OPEN SOURCE AND THE FUTURE OF PRINT IN THE AGE OF THE SOCIAL NETWORK

Graham Morrison meets Free Software, internet and publishing visionary, Tim O'Reilly

There are many memorable quotes attributed to Tim O'Reilly. Which isn't surprising. He's been talking for decades about open data, the internet and the direction technology is taking us. Like Arthur C Clarke, much of what he's predicted, talked about and written has proven incredibly judicious. He popularised the ideas behind 'Web 2.0', as well as the incoming wave and impact of social media. He believes in an open government and that the internet will become a global brain of networks and things. At the same time, his publishing company has given us many of the (DRM free) titles we all rely and learn from, while championing open source and open data. But there's one quote in particular that resonates with us here at Linux Voice. It was partly responsible for the inception of the magazine, and it's one we think encapsulates the spirit of open source: "Create more value than you capture."

LV Now that free software has effectively won the war, is it still important for us to evangelise open source as much as it was a few years ago?

Tim O'Reilly: There's definitely still an open imperative. Open data is obviously a big area. We have a huge amount of our data locked up in these proprietary social networks, and that stuff is important. Google is pretty good about letting you get it out, but it's not really portable. The number of hoops you have to go through if you want to get stuff – you have to download it, you have to re-upload it. And they are the best at this.

LV And your downloaded data is now out of context.

TO'R: That's right. And there are a lot of other areas where useful services will require data. The Blue Button [the system used by patients in the USA to gain access to their medical records] is

a good example – portable health records. Being locked in is just as real in the internet era as it was in the previous software era. It's just that the source of the lock-in is no longer binaries and software APIs. It's much more about the data that goes with the service.

But we still have to really think about how open data is more useful in the same way that open source was more useful. It's pretty clear when I go to a doctor's office (and again this is a US perspective) but if my data is locked up with one provider, I'm really hosed. Because if I've got to go to a different doctor, and they can't get my records, that's a problem. And so that's one of the reasons why Federal Government has had this idea of what they call "Meaningful Use", which gave a huge incentive for physicians and hospitals and insurance companies to adopt portable health records because they see that as so important. We have a similar kind of opportunity in the area of

certain financial data, we have that with our browsing history – that would be really useful. Some examples are more critical than others, but I think people need to make the case, "Wow, this would be more useful if it were portable or if it were a standard."

LV Open medical records sounds good, but how can we take advantage of big data without putting our privacy at risk?

TO'R: Healthcare is one of the areas where open data will potentially take off soonest and have the biggest impact.

> "Being locked in is just as real in the internet era as it was in the previous software era."

But there are a couple of overlapping ideas; one is of interoperability, which is different than 'open source'. With the internet of things, are we going to have to have a separate app for every car, for every thermostat? Or are we going to say, "No, no, there's some general app whereby I can control the things in my

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life"? In order to do that you're going to have to have some kind of interoperable standards. Going back to health, the same thing is true with all these sorts of quantified self devices. If we want to have, from a user point of view, access from multiple devices, you don't want to be locked into one company's ecosystem. We're going to get there with some kind of open data standard.

**⃣ But it's harder now for potential 'big data' hackers, than for the original open source hackers when they subverted their

own hardware.
TO'R: Really? It seems to me it's not that dissimilar. You get the source code for a program, you'd have to port it to your architecture or you'd have to rewrite it so it would run on your machine versus, say, sitting there and saying, "I want to get my data off of Fitbit and into my new 'Google Fit' so I have the historical data." I don't see that as that different.

⃣ But with social networks, we've still got the problem that the context has been lost.

O'Reilly Media isn't just a publishing company – it also puts on the massively popular OSCON conference.

TO'R: There have always been the two sides of open source. One was that it was open, the other that it was free. And before the era of the cloud, one of the big imperatives was that things be made open source because that way you get them for free. But it's not true in the cloud era, because so many of the services are free already, and proprietary. It used to be the case that free and open went together, and expensive and proprietary went together. Now proprietary and free, as in price, are overlapping.

I have to say, though, I worry about some element of this discussion because it looks back to this idea that somehow in the old days it was all good and now it's bad, and I don't think it's bad and I don't think that there's any reason to say, "Oh well, we need to go recreate the way it was in the past."

What are the problems that people have today with the way technology works? If you look at the Indie Web Movement, it's a lot around "OK, we want to go back to the day when we were in control of our own data." And that's useful but at the same time you have to say: "Look at all these people who are choosing to use these services because it works for them." I've never been that fond of, you know, "Though shalt!" as a driver for any of this.

To me, sharing is very real part of many important parts of the future. Look at how the internet of things is going forward, and robotics. There's a lot of open source there in areas where people are trying to figure things out, where there isn't a very clear profit motive. They're kind of going, "Hey, let me put my stuff out there. Let me show you how to do this thing."

So you're mostly optimistic?
TO'R: I just feel like, "My gosh!", you know, the entire maker revolution powered by Arduino and then follow-on kinds of products – open source hardware. That's kind of awesome and that's just naturally became the driver of this next generation.

Do you think everyone should be able to code?
TO'R: No. I do think everyone should be able to think computationally in some way. I think that first of all, I guess, there's coding and there's coding.

Should everybody be a professional coder? No way. Should everybody be able to do more than just use a GUI? Absolutely. Should people be able to automate operations of a computer? Absolutely. And should people be familiar with the power tools relating to our robot companions? Absolutely.

There are a lot of ways to get to it. When you build general-purpose tools that have open interfaces, people will learn to program because that's how you get more power over the system. There are kids programming in Scala today because that's how you build shit on *Minecraft*!

And they're using *Eclipse*!
TO'R: That's right. So because you have an environment where programming gives you power, you learn to program. We need to build environments where people want to program because that's how you get good at doing whatever it is that you want to do.

Maybe coding isn't so much of a thing. It's more about giving people the ability to change the technology they're using?
TO'R: I think it goes back to the *Make* magazine slogan, "If you can't open it, you don't own it." There's sort of a programming analog. But I do think that the notion that everyone should learn to code feels a little bit, I guess, like when there was a period when kids were subjected to piano lessons. Because everybody should learn to play some music – and we got a lot of people who come out hating music. And I think it's

much better to say how do we create a world in which coding is fun, exciting, and kids want to do it, rather than just make it some kind of educational imperative. It's the same thing with math. Should every kid know math? Absolutely. But should every kid be forced to learn math the way they taught piano? Absolutely not, because they taught it wrong.

The way that you learn math, if you really want to teach it right – you

"When you find something cool and you want to do it, you're drawn into the learning."

expose kids to things where they need to know math because they're better at it when they know math, and they're going, "Wow, I discovered this secret super power! If you used this formula…" that kind of shit is like magic and that's why some of the maker stuff is really great because it gets kids going "Wow!" If you know this secret formula you can figure out how to build this thing better – just like a cheat in *Minecraft*. Or if you're building something. I remember when I started renovating a house, I was like, "Oh, that's what some of this trigonometry stuff is for!" I just never had any application for it.

There are a lot of things that you want to learn more generally but even

though you don't have immediate use for it, but I feel that in general, our educational system is way too long on a list of requirements and way too short on the kinds of things that make you want to learn.

LV That's why the Raspberry Pi has become so successful. And perhaps what the Raspberry Pi Foundation didn't anticipate was that so many people would just find the device so cool to play with.

TO'R: When you find something cool and you want to do it, you're drawn into the learning. One of my daughters was never interested in programming, never interested in what I did. She got into music and now she's taught herself to program [Cycling74's] Max because she's like, "Oh, I need to be able to make these sound effects." She found her way in through something she wanted to do.

Dale Dougherty, who started *Make* and worked with me for a long time at O'Reilly before we spun it out into Maker Media, had this great line: "What can you do with what you know?" And that kind of notion of helping people figure out what they want to do that gets them excited and then what they need to learn in order to be able to do those sorts of things, is the really critical thing. How would we expose more kids to interesting problems where coding is the answer?

**LV If we could change the subject slightly… [PREGNANT PAUSE] is print dead?**

TO'R: No, but it's trending that way! There's still a market that really values something in print, and it might be for the convenience of paper. I can read the *New York Times* online but I still get the *Sunday New York Times* because it's fun to sit there with a coffee and leaf through it. It's a better experience. But from my own business, there's a lot of evidence that people when offered print or digital, they'll choose digital. We offer our books in print and the bulk of our print books are still sold through retail channels. I would guess that overall we're maybe selling 50/50 at this point, but print is almost all through retail channels. When people are buying direct from **oreilly.com**, it's 90% digital and 10% print.

LV We've found that many people who spend all day on a computer may be reluctant to spend their spare time looking at a screen.

TO'R: I'm wrestling with this myself. I read a lot on a 7-inch tablet. I use the Kindle app, and in general I find it fine. But I do think it's one more electronic device that I'm using at night. You're trying to wind down, does it have the same effect? And when I do read print again, I think, "Oh yeah, that was really nice." So I think we're probably going to have a bit of a pendulum swing, and

During our Indiegogo campaign, Tim O'Reilly retweeted our initial announcement to his 1.8 million followers.
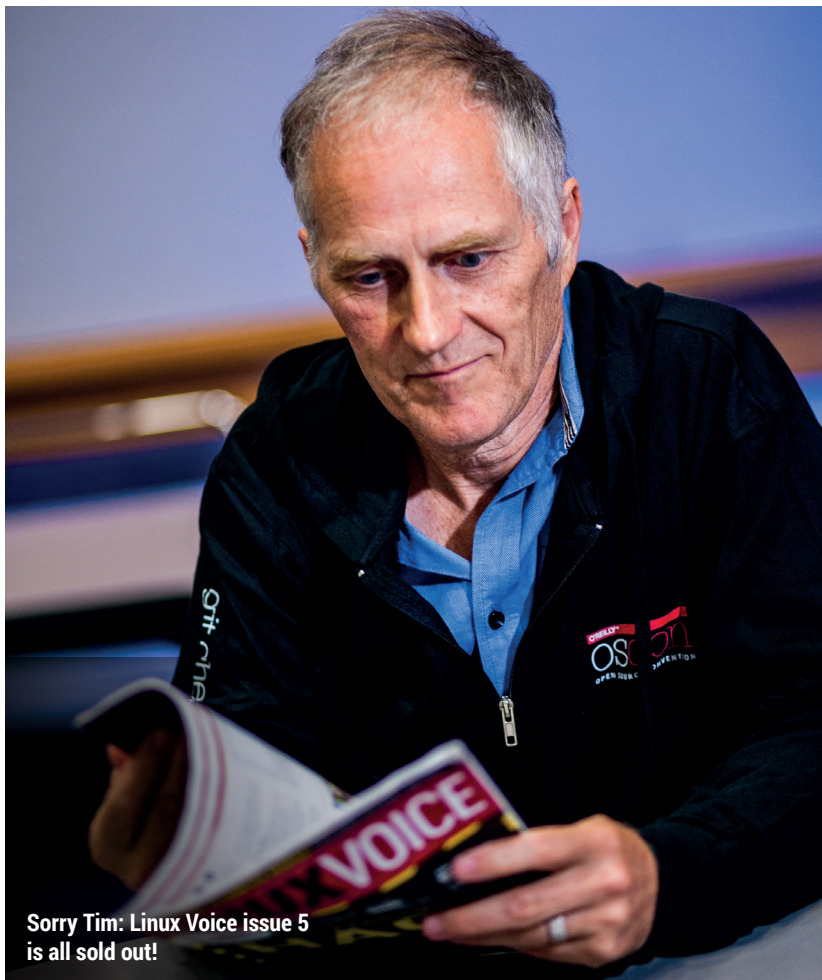
Sorry Tim: Linux Voice issue 5 is all sold out!

certainly there's evidence from publishing in general that print is not dead. There's a new equilibrium, and we haven't found where it is yet.

And some new potential...
TO'R: There's no question that the cost structures of digital are actually better than the cost structures of print, and so it's better for publishers.

Do you think the problem of digital editions has been solved yet? Have people tried too hard to recreate a book or magazine experience on digital platforms?
TO'R: Oh absolutely. I find digital editions of magazines completely uninteresting. I've never been a huge magazine reader, but I don't know why I'd want to use a digital edition of a magazine rather than reading stuff on the web. You know, if I've got to be on a computer to look at this thing, just give me the goddam article in web format. Don't make me go through something that's a worse experience to reproduce than print because it doesn't have any

of the characteristics that make print attractive, like the ability to leaf through it in the same way. Yeah, you can kind of simulate the flipping of pages but you can't riffle through it in the same way. And I find most of those programs pretty irritating.

I've always loved books (I have probably 10,000 books) and they take up a lot of space. And I find that what I increasingly want nowadays is that if there's a book that I really love, I like to have a print copy of it. And if I didn't love it, I'm glad not to have it take up the space. So it's really, to me, a question of an after market – of do you love this book, do you want to get a print copy?

Or buying the vinyl when listening to the digital version?
TO'R: I think about the books I've kept through my life and if it was below a certain threshold, I'd just get rid of it. And if it was up here, a book I really loved, I have 10 copies in different editions. I have first editions and the cover is different, whatever. And then there's that middle range where it was

good enough that I didn't want to throw it away, but not in that upper echelon, and I look at those now and think I would much rather have read those in digital and not have them cluttering up my house, and have a smaller set of things I really love.

The thing that I probably miss most about print, and we have yet to really reproduce, is the carpet of memory that a bookshelf gives. You know, when you look at your bookshelf, particularly if you're somebody who likes books, it's almost like there's this texture of memory of all these things. You're looking at the spines, you know the authors and there's just this sort of, like, little flavour; an aroma. For example, my science fiction collection is 50+ years of reading these books, including books I was reading at just 10 years old. I haven't looked at some of them for 40 years, except for looking at the spine. And that spine refreshes the memory.

Surely that doesn't have to go?
TO'R: No it doesn't. I don't have a big enough collection of digital books yet but I'm pretty sure there isn't a good way to organise them.

And there's no good way of passing them on either.
TO'R: Yeah, exactly. On the other hand, there are some wonderful new affordances with a digital book. You know, there are books that I really love and now I can have them with me all the time. I used to have two or three books that I'd have multiple copies of because I'd have one in the office, one at home. I can have those, assuming they have a digital edition, with me all the time. If there's something I like to quote a lot, I go "Yeah, I got it right here." So there are pluses and minuses, and that's always the case as we move into

> **"The willingness of people to pay for things that delight them will not go away."**

the future. We lose some things, we gain some things. We make trade offs and we figure it out.

Do you think Amazon's imminent subscription service

Tim holds a balanced view of the positives and negatives affecting the future of tech.

for books is going to be a good or bad thing for publishing?

TO'R: It's hard to say, it depends a lot on how they do it. Effectively, if they say we have this subscription service and somebody reads it and we're going to pay the author and the publisher as if they bought it, then it kind of is economically equivalent, except for the fact of course that it's one more nail in the coffin of any alternate distribution method. And the problem with Amazon long-term is the Walmart problem, which is that you become so powerful that you start squeezing your suppliers.

LV Yeah, and publishers are paying for the privilege of having their titles stocked in places like grocery stores/supermarkets.

TO'R: Exactly. And that's not really healthy. That's the thing that worries me the most about Amazon, and why always our approach — and this is a big piece of our philosophy on DRM-free ebooks — it was, "look publishers, don't you see the path that we're going down? Because Amazon is the biggest channel for digital and they have a proprietary locked-in format, effectively you can't sell! Or you can't in any effective way. Sure you can sell a MOBI file and people can go through hoops to load it. You're screwing yourself."

There was a time when publishers could have really worked on this and

said "We're going to have open formats, and we're going to make this stuff available so that people can buy anywhere, read anywhere". And it would have been great. But that's life. The whole thing with publishers and Amazon, to me, is going to be a business school study some day. I always think, "Here Google enters the market with an approach that could potentially have been competitive to Amazon, brought another major competitor to the market, and the publishers sue Google." What were they thinking?

And of course, by the time Apple comes into the game, you know, the publishers go and try to make a deal with them and they get sued themselves. It's sad. But in the end, I don't know that it really matters. I think that the more things change the more things stay the same, as they say. It's always possible to say the sky is falling because it's falling for you. But it's very rarely falling for everybody. There are big times in history when it really does fall for everybody and we should be worried about those. But because one kind of supplier beats out another is not one of those times — and in fact, by all evidence, independent book stores are thriving. It's the chains [that are suffering] — you have one class of predator who was taken out by another. As a publisher, though, I am certainly

concerned by the potential dominance of Amazon.

LV In 2002, David Bowie said music supply will become like running water or electricity. Do you think that could happen to the content we create?

TO'R: I think that's fair. How long a period of time are we talking about? Effectively, the era of recorded music in which that was so wonderful is, what, 70 years? And there was no good music before then? Bullshit. There was great music. And it got paid for some different way. I think that the willingness of people to pay for things that delight them will not go away. And if the system starts failing the users — if the artists really aren't getting paid and they say, "Screw it, we're not going to do what we do any more," that will be a problem, right? I don't think that's going to happen.

Somebody's going to come along and figure out how to get paid. I think Amanda Palmer is a good example, "You like what I do, here's how you're going to pay me." And think there are going to be more experiments and we will develop more economic models because creators don't want to stop creating and customers don't want to stop enjoying what they create and the middleman has changed, but it doesn't matter in the long run. LV