

Chapter 12

Ted Nelson

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12.1 Introduction

I'd like to talk about Ted the man, limits, connections, some pretty broad history, all leading up to why I believe Ted is limitless. I was born in Norway. Land of vikings, socially connected politics. Ancestral home of Ted Nelson and Doug Engelbart. A land of fjords. For me the picture has changed to a view of the Thames. I now live in London, greatest city in the world, but I won't go on and on about that.

What I do: I'm a software developer in the school of Doug Engelbart and Ted Nelson. To me, interactivity is paramount – that's what all my work is about. My main project and product is Liquid, which allows you to do useful things directly to selected text in any Mac OS X application. The idea is that when you come across something that sparks your interest, you can act on it immediately, without any real thought or effort. I have started a long term research project and product called Author, which will be a word processor, but not like Word. In a few years, I'll have more to say on that topic.

My other Mac project is LiSA, the Liquid Information Speaking Assistant. She speaks with a real human voice when you get email, saying who the email is from. She not only knows who the message is from, but also whether it's a reply, etc. Not high tech, not a big project, but I mention her here since she's been around since 2001 and sounds wonderful. It's based on super-simple tech: simply pre-recorded voice snippets.

I have also produced a few iOS apps: the major one of which is Interatlas, the first atlas with no visible interface, until you tap an area to see borders. My other iOS apps include the following:

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1. fleeting moment: which is a hybrid of a still and moving image;
2. flipic: which takes a picture with front and back camera on an iPhone at the same time and presents the picture as a 3d 'card';
3. 3dpic: which allows you to take 3D pictures on an iPhone; and
4. Name The Face: an app to help you learn people's names from pictures of their faces.

Finally, I put together The Future of Text Symposium. It has been running for 3 years now. Ted has honoured me by taking part twice. Vint Cerf has also taken part, both as a panelist and sponsor. Academics from The British Museum, The Natural History Museum, Oxford, Princeton, and a number of other institutions have also participated. It's a full day event talking about the future of text: why it's important and how it can develop. The format is as follows:

1. a participant gives a 10 min presentation;
2. the presentation is followed by ten minutes of questions; and
3. then we move on to the next presentation.

It's held each year in the fall, and of course, you are all invited.

12.2 Theodor Holm Nelson

I can't think of Ted without thinking of Marlene, without thinking of them together (Fig. 12.1). So I just want to start by thanking her for also having been such a good friend to me and soulmate to Ted. Thank you Marlene, you are beautiful.

Before I even dare comment on Ted's genius, I just want to thank him for being such a warm and wonderful human being, above all else. Kind, funny, lively! thoughtful, insightful, and committed. You are simply a deep human being.



Fig. 12.1 Ted and Marlene at their farm in New Jersey (2010)

12.3 Limits

I think of Ted as being limitless. Why limitless? Let’s look at limits first. Some say that going from a handwritten document to formatted text is progress. Ted would say: Yes. But, he would also add that much as been lost and much, much more can be added. Ted sees the value of what’s in between, over and underneath—how things connect. This is how he dreamt up hypertext, which goes so far beyond the typeset page (Fig. 12.2).

WHAT’S LOST: The nuance expressed in the shape of a line, the words deleted in edits. Sentences crossed out. Text inserted. Ink blots from late nights working, historical coffee stains. The list goes on!

WHAT’S TO BE GAINED: The employment of the power of massively fast, massively connected computers.

I’d like to use the game Battlefield 4 as an example. It’s a game that’s available on Playstation and PC (available by search on YouTube). This is live game play, this is what the kids (cough, me) play these days. We need to employ this vast computing power and vast networks to augment how we interact with our knowledge—and not just games. And not just Big Data either: all data.

As for wasted potential, this is Microsoft Word. This is the reality of augmentation today. And this is Word from 1989, which was of course, 25 years ago. Sure, we have bigger screens, but it’s the same stuff inside.

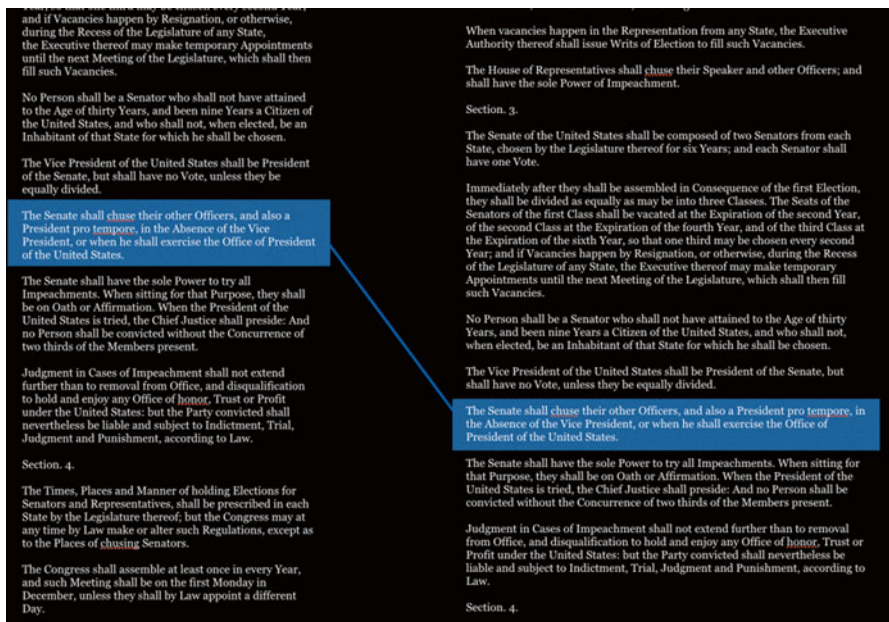


Fig. 12.2 Transcluded section of text of U.S. Constitution



Fig. 12.3 Photograph of a tree, Hyde Park, London, U.K

That is the beginning of what I mean by limitless: employing what powerful, networked computers have to offer. But that's only the engine—let's look at what should be augmented, let's look at what information is. Let's look at connections.

I think Ted's work is limitless because Ted is so obsessed with Connections. And that, is a compliment of the highest order.

Connections. I took a picture (Fig. 12.3) in Green Park in London a few weeks ago. It's a beautiful tree. I used my SONY RX1, VSCO TriX 400 for those of a photographic geek bent. It's quite beautiful don't you think? There is enough framing of the sky and there is a clear trunk to help us see it a tree.

I also took the photo shown in Fig. 12.4. Not quite as clear, not quite as beautiful and more noise than connections right? But when you can interact with it, it conforms to your perspective and it becomes meaningful to you. Interaction gives you ways to understand what's going on, ways to follow connections.

Information comes from connections and the interwingly of connections only become meaningful to you when you can follow them. Therefore, I would say the information is interaction, and this is one of the prime insights I have gotten from Ted's work.

Ted is a man rich with intertwined connections. Ted is very much about the rich tapestry of life. The etymology of tapestry is interesting. From the Proto-Indo-European "to stretch." Poetic. This is what Ted does for us. He stretches and connects. Tapestries are woven, like our stories, like our lives, like the world itself, out of textiles.



Fig. 12.4 Photo of a tree in London's Hyde Park. Excerpted from an animation where the point of view changes

And this leads us gently down the path to the root of the word 'text' itself. It's the same root word as textile—from Latin *textus*, "thing woven," from the past participle of *texere*, "to weave, to join, fit together, braid, interweave, construct, fabricate, build," which is itself from the Proto-Indo-European root *teks*—"to weave, to fabricate, to make."

And then we get to Hypertext: "Text above and beyond the type cast word." All text is woven. All text is connected. Hypertext acknowledges this and frees us from previous artificial constraints.

What I have learnt from Ted is the importance of the understanding that everything is connected and the understanding that to turn this web of actual and potential connections into information, we need to interact with the information richly and powerfully. It's not enough to make 'in-formation' once and then leave it. It needs to be re-in-formable again and again to keep up with human thought and life. Information is interaction.

Information which cannot be interacted with dies. Information which cannot be interacted with is not really information.

I am not going to be going into details on specifics of Ted's work—I don't want to duplicate other presentations here today. I don't think I could add value with this most esteemed academic range of speakers, so I just want to put the importance of Ted's work in a historical perspective instead.

12.4 Historical Perspective

Starting with a question: Is what we have today the ultimate, when it comes to information manipulation? What would you say?

Let's start at the beginning. About 13.7 billion years ago, the universe began. Roughly 4.5 billion years ago, our earth and the planets in our solar system settled into orbits. I wanted to show you this to reflect on the fact that our little planet has been around for about a third of the existence of existence itself. We are of ancient stock. We are a deep part of the deepest history.

After 750 million years or so of our planet merely being pregnant with the possibility of life, self-replicating molecules appear. Life is happening. It's pretty basic, but it's happening. Another 300 million years later, celled life evolves. This is just a billion years after the earth's crust hardened and cooled. Now, for a brief, fleeting moment, *Luca* (last universal common ancestor) lives. And then 7 million years ago, a hominid creature—meaning simply 'human type'—dies in Chad, Africa. We are most definitively human by 200,000 years ago. You would not question the humanity of human being from 200,000 B.C.E. You might feel he or she would be stronger than you or me, but not another species. What if you were confronted with a human being from 100,000 years ago? You would not notice anything different at all.

So, we zoom into the detail of the last few 1,000 years. Çatalhöyük—perhaps the first city—reached its pinnacle 9,000 years ago, with about 7,000 people. We thrived in cities for another 3,000–4,000 years before we invented writing. Printed text has developed over the last 500 years ago, in China and Europe.

I don't to waste your time with the detailed discussions of exactly when interactive text on computer screens happened, many of you here know that better than me, but I like to think of 1968, the year of Doug Engelbart's demo, as a good year. It, of course, has something to do with the fact that that this was the year I was born.

So, before we zoom back out. Let's pause for a second look at today's world. This is our current reality. These are our paradigms: HTML, .doc documents, and WYSIAYG, what Doug called *what you see is ALL you get*. This can't be it people. This can't be the end of what we can develop. By the way, notice how our current paradigms pretty much completely ignores connections.

Right, let's hide the recent past. It's too much of a blink of an eye. Let's move the big picture, down here. So here is big history. Condensed. Abridged. Beginning of the earth here at the left, today at the right. How much future do we have left, (if we don't kill each other)?

For the most basic gauge, the life expectancy of our planet, we have as much time in the future as we have past. The sun, our host planet, is in the middle of its lifespan. Let's zoom out more. This is where our planet fits in the cosmic timeline.

In 100 trillion years, the age of the stars will draw to a close. But even this is not the end of the universe. It's just a phase before it gets more boring. So, my point: we are alive at almost start of the universe if you look at it on this scale. It's the time to look ahead, not to be overly constrained by our teeny history!

It's time to look at the fundamentals. It's time to listen to what the deep thinkers have to say, not be stuck in a paradigm created by simple initial digital commerce. It's time to stop living within the simulations of paper book box of tree corpses in birch coffins. It's time to go past Microsoft Word and similar software packages. The thing with Word is this: Word actively removes connections, actively removes what information is! That. Is. A. Crime.

In dealing with early, less powerful computers and systems, models had to be built to deal with what was once considered large amounts of data. What mattered were "just the facts." This meant only the letters of words were noted down. Not what they looked like, and keeping any kind of a reference as to where they came from became a needless headache. Relationships between documents were lost.

That was then. We no longer have those constraints. It's time to truly value connections. We have to accept our world as being deeply intertwined. Oh, by the way, did you think I forgot about the Web? I didn't. The web is not a web. The web is not made up of links. A link connects two things. If we hold hands, that's a link.

A URL is more accurately referred to as a "web address," a term which has come about to give *ordinary* people a better impression of what it is going on behind the scene. It's much more accurate to say it's simply an address. To say that it is a pointer-click to something, which may or may not be there, and the thing that is being pointed at does not know what is pointing at it. There is no linking, there is no connection, and there is certainly no transclusion!

So let's praise the web for being a connector 1.0. And now we need to accept that, as much as information itself is interaction, so is life itself. If we fail to focus on interaction of connections, we are building an every larger, but nevertheless, a continually dead environment.

We need to be able to zig-zag through hyperspace at will. I'm sure that you see what I did there. Zig-zagging along aided by Ted's genius of hypertext, Xandau space, and other hyper-Ted thoughts!

12.5 Limitless

THIS is what makes Ted limitless: Ted gives us ways to interact with information by letting us follow connections—the very connections that makes information, information. Ted's work gives us ownership and intimacy with our information. Ted makes our information environments come alive! THIS is what makes Ted limitless. And it can make us limitless too, if we pay attention to the genius of Ted Nelson.

I made a video of my students,¹ the next generation, the people who really matter, and I asked them what they thought about Ted. I hope you will take a look at it.

But before I finish, I have to admit something. My software, particularly Liquid, works well because it integrates neatly into Mac OS X. I have taken the safe route so that my software is quite easy to build. Almost everyone who develops

¹<http://youtu.be/e89KwG05xXY>

software has. Ted's vision requires much greater re-coding of our basic assumptions and operating environments. So I have to say that if I had the balls and the brains, I wouldn't play it so safe. I would have liked to be more like Ted. Thank you Ted, for being the balls-out brains of our industry!

So that concludes my perspective on Ted, the multifaceted, multitalented, multidimensional man, with so many connections, so much wisdom, inspiration, and insight for all of us.

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