Guys: Why am I asking you to read this article? Answer: Money is *not* everything; there is such a thing as *altruism*. On the other hand, the **bourgeoisie** (the capitalist class and its apologists) want you to believe that money *is* everything. Moreover, the huge telecommunication corporations that run the internet would prefer that you did not know that the inventors of the World Wide Web made an explicit decision not to patent their invention so that all of humanity can benefit from it. Yes, of course, these corporations should be paid for the services they provide but they don't have a right to *gouge* customers by overcharging them and being always on the look out—like their financial counterparts, the big banks—to find new ways to gouge them further (e.g. "bribing" law makers to pass anti-consumer legislation), which I define as **class warfare**. I am also assigning you this multi-part article so that you can learn a little bit of history behind the technology you so blithely take for granted, with the hope that you will appreciate the contribution of the *creativity* and *passion* of a small group of people led by the scientist Tim Berners-Lee. Yes, individuals can and do make a positive difference in the lives of millions across the planet. (By the way: the Web is not the same thing as the internet even though it cannot exist without the internet.)

Source: http://www.npr.org/blogs/money/2013/05/01/180255276/the-single-most-valuable-document-in-the-history-of-the-world-wide-web

'The Single Most Valuable Document in the History of the World Wide Web'

by Jacob Goldstein

May 01, 2013--1:00 PM

Twenty years ago this week, researchers renounced the right to patent the World Wide Web. Officials at CERN, the European research center where the Web was invented, wrote:

> CERN relinquishes all intellectual property to this code, both source and binary form and permission is granted for anyone to use, duplicate, modify and redistribute it.

It's a dull sentence from a dull document. But that document marks the moment when the World Wide Web entered the public domain — a moment that was central to creating the Web as we know it today.

I emailed, an intellectual property expert at Stanford, to ask him about the counterfactual. **Could the Web have been patented? And how would the world have been different if it had?**

Here's an excerpt from his reply:

> It is entirely possible that the Web could have been patented. A strong patent right would have driven innovation along a different path.
>
> Even in 1993, as the Web was being introduced, scholars and the government interested in data communications were talking about the "information superhighway," a proposed centralized, government-sponsored broadband network that would have delivered video from TV stations and other approved content. [It is this, and not the Internet, that Al Gore "invented"].

This week, a CERN spokesman called the document "the single most valuable document in the history of the World Wide Web." There might be a bit of hyperbole in that statement. (It came from a guy sometimes called the half-spin doctor.)

Still, at a moment when the technology world is swamped in patent lawsuits, it does seem worth pausing to appreciate the moment when a group of researchers renounced their intellectual property rights to patent and gave the World Wide Web to the world.

Berners-Lee: World Finally Realizes Web Belongs to No One

June 6, 2012

Sir Tim Berners-Lee is the reason you're reading this story in a web browser, complete with hypertext and an internet address that looks like this: http://www.wired.com/wiredenterprise/2012/06/sir-tim-berners-lee/. But you weren't supposed to see the address.

In building the first web browser at Switzerland's CERN nuclear research lab in the early '90s, the English-born Berners-Lee designed a system where only the technicians behind the scenes would see addresses. The ordinary web user would only see text and hypertext, jumping from page to page without ever typing on a keyboard.

"On the initial design of the web, you didn't see the http:// when you were a user. You just read text and you clicked on links," Berners-Lee tells Wired. "In the original web browser, you had to bring up a special link inspector to see addresses. That's why I wasn't worried about http:// being ugly. No one would really see it."

As the web grew, this particular vision was lost — at least in part. But you'd have to say that the web still exceeded expectations. In 2010, according to the International Telecommunication Union, close to a third of the world's population was using the web, and after beginning life as a means of merely sharing text, it has evolved into a medium that shares everything from audio to video to entire software applications that in many ways dwarf what you can do on a local machine.

In 2004, Queen Elizabeth knighted Berners-Lee for his role in the creation of the web, and this year, after countless other honors, Sir Tim was part of the inaugural class inducted into the Internet Society's (ISOC) Internet Hall of Fame, alongside such names as Vint Cerf and Steve Crocker.

Cerf and Crocker are just two names on a long list of internet founding fathers. The world can't evenagree on when the internet was created. But the web originated with one man. In March 1989, Tim Berners-Lee submitted a proposal to his boss at CERN for a new kind of "information management" system. His boss called it "vague but interesting," and over the next few years, with additional help from a man named Robert Cailliau and other CERN researchers, the proposal spawned the Hypertext Transfer Protocol — HTTP, the basis for the world wide web.

 Basically, Berners-Lee took the idea of hypertext and applied it to the transfer control protocol (TCP) and domain naming system (DNS) that already underpinned the internet. At that point, in the late 80s, the hypertext idea was a common one. As Berners-Lee points out, it was already part of CD-ROM interfaces and other technologies. "I just had to take the hypertext idea and connect it to the TCP and DNS ideas and — ta-da! — the World Wide Web," he once wrote.

The particular choices he made at the time still reverberate. Two years ago, in an interview with *The Times* of London, Berners-Lee said that in hindsight, he could have left out the two slashes at the beginning of a web address and saved the world "so much hassle." But in designing an HTTP address, he wasn't trying to serve the everyman. He was trying to make it as familiar as possible to those already steeped in the particulars of using hardcore computer systems.

"The formats and protocols were designed to look as much like the existing ones as possible," he explains, saying that HTTP was designed to look like NNTP, or Network News Transfer Protocol, which was used for internet newsgroups. "The aim was for people who worked with the protocols to look at them and say: 'Oh, yeah, I see what's going on here."

The hypertext markup language (HTML) that defines webpages was meant to look like an existing markup language — a particular type of SGML, Standard Generalized Markup Language — used at CERN. And the double slash at the front each web address came from a file system for a computer workstation called the Apollo/Domain. "The double slashes were there because, on some computer systems, that was already used to mean: 'We're going outside the computer now.' The single slash was for the local file system. The double slash was for the outside."

But those long web addresses wound up right in front of the end user when researcher outside of CERN began building web browsers, including Marc Andressen, who built the seminal Mosaic browser at the National Center for Supercomputing Applications (NCSA) at the University of Illinois Urbana-Champaign. They put the address bar right there at the top of the page.

So even the basics of the web are a little different than Berners-Lee imagined. And the names of those addresses is different too. Though the world calls them URLs — uniform resource locators — Sir Tim still prefers to call them URIs — for universal resource identifier.

But this is part of the web's appeal. Berners-Lee didn't just create that web, he decided that his creation should be "open," that anyone could use the same technology at no charge. This allowed the web to spread, but it also allowed it to evolve in ways few could have foreseen.

Yes, those arcane URLs — er, URIs — are still there, though Google and others have shortened them in some cases. But in a way, it's only fitting. In spreading to a third of the world's population, the web has made us all into techies — of a kind.

Berners-Lee says that as the web spread, he worried that the general public wouldn't understand the importance not only of keeping the underlying formats and protocols open, but preventing any one entity from controlling the internet itself. In recent years, however, he's been pleasantly surprised with how the world has responded to these issues.

Yes, he still has complaints — most notably with the rise of local software applications at the expense of the open web on mobile devices. "If you're browsing through an iPhone app, you can't just take a URL and tweet it or email it to your friends," he says. "When you have a URL, it's part of the web, part of the discourse of humanity. People can see if they're good or they're bad. They can review them, and search engines can find them."

"If you make a phone app or a tablet app, the data on it is not participating in all of that. You lose something."

The same goes, he says, for much of the data stored on social networks such as LinkedIn and Facebook, which are designed, in part, to restrict access to information. "They're silos. Facebook knows what pictures you're in, but you can't use that data when you're on LinkedIn. You can't share the same photo with your LinkedIn friends and your Facebook family."

But on the other hand, he believes the world now understands how important it is to ensure that governments and ISPs provide unfettered access to the web. "The major concern is always that some large organization gets to control the net, whether it's a country or a corporation," he says. "But over the last few years, the public in general have become much more aware of this issue. I used to feel I was alone in a void saying: 'You have to make sure no one controls the internet.' But not anymore."

For instance, he says, when a country such as Egypt clamps down on internet access, the objection is widespread. And much the same happens when an ISP tries to unnecessary block content or traffic. "You now hear the outcry," he says.

As for those lengthy addresses, he says they're here to stay. They provide a certain amount of security. "We need them for trust," he says. "You need to check the domain name to make sure you're where you want to be." And, well, those addresses are what make the web the web.

"The URL will be the last thing to change," he says, "because that's the thing that ties it all together."

- Source: http://internethalloffame.org/blog/2012/06/06/berners-lee-world-finally-realizes-web-belongs-no-one

Folks: To access the original CERN document that officially donated the invention of the World Wide Web to all of humanity click here.

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theguardian

25 things you might not know about the web on its 25th birthday

It sprang from the brain of one man, Tim Berners-Lee, and is the fastest-growing communication medium of all time. A quarter-century on, we examine how the web has transformed our lives

John Naughton The Observer, Saturday 8 March 2014

1 The importance of "permissionless innovation"

The thing that is most extraordinary about the internet is the way it enables *permissionless* innovation. This stems from two epoch-making design decisions made by its creators in the early 1970s: that there would be no central ownership or control; and that the network would not be optimised for any particular application: all it would do is take in data-packets from an application at one end, and do its best to deliver those packets to their destination.

It was entirely agnostic about the contents of those packets. If you had an idea for an application that could be realised using data-packets (and were smart enough to write the necessary software) then the network would do it for you with no questions asked. This had the effect of dramatically lowering the bar for innovation, and it resulted in an explosion of creativity.

What the designers of the internet created, in effect, was a global machine for springing surprises. The web was the first really big surprise and it came from an individual – Tim Berners-Lee – who, with a small group of helpers, wrote the necessary software and designed the protocols needed to implement the idea. And then he launched it on the world by putting it on the Cern internet server in 1991, without having to ask anybody's permission.

2 The web is not the internet

Although many people (including some who should know better) often confuse the two. Neither is Google the internet, nor Facebook the internet. Think of the net as analogous to the tracks and signalling of a railway system, and applications – such as the web, Skype, file-sharing and streaming media – as kinds of traffic which run on that infrastructure. The web is important, but it's only one of the things that runs on the net.

3 The importance of having a network that is free and open

The internet was created by government and runs on open source software. Nobody "owns" it. Yet on this "free" foundation, colossal enterprises and fortunes have been built – a fact that the neoliberal fanatics who run internet companies often seem to forget. Berners-Lee could have been as rich as Croesus if he had viewed the web as a commercial opportunity. But he didn't – he persuaded Cern that it should be given to the world as a free resource. So the web in its turn became, like the internet, a platform for permissionless innovation. That's why a Harvard undergraduate was able to launch Facebook on the back of the web.

4 Many of the things that are built on the web are neither free nor open

Mark Zuckerberg was able to build Facebook because the web was free and open. But he hasn't returned the compliment: his creation is not a platform from which young innovators can freely spring the next set of surprises. The same holds for most of the others who have built fortunes from exploiting the facilities offered by the web. The only real exception is Wikipedia.

5 Tim Berners-Lee is Gutenberg's true heir

In 1455, with his revolution in printing, Johannes Gutenberg single-handedly launched a transformation in mankind's communications environment – a transformation that has shaped human society ever since. Berners-Lee is the first individual since then to have done anything comparable.

6 The web is not a static thing

The web we use today is quite different from the one that appeared 25 years ago. In fact it has been evolving at a furious pace. You can think of this evolution in geological "eras". Web 1.0 was the read-only, static web that existed until the late 1990s. Web 2.0 is the web of blogging, Web services, mapping, mashups and so on – the web that American commentator David Weinberger describes as "small pieces, loosely joined". The outlines of web 3.0 are only just beginning to appear as web applications that can "understand" the content of web pages (the so-called "semantic web"), the web of data (applications that can read, analyse and mine the torrent of data that's now routinely published on websites), and so on. And after that there will be web 4.0 and so on ad infinitum.

7 Power laws rule OK

In many areas of life, the law of averages applies – most things are statistically distributed in a pattern that looks like a bell. This pattern is called the "normal distribution". Take human height. Most people are of average height and there are relatively small number of very tall and very short people. But very few – if any – online phenomena follow a normal distribution. Instead they follow what statisticians call a power law distribution, which is why a very small number of the billions of websites in the world attract the overwhelming bulk of the traffic while the long tail of other websites has very little.

8 The web is now dominated by corporations

Despite the fact that anybody can launch a website, the vast majority of the top 100 websites are run by corporations. The only real exception is Wikipedia.

9 Web dominance gives companies awesome (and unregulated) powers

Take Google, the dominant search engine. If a Google search doesn't find your site, then in effect you don't exist. And this will get worse as more of the world's business moves online. Every so often, Google tweaks its search algorithms in order to thwart those who are trying to "game" them in what's called search engine optimisation. Every time Google rolls out the new tweaks, however, entrepreneurs and organisations find that their online business or service suffers or disappears altogether. And there's no real comeback for them.

10 The web has become a memory prosthesis for the world

Have you noticed how you no longer try to remember some things because you know that if you need to retrieve them you can do so just by Googling?

11 The web shows the power of networking

The web is based on the idea of "hypertext" – documents in which some terms are dynamically linked to other documents. But Berners-Lee didn't invent hypertext – Ted Nelson did in 1963 and there were lots of hypertext systems in existence long before Berners-Lee started thinking about the web. But the existing systems all worked by interlinking documents on the same computer. The twist that Berners-Lee added was to use the internet to link documents that could be stored anywhere. And that was what made the difference.

12 The web has unleashed a wave of human creativity

Before the web, "ordinary" people could publish their ideas and creations only if they could persuade media gatekeepers (editors, publishers, broadcasters) to give them prominence. But the web has given people a global publishing platform for their writing (Blogger, Wordpress, Typepad, Tumblr), photographs (Flickr, Picasa, Facebook), audio and video (YouTube, Vimeo); and people have leapt at the opportunity.

13 The web should have been a read-write medium from the beginning

Berners-Lee's original desire was for a web that would enable people not only to publish, but also to modify, web pages, but in the end practical considerations led to the compromise of a read-only web. Anybody could publish, but only the authors or owners of web pages could modify them. This led to the evolution of the web in a particular direction and it was probably the factor that guaranteed that corporations would in the end become dominant.

14 The web would be much more useful if web pages were machine-understandable

Web pages are, by definition, machine-readable. But machines can't understand what they "read" because they can't do semantics. So they can't easily determine whether the word "Casablanca" refers to a city or to a movie. Berners-Lee's proposal for the "semantic web" – ie a way of restructuring web pages to make it easier for computers to distinguish between, say, Casablanca the city and *Casablanca* the movie – is one approach, but it would require a lot of work upfront and is unlikely to happen on a large scale. What may be more useful are increasingly powerful machine-learning techniques that will make computers better at understanding context.

15 The importance of killer apps

A killer application is one that makes the adoption of a technology a no-brainer. The spreadsheet was the killer app for the first Apple computer. Email was the first killer app for the Arpanet – the internet's precursor. The web was the internet's first killer app. Before the web – and especially before the first graphical browser, Mosaic, appeared in 1993 – almost nobody knew or cared about the internet (which had been running since 1983). But after the web appeared, suddenly people "got" it, and the rest is history.

16 WWW is linguistically unique

Well, perhaps not, but Douglas Adams claimed that it was the only set of initials that took longer to say than the thing it was supposed to represent.

17 The web is a startling illustration of the power of software

Software is pure "thought stuff". You have an idea; you write some instructions in a special language (a computer program); and then you feed it to a machine that obeys your instructions to the letter. It's a kind of secular magic. Berners-Lee had an idea; he wrote the code; he put it on the net, and the network did the rest. And in the process he changed the world.

18 The web needs a micro-payment system

In addition to being just a read-only system, the other initial drawback of the web was that it did not have a mechanism for rewarding people who published on it. That was because no efficient online payment system existed for securely processing very small transactions at large volumes. (Credit-card systems are too expensive and clumsy for small transactions.) But the absence of a micro-payment system led to the evolution of the web in a dysfunctional way: companies offered "free" services that had a hidden and undeclared cost, namely the exploitation of the personal data of users. This led to the grossly tilted playing field that we have today, in which online companies get users to do most of the work while only the companies reap the financial rewards.

19 We thought that the HTTPS protocol would make the web secure. We were wrong

HTTP is the protocol (agreed set of conventions) that normally regulates conversations between your web browser and a web server. But it's insecure because anybody monitoring the interaction can read it. HTTPS (stands for HTTP Secure) was developed to encrypt in-transit interactions containing sensitive data (eg your credit card details). The Snowden revelations about US National Security Agency surveillance suggest that the agency may have deliberately weakened this and other key internet protocols.

20 The web has an impact on the environment. We just don't know how big it is

The web is largely powered by huge server farms located all over the world that need large quantities of electricity for computers and cooling. (Not to mention the carbon footprint and natural resource costs of the construction of these installations.) Nobody really knows what the overall environmental impact of the web is, but it's definitely non-trivial. A couple of years ago, Google claimed that its carbon footprint was on a par with that of Laos or the United Nations. The company now claims that each of its users is responsible for about eight grams of carbon dioxide emissions every day. Facebook claims that, despite its users' more intensive engagement with the service, it has a significantly lower carbon footprint than Google.

21 The web that we see is just the tip of an iceberg

The web is huge – nobody knows how big it is, but what we do know is that the part of it that is reached and indexed by search engines is just the surface. Most of the web is buried deep down – in dynamically generated web pages, pages that are not linked to by other pages and sites that require logins – which are not reached by these engines. Most experts think that this deep (hidden) web is several orders of magnitude larger than the 2.3 billion pages that we can see.

22 Tim Berners-Lee's boss was the first of many people who didn't get it initially

Berners-Lee's manager at Cern scribbled "vague but interesting" on the first proposal Berners-Lee submitted to him. Most people confronted with something that is totally new probably react the same way.

23 The web has been the fastest-growing communication medium of all time

One measure is how long a medium takes to reach the first 50 million users. It took broadcast radio 38 years and television 13 years. The web got there in four.

24 Web users are ruthless readers

The average page visit lasts less than a minute. The first 10 seconds are critical for users' decision to stay or leave. The probability of their leaving is very high during these seconds. They're still highly likely to leave during the next 20 seconds. It's only after they have stayed on a page for about 30 seconds that the chances improve that they will finish it.

25 Is the web making us stupid?

Writers like Nick Carr are convinced that it is. He thinks that fewer people engage in contemplative activities because the web distracts them so much. "With the exception of alphabets and number systems," he writes, "the net may well be the single most powerful mind-altering technology that has ever come into general use." But technology giveth and technology taketh away. For every techno-pessimist like Carr, there are thinkers like Clay Shirky, Jeff Jarvis, Yochai Benkler, Don Tapscott and many others (including me) who think that the benefits far outweigh the costs.

John Naughton's From Gutenberg to Zuckerberg is published by Quercus

WEB MILESTONES

Playing with hypertext

In 1980, Tim Berners-Lee, working independently at Cern, the European Organisation for Nuclear Research in Switzerland, builds a computer database of people and software that uses hypertext, around since the 60s, to link pages of information.

Searching

By 1989, Cern's internet facility is poised to allow Berners-Lee to create the world wide web. Within a year, it is Europe's largest internet site.

A service with a name

On 6 August 1991, Berners-Lee posts a short summary of the world wide web project on the alt.hypertext newsgroup as his web becomes publicly available on the internet. Fresh users gain access after 23 August. Names such as The Information Mine had been rejected in favour of www.

Time to browse

In December 1992, students working at the National Center for Supercomputing Applications in Illinois begin work on Mosaic, the early web browser. Their work with computer-generated hypertext lists called "search engines" is popular, partly due to their rapid response to

errors and swift reaction to suggestions for new features. In January 1993 there are 50 web servers across the world; by October 1993 there are 500-plus.

Selling power

By 1996, publicly traded companies see a public web presence is important. The idea of two-way communication over the web points to the possibility of direct web-based commerce (e-commerce) and instant business.

Boom and bust

Dotcoms multiply until their bubble pops in 2001 and investors staunch the flow of seed cash. Some companies survive, however, and more conventional retailers also find online merchandising is profitable.

Shaping the world

The ease of key sites such as airline booking services, Google's dominant search engine, eBay's auctions and Amazon.com's online store creates a new age of commerce. Social networking flowers too, making the WWW the home of the young.

Web 2.0

From 2002, the web increasingly opens up for public contribution and self-publishing. Blogging has arrived.

The meaning of the future

The web stumbles on towards Berners-Lee's dream of being fully semantic, a place where programs "become capable of analysing all the data on the web".