. That pressure has produced an unsurprising reaction against the stuff that makes it possible for Brazil to be a pirate nation--proprietary code and proprietary culture.

For there's another way to reckon the cost of the proprietary. According to the Brazilian government, for example, Brazil sends close to \$1 billion to the north each year just to pay for software licenses. So as the Brazilians see it, tongue firmly in cheek, this proprietary stuff is a bad thing all around--costing the U.S. \$1 billion, and Brazil \$1 billion as well.

The obvious solution is to dump the proprietary stuff. So the Brazilian government is pushing itself and the nation to substitute free software for proprietary software. As one member of the government said during a speech at the World Social Forum, "We're against software piracy. We believe Microsoft's rights should be respected. And the simplest way to respect their rights is for Brazilians everywhere to switch to free software."

The Brazilian government is beginning to internalize the tenets of the free-culture movement as well. Brazil's minister of culture, Gilberto Gil, is leading a push for practical reform of the copyright system. His ministry has launched a project called Points of Culture (Pontos de Cultura) that will establish free-software studios, built with free software, in a thousand towns and villages throughout Brazil, enabling people to create culture using tools that support free cultural transmission. If things go as planned, the result will be an archive of Brazilian music, which will be stored in digital form and governed by a license inspired by free software's GPL. The Canto Livre project will "free music" made in Brazil, for Brazilians (and the world) to remix and re-create. And like a free-software project, it achieves that freedom on the back of copyright.

Gil is emphatically not against copyright. He's one of Brazil's most successful musical artists, which means he has benefited greatly from copyright. But he is also one of the very few Brazilian artists to make it outside of Brazil. And he is convinced that a different kind of economy might spread Brazilian creativity more broadly.

So the U.S. calls them pirates, and they reform their ways--not by more faithfully buying our products, but by finding ways to remain creative without infringing our rights. This is free software "ported"--as software engineers say--to free culture, and it inspires all the hype typical of such movements. "We're hoping," the leader of the free-software lab explained, "everybody is going to start producing their own media content and then they won't have to watch TV anymore."

That's a rather grand ambition, no doubt. But before you dismiss it as mere youthful idealism, consider this: had you met Richard Stallman in 1984, would you have believed him? And remember, he didn't have the government of the fifth-largest nation in the world behind him.

Imagine All the People

Two nights before my trip to the free-software lab, I attended a free-software rally at the same youth camp. Really. A rally. I arrived with Minister Gil and John Perry Barlow. The place was packed. There were hundreds inside the tiny tent; there were many hundreds more huddled outside. We were seated near the front, the only three with chairs. The evening began with some lectures, then followed with some music.

You can't imagine this scene. Or at least you can't imagine this scene as a rally for free software. I've seen free-software rallies in the U.S. They're populated by geeks with ponytails. This was something very different. The tent was divided evenly between men and women. Geeks were in the minority. Most of the people at the rally were astonishingly beautiful, and amazingly articulate. They were young and intensely passionate. And they were chanting free-software slogans. It was Woodstock without the mud and squalor, and with a penguin in the middle of the room.

For a bit, I was terrified a riot would break out. There was no room to move. We were physically squeezed on all sides. I tried to imagine Donald Rumsfeld in the same situation. One or two police stood at the back, just in case. But the crowd was peaceful, just jubilant.

Just as Gil started to speak, however, a handful of masked protesters appeared out of nowhere and positioned themselves right up front, brandishing posters. They were attacking the government. They were attacking Gil. They were supporters of pirate radio. They wanted a third layer of freedom--free radio spectrum, in addition to free software and free culture--and the government had resisted them. It was hypocrisy, they screamed. I was sure it would turn ugly--until Gil did something unimaginable in U.S. political culture. He stopped, and he engaged them. He argued with them. He listened to their arguments. A deputy joined Gil in the argument. They paused to listen to the protesters argue back. They then responded again, and Gil slowly whittled the opposition down. Midway through all this, a kid wearing a white T-shirt stood up just in front of us. Emblazoned on the back was the slogan "This is what democracy looks like." Eventually the crowd rose in Gil's support. They wanted more music. The protestors yielded. Gil was asked to sing some songs.

By the end of his performance, the crowd was in a euphoria. Imagine a mix between JFK and John Lennon, and you have a sense of this man's power and charisma. As we left, the crowd left with us--mobbing Gil. Teenage girls wanted him to sign their backs. Men and women gave him anything they had to sign. He was grabbed again and again. If people disagreed with him, he would stop and engage them. He argued, but always with respect.

We were finally pushed onto a golf cart and then into a government car, so he could escape. But even here, when someone knocked on Gil's window, he rolled it down and continued arguing. He yelled out his final words as his driver (a man with less patience than Gil) sped away. When the window was closed, and after a moment of silence, I tried to explain to Gil just how extraordinary that scene appeared to American eyes. I said that I could never imagine the equivalent in the United States, with anyone actually in power.

"Yes, I know," he said, smiling. America, he explained, has "important" people. "Here, we are just citizens."

These "citizens" are building something. We won't notice it until it is big enough to see from America. But if it gets that big, nothing will stop it. Just as the free-software movement has built an economy of free software, the Brazilians--and others around the world--will have built an economy of free culture, competing with, perhaps displacing, but no doubt changing the proprietary culture that finds itself dominant now.

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