

Introduction

In this essay I'd like to examine the idea of the rhizome and how it applies to the World Wide Web. I'll be referencing an excerpt from *A Thousand Plateaus*, by Gilles Deleuze and Félix Guattari, that examines the idea of the rhizome; and *You Say you want a revolution? Hypertext and the Laws of Media* by Stuart Moulthrop. I'll be attempting to answer the question: "The rhizome includes the best and the worst: potato and couch-grass, or the weed." Does this variable character of the rhizome manifest in hypertext? To answer this I will look at today's hypertext (that is, the internet) through Moulthrop's examination of hypertext¹ in the early nineties, and how the rhizome, as defined by Deleuze and Guattari, can be seen in today's internet. I also will explore how the potato and weed, best and worst, are displayed in today's internet of blogs, Youtube and Facebook.

Note: "The Internet" technically refers to all the different protocols that make up the Internet, hypertext 'lives in' one of these protocols: the World Wide Web, or WWW. This is a cumbersome thing to read, either in long form or in acronym, so for this essay I will adopt the popular phrase "the internet" (with a little i) to refer to the WWW.

In order to explore the rhizome-like character of the internet, it is good to start with a definition of the rhizome. In botany, a rhizome is a "a continuously growing horizontal underground stem that puts out lateral shoots and adventitious roots at intervals." (New Oxford American Dictionary). Deleuze and Guattari adopt this idea and apply it to philosophy: they summarise "The rhizome connects any point to any other point, and its traits are not necessarily linked to traits of the same nature" (1605). The rhizome does not have a beginning or an end, but is always somewhere in the middle (1609). The rhizome stands as an alternative to the tree, that epitomises hierarchy. The rhizome is fundamentally anti-hierarchical. Deleuze and Guattari thus

1. Moulthrop looks at Ted Nelson's Xanadu, not the internet, which hadn't taken off at the time of Moulthrop's essay. Interestingly Nelson believes that the Internet is a shallow implementation of the hypertext, particularly with one-way links (xanadu.com)

reject Saussure's idea of the signified and signifier, asking not what a book [or text] means, [that is, a 'hidden' meaning higher up the tree], but what it functions with and what it is connected to (1602).

Connections are crucial to hypertext also, Moulthrop says: "A hypertext is a complex network of textual elements" (2509) connected by links:

Hypertext is about connection - promiscuous pervasive, and polymorphously perverse connection ... the promiscuity of the hyperlink (in the root sense of "a tendency to seek relations") knows no bounds of form, format, or cultural level. (2515-2516)

The proof that hypertext is rhizome-like is in the hyperlink. Hypertext cannot be divorced from the software, you cannot print out hypertext without losing part of its essence. The hyperlink, once activated by the reader, instructs the browser (the software) to display new material, acting like "dynamic footnotes". (ibid.) Hyperlinks can send the reader to any other *lexia*,² and thus there is never a beginning or end to hyper text, the reader is always in the middle of the hypertext, like the rhizome is always in the middle (Deleuze and Guattari, 1609).

Hypertext (or another Nelson invented term: hypermedia) can also involve other media, such as images, sound, and video. The botanical rhizome, with its underground network of roots and stems, is also clearly visible in the way that hypertext is put together, or as Moulthrop calls it: *hypotext*. (2517) the HyperText Markup Language (HTML), and all other computer languages are "creature[s] of print", where all the functions of the system; such as for linkage, display and editing; can be translated into human-readable text. Both the visible and invisible structures of the hypertext are rhizome-like.

Rebirth of the Reader and Writer

With hypertext ending the post-literacy (Moulthrop, 2515) and heralding in a secondary (electronic) literacy (ibid, 2518), the barthesian reader³ is reborn. Not only does the new reader

2. *Lexia* is the word for units of hypertext, borrowed from Barthes by Moulthrop (2509)

3. the reader as described in "Death of The Author" by Roland Barthes, 1967

interpret the text according to their own experiences without the tyranny of the author dictating meaning, the new reader explores the text in their own way, choosing which links to visit and which to ignore. There is no forced route, each reader must follow the path of their own choosing through the hypertext, becoming an active, rather than passive, participator of the text. However the author is not completely killed: Moulthrop refers to the author as an "undead presence in the literary machine" (2514) as the reader is made aware that someone defined the links available to them before they started interacting with the text. However the rhizome-like nature of the hypertext pushes it towards anti-hierarchical egalitarianism. "All readers of the system can potentially become writers, or at least editors and commentators" (Moulthrop paraphrasing Nelson, 2517). In today's world of wikipedia⁴ and of the blog⁵, we definitely can see this in action.

The blog as a format is a webpage (or website) where new "posts" (stand alone dated entries) are always posted to the top of the website, with older content being pushed down the page by the newer content. The success of the blog is also driven by the technology that allows the writer (or "blogger") to worry about writing hypertext (that is, text and links) and let the software take care of inserting and formatting the text on the webpage⁶. The other revolutionary part of the blog is it allows other people to comment publicly on blog posts, with their name becoming a link back to their own website. Blogging often involves a community of people who will link to each other and comment on each other's blog posts, forming a web of connections.

Of course, the content on the internet is not restricted to alphabetic text. Moulthrop imagined that the future of hypertext culture would also include "interactive multimedia 'texts' that incorporate voice, music, animated graphics, and video",⁷ (2515). In the early nineties the

4. portmanteau of the Hawaiian word wiki, meaning quick, and encyclopedia[sic], where anyone may add content to, or edit the, encyclopaedia.

5. portmanteau of web log

6. this is often done with PHP, which stands for: PHP Hypertext Parser

7. Referencing Richard Lanham's *The Electronic Word: Literacy Study and the Digital Revolution*

technology of transmitting data was very slow in comparison to today's broadband speeds. (Indeed, the term "broadband" did not exist.) Transmitting the amount of data required for video in a reasonable amount of time was unfeasible. With the invention of faster computers and better cabling, video on the internet is a common occurrence. The explosion of internet video in today's culture is due to one website: Youtube. Youtube was founded in December 2005 because the founders couldn't find an easy way to share videos they had taken at a party with their friends. (Ahmed) The website allows anyone to be both a creator of content (and uploading the video) or a "reader" of the content, by exploring site watching videos. As each video ends, links to more, often related, videos appear. Youtube also replicates the blog's commenting system, allowing users to reply to videos through text, and also through linking video responses to the video.

The key rhizome-like features of today's internet are: the hyperlink, linking content to other content; and allowing users to create and share their own content; free of any imposed hierarchy.

One man's weed is another man's wild flower.

One definition of a weed is "something that grows where it isn't supposed to." Of course, it doesn't follow that the surprise appearance is unwelcome. My green-thumbed great aunt can't stand dandelions, but we love them for the colour they bring to the lawn! A weed can be both good and bad depending on the perspective you take, but Deleuze and Guattari have taken the perspective that the potato (and couch-grass) corresponds to the best, while the weed corresponds to the worst (1605). This mixed nature of the rhizome is to be expected, because "[the rhizome's] traits are not necessarily linked to traits of the same nature." (1605)

A weed-like aspect of the internet-rhizome is that you can never be sure to what, or to where, a hyperlink may take you. The *Rickroll* prank is an example of this. It begins when a person clicks on a link expecting one thing, only to be surprised by a youtube video of 80s pop star Rick Astley singing "Never Gonna Give You Up" ("Rickroll"). The internet prank of tormenting sensitive internet users with a cheesy 80s hit is harmless, but it echoes something darker: link

hijacking. It is a well known trick of virus writers and other malware spreaders: make people download something bad for their computer by disguising it as something else. With hypertext trust must walk hand in hand with healthy suspicion, as you never quite know where the link is going to take you.

Trouble in paradise: capitalism bites. The idea of private property is hard to maintain in the electronic medium. Moulthrop wonders if hypertext (and in particular, Xanadu) is the first step to Jean-François Lyotard's "game of perfect information" where the world of data is equally available to all (2510), but recalls that "information is now virtually an equivalent of capital" (2512). How is a radical anti-hierarchical inter-linked rhizome going to fit with the "information capitalism"(2512)? While it is incredibly easy to copy the electronic signals that make up a digital file, those who sell information don't want it to be freely available. As Stewart Brand said:

Information wants to be free because it has become so cheap to distribute, copy, and recombine---too cheap to meter. It wants to be expensive because it can be immeasurably valuable to the recipient. That tension will not go away. It leads to endless wrenching debate

about price, copyright, 'intellectual property', the moral rightness of casual distribution, because each round of new devices makes the tension worse, not better.

(Clarke)

The solutions popular today are the walled garden (or "portal") and advertisement-supported models. The walled garden involves separating the website from the rest, preventing all but the sanctioned hyperlinks from entering. These often require that users sign up for "membership" and require a user name and password. Another option is to place advertisements on the website, or include sponsored content with the existing content. Websites can become monoliths, with few links to the outside. Of course the longer they keep your eyeballs on their page the more chance they have of making money through advertising.

So information capitalism restricts the barthesian reader by preventing them from exploring

where they want to, or by enforcing that they see advertising along with the text. There is also an economic cost to hosting your own web space (free from the branding of other gratis offerings) and a time cost in generating worthwhile content. Bloggers, in particular, often suffer from pressure to keep to a demanding writing schedule in order to keep the web site "fresh".

Our character is reflected in the things we make, and thus the internet is both unitary and rhizome-like. Humans aren't lacking a beginning and an end, with our birth and death and corporal reality are definitely not rhizome-like. However, it is the whole that matters. A webpage can stand alone, with a beginning, middle and end, but the hypertext, the internet as a whole is a rhizome. In the same way, human social relations are rhizome-like. This web of social relations can be referred to as a "Social network".

Facebook, founded in 2004 (facebook) has revolutionised the way that people use the internet. It takes advantage of the network and flow of information, displaying in the "news feed" what the people who are linked to your Facebook profile (your "Facebook friends") think is important and have done recently. You can see your close and distant family, friends from uni, friends from high school, acquaintances, work colleagues, family friends and even people you haven't met before, all at once, as long as you are linked to them on Facebook. Facebook is a rhizome, linking people to each other through short bursts of information. Through Facebook you can explore your social network in the same way that you can explore hypertext.⁸

Conclusion

The tension of the internet is exactly because of its rhizome-like nature. The rhizome, with its middle to middle connections, does not discriminate between the things that it links to, linking anything to anything. Standing as an alternative to the hierarchy tree, the rhizome is egalitarian and anti-hierarchical, which puts it in tension with the desire to be economically profitable. However the internet continues to be rhizome-like because of the nature of human networking.

8. The negative aspect of facebook is the way that they "encourage" you to make more and more information public (so they can make more money) by having the changed reduced privacy options "opt out" rather than "opt in".

As social creatures we seek connection, and the various "locations" on the map of the internet⁹ such as youtube, facebook, and blogs, allow us to make these connections with others through the creation and consumption of content through hypertext. There are good and bad parts of the internet, as there are potato/weed parts of any rhizome, however as an enlightened reader of the barthesian tradition, empowered by choice of what to activate next, we can choose what is potato (to be enjoyed) and what is weed (to be avoided.)

9. this idea of a "map of the internet" is humorously explored at the webcomic xkcd <http://xkcd.com/256/>

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