Life in the New Media landscape:
Ritual Communication and Distributed Cognition on Reddit

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Abstract

The New Media landscape is diverse and complex. More importantly, as noted by Lev Manovich, it is fundamentally new. This paper will explore one instance of New Media, the social news site reddit, in terms of several theoretical frameworks, situating the site both in terms of its historical precedents and novel contributions to the New Media landscape. The analysis will show that the affordances of New Media embodied in reddit, including expansions on Ritual Communication and Distributed Cognition, along with a Web 2.0 ethos that highly values interactivity and user-control, have made reddit a site of 21st century community building.

“. . . life will be happier for the on-line individual because the people with whom one interacts most strongly will be selected more by commonality of interests and goals than by accidents of proximity.” -J.C.R. Licklider, 1968

It can be difficult to glance back over the past 100 years and not see some magic, some dramatic, unprecedented leap forward into the future-present. But when a technology and all its component parts are examined, or when one encounters a document like Licklider’s “The Computer as Communication Device,” it can be equally difficult not to see a road that could have only led to this exact point.

The truth is certainly neither, but somewhere in between. Understanding where a given technology’s production and use lies on that spectrum, between immaculate invention and deterministic inevitability, will provide important insights into the affordances and limitations of that technology.

This type of inquiry is all too often ignored in favor of evaluations that treat a technology as an ahistorical black box. Those who work in the Ivory Towers of computer science and engineering that have the technical knowhow to do such work have been traditionally disinterested in the imperfections and nuances of humanity and sociality (although Brian Arthur has significantly changed the tone of the discourse in that regard). Moreover, a lack of interdisciplinarity in the academy makes it difficult for those without a background in technology (i.e. social scientists) to conduct an inquiry from their own respective intellectual perspectives. However, as more and more human interactions are mediated by technology (both hardware - computers and phones - and software - email and websites), it becomes increasingly important to engage in this social aspect of technology.

There is no shortage of examples of digital sociality; many of the most dramatic success stories of the past ten years in technological innovation have come from social network-
ing sites like Facebook and Twitter. However, the ways individuals interact online is not limited to Likes and 140—character quips. Recent years have seen the rise in popularity of other models of digital sociality. Forums, “social news” websites, and user—content hosts have been a breeding ground for different types of online communities, ones that more closely resemble Licklider’s vision above.

The website reddit is one such space. Originally conceived of as a social news site, the “Front Page of the Internet,” reddit has emerged as one of the most populated spaces for digital sociality on the web today. While a full analysis of this dense social space is beyond the scope of this research, several key features of the site will be analyzed in a historical context and in comparison with contemporary websites that offer similar affordances. Reddit represents a public space for cultural mediation and re—mediation, wherein the curation of cultural artifacts by users provides a means for distributed cognition and cultural transmission that inherently lends itself toward community building.

These characteristics are not unique to reddit, historically or currently. However, in combination with a fuller realization of the potential affordances of the web medium and shared cultural values of users and site managers, reddit offers an insightful view into modern digital sociality and potentially into the future of Internet communities.

I. INTRODUCTION: A BRIEF EXPLANATION AND HISTORY OF REDDIT

“Perhaps cyberspace is one of the informal public places where people can rebuild the aspects of community that were lost when the malt shop became a mall. Or perhaps cyberspace is precisely the wrong place to look for the rebirth of community, offering not a tool for conviviality but a life-denying simulacrum of real passion and true commitment to one another. In either case, we need to find out soon.” - Howard Rheingold, 1993

The basic elements of reddit can be quickly explained to any digitally literate individual today: registered site members submit content, either in the form of text hosted by reddit or a link to externally hosted content (images, videos, articles, etc.), which is then voted on by the user community. Submissions that receive the most votes move to the top of the “front page,” the home page of reddit that all users (members and non-member “lurkers”) first see. Many of these submissions are originally posted to “sub-reddits,” which are user—created, topic-oriented sub—sites (for example reddit.com/r/patriots for fans of the New England Patriots football team). Enough votes on a sub-reddit will eventually lead to a post reaching the front page.

Figure 1: /r/patriots, The sub-reddit for the New England Patriots — www.reddit.com/r/patriots, accessed 12/15/2014
views per month in 2014 (Singel 2011, Singer 2014). According to web-based Internet analytic tool Alexa.com, reddit is the 9th most popular website in the U.S. as of December 2014.

Many of reddit’s theoretical antecedents date back to the earliest days of computer science. The hypertext links which are at the core of reddit’s interface have a history dating back to Vannevar Bush’s vision of the “memex,” which he first postulated in 1945 (see Bush 1945). In 1968, Doug Engelbart fleshed out this vision of hypertext in the now infamous “Mother of All Demos,” in which he also showcased many of the other technologies we now use to access sites like reddit, including the graphical “window” interface and the mouse(2). In that same year, Licklider recounted one of the earliest instances of computer mediated human interaction at a conference hosted by Engelbart. Drawing on this event, Licklider went on to write “The Computer as Communication Device,” (1968) in which he painted a now-familiar picture of geographically disparate “communities of interest,” a term that seems like it could have been written specifically to describe sub-reddits.

Accepting that there is not time here to describe in detail the history of digital sociality from Bush and Licklider all the way to present (and knowing that it has been done elsewhere, see Porter 2007 and Kollock and Smith 2002), there are a few important precursors that should be noted. The Whole Earth ‘Lectronic Link, more commonly known as the WELL, might be considered the common ancestor of many modern forum-based websites. Turner describes the WELL, which was founded in 1985, as a “teleconferencing system” that subscribers could access and “type messages to one another in either asynchronous or real-time conversations,” (Turner 2008, p. 141). Turner’s account delves into the social history of the site, explaining how it emerged from the curious pairing of military research scientists and ’60s/’70s era counter-culture entrepreneurs like Stewart Brand. This mix of ideologies and technology, the format of sub-categories organized by topic, and the sense of community inherent in this site are all echoed in reddit and other modern sites.

One of the most significant features common to the WELL and reddit is the idea of a self-governed community that was designed by the users. The structure of these sites as self-governed and user-designed contributes significantly to the sense of community in both spaces. Rheingold (1993) gives a valuable account of life in the WELL in its earliest days, when the community was such a size that one could feasibly know the entire user population (700 in 1985, up to 3000 in 1988). The scene that he depicts is one of a caring, deeply personal community, with relationships that originated in cyberspace but easily transitioned into the real world. Rheingold suggests that the WELL functioned as what Oldenburg (1997-originally printed in 1989) calls a Third Space: a public space separate from the home and the workplace in which community norms and values can be established. Similarly, Milner cites Habermas’ notion of the “Public Sphere” as a key reference for the interpretation of internet “memes,” (Milner 2013, Habermas 1991-originally printed 1962). “Memes,” whether specific to a particular website or used across platforms, represent a commonly used, widely understood concept in the same way a cliche might be common throughout a linguistic culture.

This is relevant not only as a tie between the WELL and modern sites like reddit, but as a distinguishing feature between reddit and social networking sites like Facebook and Twitter. Where reddit’s “front page” is the same for all users, a Facebook user’s home page is entirely customized to the user, with visible posts limited to those submitted by the user’s “Friends,” (reddit’s front page does vary somewhat for members who can choose to “subscribe” to certain sub-reddits, but it still features submissions common to all subscribers of that particular sub-reddit). Posts common to reddit’s front page “…go on to form the basis of discussions between users, and can be thought of as defining the website’s identity,” (Mills
2009), and for a website that is constructed entirely of user contributions, the “identity” of the website translates directly to that of the user community.

This is not to say that there are no other modern digital media that provide a social space on which users can interact. One such increasingly important category of spaces that cannot be covered here is that of an online game. Studies into online game communities, like those by Boellstorff (2010) and Nardi (2010) feature a number of themes that are echoed in this paper, and an extended comparison of games and websites as virtual spaces may offer interesting insights into online identity and community building. My focus on forum-sites will hopefully provide a sufficient grounding for the study of websites as significant community building spaces. Excluding topic-specific fora (Slashdot being one notable example, founded in 1997 with a focus on computer coding, which was also one of the earliest sub-reddit topics), sites like 4chan and Digg are just two examples of sites structurally similar to reddit. However, the structures vary in subtle but important ways, and the result is fundamentally different communities on each site.

In a study on how two of these communities, reddit and 4Chan, reacted to the 2013 Boston marathon bombing, Potts and Harrison (2013) illuminate some of their differences. Both sites reacted to the bombing almost immediately, posting news media coverage as well as photos from individuals in Boston found on sites like Facebook and Twitter. 4Chan users almost immediately began actively searching for the suspects by comparing photos and descriptions reported by the news media. Pictures quickly emerged with crudely drawn arrows that suggested potential suspects.

The earliest “coverage” by reddit was primarily updates on the situation from news media and social networks. However, soon after this, a user created a “FindBostonBombers” sub-reddit that used the same sort of crude vigilante investigation as 4Chan. When a group of users began attempting to identify individuals in the photographs and posted these “suspects’” personal information (a strict violation of reddit’s rules) the sub-reddit was shut down. At this point, some of this information had already been picked up by national news media, and the entire event proved embarrassing for reddit’s administrators and much of the larger reddit community.

Potts and Harrison use this event as a common theme by which to measure their rhetorical analyses of reddit and 4Chan. Their results illustrate the ways in which subtle differences in the structure of an interface affect the culture of a mediated community, and in turn how the tone of a community will, over time, shape the structure of the interface, an especially valid observation in the case of sites like reddit that emphasize open-source, user-centric development. 4Chan’s near-total anonymity and
chaotic thread structure supports a culture of “anonymity and ephemerality” (Bernstein et al 2011), which meant no accountability for those posting names of “suspects” and no visible remorse on the site after those “suspects” were cleared. Reddit, on the other hand, fosters the development of user identity (by the use of permanent screen names and member association with various sub-reddits) and cultural history; the individuals responsible for the FindBoston-Bombers sub-reddit were publicly chastised by other users for violating the culture of reddit by being so shortsighted and ignoring the consequences of their actions. (Another more casual comparison of cultures of 4chan and reddit can be seen in Stryker 2010, which displays different responses to an online bully: 4chan posted the bully’s address and social network profiles, an overt call for real world retribution, while reddit set up a donation fund for the victim’s family).

Reddit’s immediate popular predecessor and longtime competitor is digg.com, which was originally very similar to reddit, both culturally and structurally, with required screen names for submissions and a voting system (“diggs” opposed to “upvotes”). Digg, founded in 2004, maintained popular success over reddit for years until the now infamous Digg version 4 update in 2010, which resulted in a “Mass Exodus” from the site (3), a movement that led many Digg users (including the author) to reddit. There are undeniably a variety of factors contributing to this “exodus” including v4’s buggy design and a more complex layout. A more theoretically interesting reason is that, according to reddit co-founder Steve Huffman, the v4 update represented a shift in tone by website administrators that was not in line with user expectations (Metz 2012). The update was a top-down change in values that shifted the platform from a standalone site to one closely tied with social network sites (which, as already described, are significantly different in nature). The front page of Digg was suddenly populated by a suspicious number of posts from a few popular publishers, and in a brazen breach of user agency, the ability to “bury” or down-vote posts was removed completely (Slattery 2010). Reddit, on the other hand, has consistently updated users on site developments and accepted user input on website changes (see Martin 2011 on reddit’s “spin out” from parent company Conde Nast).

Digg’s disastrous v4 launch offers an interesting view at how a top-down restructuring of a website, and the inherent value changes that such a restructuring entailed, led to the dispersal of a community. The fact that the exodus away from Digg was a significant contributor to reddit’s success (Metz 2012) illustrates the importance of a design oriented towards user-generated content and self-governance, a value set that reddit administrators have repeatedly emphasized. They have accomplished this by regularly updating users on site changes with blog posts and active participation in reddit debates (see Martin 2011 and Wong 2012). In addition, instead of relying solely on traditional advertising-based revenue, reddit has introduced programs like reddit gold, which allows users to pay a yearly subscription for an upgraded membership. In a blog post, CEO Yishan Wong praised Gold members for embracing the program, which “allowed us to run a site backed by its community rather than catering primarily to advertisers,” (Wong 2012). These values are further expanded on by reddit’s emphasis on transparency and accessibility, which was fully realized in 2008 when the site’s code was “open-sourced,” meaning almost all of the code running the site was made visible to the public (Steve 2008). Additions or changes to the code could, from that point on, be made by anyone and submitted to reddit administrators for consideration. (4)

(An interesting study would be to look at reddit’s source code over time and track the changes that are made, especially if one could determine the origin of each of those changes. How often is user-generated code adopted by the site?)

In terms of digital sociality, it is clear that reddit is not alone as a potential venue. It is the product of both a technological and a sociological heritage, and it currently resides in an
ecosystem of other sites, each with their own respective community and value set. It is also clear that reddit has some particular features or particular combinations of features that have contributed to its success over the past 10 years. What’s left to do now is to focus more closely on these peculiarities of reddit. By utilizing a set of interdisciplinary theoretical foundations, I hope to offer several explanations of reddit’s functionality that have contributed to its success.

II. Theoretical grounding: Mediation and Distributed Agencies

“... computers and software are not just ‘technology’ but rather the new medium in which we can think and imagine differently.”

-Lev Manovich, 2013, p. 13

Thankfully, the notion of studying media and technology as cultural interfaces is by no means novel, and so the literature available is extensive. One of the most valuable recent contributions is Lev Manovich’s Software Takes Command (2013), which issues a call to arms for the nascent field of Software Studies, the ancestry of which dates back to the Media Ecologists of the mid-20th century. While Manovich served as the primary inspiration for this research on reddit, the breadth and complexity of the topic calls for an interdisciplinary approach that utilizes tools from a variety of origins. Research and theories from Communication Studies and Cognitive Science will also be included in my discussion of reddit as a cultural mediator.

A key argument of Manovich’s book is that New Media is, in fact, new. While this may seem unsurprising or worse, inconsequential, the newness of New Media is of the utmost importance when couched in terms of the history of Media Studies. If “The Medium is the Message,” then whether a novel medium is simply a reiteration of an old medium or actually an iteration, a version with significantly meaningful changes, has substantial impact on the “message” itself and how it is interpreted, i.e. human communication. As Manovich says, “Software has become our interface to the world, to others, to our memory and our imagination—a universal language through which the world speaks, and a universal engine on which the world runs,” (ibid. p. 2). He goes on to carefully describe several instances of New Media, pointing out that yes, many functions of New Media, specifically software, do recreate or “simulate” Old Media. This is at the core of Bolter and Grusin’s previous explanation of “New” Media, in which they argued that digital media are simply “refashioned and improved versions of other media” (Bolter and Grusin 2000, p. 15). However, as Manovich argues, this “refashioning” and “improvement” on Old Media often represent changes dramatic enough to constitute fundamentally different processes at work when New Media is utilized.

If we accept that software as an interface has a significant impact on human communication and cognition and that it is sufficiently distinct from Old Media, then we must start outlining the characteristics of New Media and what their potential affordances and limitations might be. This question is deeply tied to the origins of New Media, what Manovich calls the “secret history of our software culture,” (p. 5). Understanding how and why these New Media are created is crucial to understanding their impacts.

This goal is not as simple as phoning the creators of reddit and asking why they decided to make the up-vote button orange and the down-vote button blue. In a previous work, Manovich noted the “fractal structure of New Media,” (Manovich 2001). Because New Media is built on digital technology, it shares many characteristics with the technology itself, including this “fractal” structure, by which Manovich meant to allude to its recursive, discrete composition. This view can be significantly expanded with Arthur’s more general definitions of technology. In his book The Nature of Technology (2009), Arthur notes the recursive, discrete (or “modular”) nature of
technology, but he also valuably emphasizes combinatoriality. By calling technology “combinatorial,” Arthur means to illustrate that all technologies are composed of previously available technologies; his example is of a jet engine, which could not have been invented until all of its component parts had already been invented. Moreover, each of those component parts is built on other technologies—technology, in this way, is recursive. This means that when evaluating a technology, be it a jet engine or a website, we cannot look at the final product and see only a “black box.” We must inquire into the component parts and also evaluate their affordances and limitations.

This “de-Black Boxing” effort is made infinitely more important when Bruno Latour’s theory of Distributed Agency is taken into account (Latour 1994). In a now classic inquiry into “technical mediation,” Latour examines the ways in which technology interacts with the user, not as a passive tool but as an “actant” (the implications of this will be explored further in the section below on distributed cognition). Perhaps most relevant to the discussion here, which is centered on cultural communication, is Latour’s idea that a technology can act as a “delegate of its enunciator,” by which he means that the technology takes on the agency of its creator. His example is of the quiet speed bump, which, in interacting with a driver, seems to express a will the will of the speed bump installer who wants drivers to slow down. In turn, the structure (“will” or “agency”) of the speed bump determines how it is installed. The actants in this example include the speed bump installer, the driver, and, of course, the speed bump, all “in the process of exchanging competences, offering one another new possibilities, new goals, new functions.”

To place all this in terms of reddit clearly, reddit is an instance of New Media, a software interface through which individuals can interact indirectly, via content, and directly, through comments and private messages. The question then becomes what is it about the design of reddit that makes it distinct, while acknowledging that none of its component parts are necessarily “original”? Moreover, the construction of reddit, both in terms of cultural identity and the material code, is not the product of the efforts of a few individuals; reddit’s open-source code means it is “physically” constructed by the entire community of users and administrators, and its high level of interactivity means the “social construction” is equally communal (see the section on Ritual Communication below). How can we start thinking about what affordances are offered by this style of construction, and which various agencies are interacting that make the site’s success possible?

These questions will be explored in the next two sections, in which specific attention will be paid to how reddit affords cultural transmission and distributed cognition.

III. Culture building: Mediated ritual communication

“Creative, interactive communication requires a plastic or moldable medium that can be modeled, a dynamic medium in which premises will flow into consequences, and above all a common medium that can be contributed to and experimented with by all.”

-J.C.R. Licklider, 1968

Again, Licklider’s premonitions are almost eerie. It is as if he foresaw the coming domination of the computational technology market by a few key players and was already speaking out against it. This interactivity that he suggests, the ability to “contribute to” and “experiment with” the medium, is at the core of the current “open-source software” movement, which has its roots in much of the ideology of Licklider and his contemporaries like Alan Kay, as well as in the ’70s counter-culture of Stewart Brand that resulted in the WELL. This value of self-governance and user-generated content is crucial to the community and social aspect of a virtual space, and is expressed in a number of features of reddit.
Reddit’s slogan, “the front page of the internet,” directly associates reddit with the quintessentially Old Media printed newspaper. Some current research seemingly confirms this comparison in finding that motivations for using reddit were primarily informational, not social (Bogers and Werner 2014). Alternate analysis and theoretical framing of this data, however, offers very different results. Even if reddit only offered the ability to communicate information (which it is not limited to), there are nuanced theories of communication that illustrate how that simple act can quickly lead to something beyond simple communication community.

In an important contribution to Communications Studies, Carey separates communication into two categories: transmission and “ritual communication,” (Carey 1989). The former is the more common definition of communication, that is, to impart a message. It is in the latter view that a more interesting notion emerges: the idea that shared information, like that on the front page of a newspaper, contributes to the identity of the community. “Communication,” says Carey, “is a symbolic process whereby reality is produced, maintained, repaired and transformed,” (p. 8). A crucial element of this, again building on Oldenburg and Habermas before him, is that the communication must be public, shared amongst an entire community. Debray adds an interesting element here as well in his discussion of cultural transmission (the terminology here being obnoxiously at odds with Carey). Debray uses the word transmission to talk about the passing of cultural information, or what essentially amounts to cultural heritage. This, Debray says, requires some sort of technological mediation: for “communication” to become “transmission” it must be materially embodied (Debray 2004). That “material” is inherently technical, be it a Bible or a blog post.

This is all to say that what happens on reddit is not “just” information being transmitted if it ever was, it has evolved beyond that. (both Carey and Debray allow for simple communication to contribute to culturally significant ritual communication, just not vice versa). This evolution from “Front page to self-referential community” (Singer et al. 2014) has been driven in part because of the nature of the public “front page,” but also by the interactive, self-governed aspect of the site.

The ability for users to post content, original or otherwise, is the primary feature of the website. This in itself is incredibly significant in terms of community building. If Carey’s newspaper front page serves as a locus for cultural identity via ritual communication, what happens when literally anyone can be the journalist? Although much of what was originally posted to the site was links to externally hosted content, often not created by the user, Singer et al. note that since the site’s inception “self” posts, or text content hosted by reddit itself, have become increasingly common (ibid). Even “reposts,” content that has already been posted to the site by other users, and unoriginal content that makes the front page goes on to become the topic of further discussion and remix by other users in what Milner calls “Pop Polyvocality” (Mills 2011, Milner 2013).

This level of interactivity is emblematic of Manovich’s idea that New Media is fundamentally New. Reddit’s metaphorical status as the “front page” of the internet does not really relate it in any meaningful way to a newspaper’s front page any more than the internet is related to the newspaper. A newspaper’s consumers are distinctly separated from its producers. On reddit, many of the consumers are also the producers (or discoverers) of content. This feature is emblematic of the ethos of Web 2.0 as “the ether through which interactivity happens,” distinguishing modern sites as significantly different than even their immediate predecessor the static, un-touchable sites of Web 1.0 (DiNucci 1999). Blog posts, music hosting sites, and podcasts are, like reddit, instances of the move towards user-generated content.

The ability to comment on articles is similarly an important feature that distinguishes New Media from Old, and is common throughout New Media. Even the online versions of most newspapers often allow commenting,
The particular style of “threads” of comments, though, is by no means universal, and is especially well-suited to discussion and debate, rather than simply “commentary.” The ability of users to communicate with the author as well as each other is another important means by which community is built online. The fact that these conversations are preserved and accessible throughout time means each conversation thread becomes a materially embodied cultural marker of the type that Debray alluded to. Rheingold describes threaded conversations on the WELL as “…a long, topical cocktail party you can rewind back to the beginning to find out who said what before you got there,” (Rheingold 1993). Moreover, the content of these comment threads often polices member behavior. As mentioned above, Potts and Harrison note that in the face of a controversial reaction to a national event, the rhetoric of users and site administrators reified reddit’s established norms. Even “trolling,” the posting of “erroneous or inflammatory information with the intention of provoking a strong reaction out of other users,” often serves the purpose of reifying norms through humor, reminding veteran members of agreed upon facts or standards and informing less experienced users (often by mocking them) (Merrit 2012).

The last important structural component of reddit that significantly contributes to the site’s nature as a place for ritual communication is the voting system. As mentioned in passing above, reddit members have the ability to “upvote” and “downvote” posts as well as comments on posts. Links and comments with more votes are given higher visibility, either moving “up” on a page or higher in a comment thread. (Link-posters and commenters receive “Karma” for each upvote received a more full exploration of the significance of Karma to reddit users in terms of community participation would be a worthwhile study). Mills noted that this functionality allows “a very large number of people (to) participate in a discussion without it becoming so large and diffuse that it is difficult to make sense of,” (ibid). Moreover, in using this tool, users essentially curate the website themselves, rather than leaving it up to anonymous, invisible editors (reddit users commonly refer to themselves as “redditors,” i.e. reddit’s editors).

This model certainly pre-dated reddit Digg utilized the same functionality with “Digg” and “Bury” buttons. But as noted above, Digg famously removed the “Bury” function in the version 4 update, limiting user agency and their ability to “curate” effectively. This violation of user “rights” was a contributing factor to the “Mass Exodus” that led many users to reddit. Along with an important lesson in interface design and the ethics of business on the internet, this incident illustrates the power of the newness of New Media. If users consumed New Media the same way that they consumed Old Media, there should not have been an issue with Digg’s front page being dominated by a few “power users” and corporate entities. Moreover the loss of the ability to curate the front page may have raised a few eyebrows, but through an Old Media lens, one could not have predicted the mass exodus that it led to. However, if Digg and reddit are understood as fundamentally NEW media, the results would have been obvious; interactivity and increased agency are two key elements of Web 2.0. Reddit’s structure embraces these characteristics through user-submitted content, threaded comment sections, and voting. This is further contributed to by factors mentioned above like the ability for users to create subreddits, effectively starting their own sub-communities, and the open-sourced code of the site. Those last two factors (which will be explored further below) mean that not only is that site a space for multiple forms of interaction and communication that build the identity of the site and its community, but that users literally build the site. This is a realization of Licklider’s vision of a “medium that can be contributed to and experimented with by all.” In Latour’s terminology, reddit is a cultural artifact with many “enunciators,” meaning that its appearance, functionality, and the agencies embodied within it are largely a result of the user-base, rather than a few, top level administrators.
IV. THINKING ONLINE: DISTRIBUTED COGNITION

“We refer to a way of life in an integrated domain where hunches, cut-and-try, intangibles, and the human ‘feel for a situation’ usefully co-exist with powerful concepts, streamlined terminology and notation, sophisticated methods and high-powered electronic aids.”

-Doug Engelbart, 1968 (re-printed in Wardrip-Fruin and Montfort 2003)

As one of the founding fathers of computer science and the inventor of various computational technologies (including the mouse, the “window” and hypertext), Engelbart’s idea that computers should be used to “Augment Human Intellect” was extremely influential. Only recently, though, has this idea been taken to the next level: that computational technologies might serve not only as a cognitive aid, but as a part of the cognitive process. Along with acting as a site for community building, reddit acts as one such cognitive artifact that individuals and groups of users can think not with but through. While this simple fact does not distinguish reddit from Old Media or even other instances of New Media, it is important to explore how this distributed cognition plays out in this specific setting and how it relates to other distinct features already discussed.

The theories of cognition developed by Andy Clark and Edwin Hutchins over the past 15 years have served as a dramatic step in a new direction. Although working separately, Clark, Hutchins and a handful of other cognitive scientists and philosophers of the mind have expanded on the ideas of media ecologists - that a communication is highly influenced by the medium - by positing that even in “personal communication,” that is communication with one’s self (or simply cognition), a physical medium can play an important role. Clark’s famous example is of Otto, the Alzheimer’s patient, and his notebook. By “offloading” some of his cognition (in this case, memory) into the notebook, the notebook effectively becomes part of Otto’s cognitive loop (Clark and Chalmers 1998, reprinted in Clark 2010). That is to say that the notebook, at that moment, is not just an aid separate from cognition but part of the cognitive process. Hutchins was another early contributor to this notion that human cognition might not be entirely “Brainbound,” (Clark’s term). Hutchins’ focus, though, was not just on technology, but on human interactions as mediated by technology (Hutchins 1996). Both notions will be important in thinking about how reddit uses New Media affordances to achieve distributed cognition.

A common joke/critique of reddit amongst its user-base is that of the “reddit hive mind,” (Mills 2011). This terminology means to suggest that reddit is artificially of one voice, that the voting and comment system make it so that only majority opinions are heard. This is not in line with the self-established values of the site the “reddiquette” guide, a user-informed set of loose rules for use of the site (that are only rarely enforced by site administrators), states that users should “moderate based on quality, not opinion,” meaning submissions should not be down-voted only because the voter disagrees with the content (5). The common sentiment is that this rule is largely ignored.

Figure 4: Above: From reddit’s frontpage on 12/5/14, captioned “Found some Redditors in Pokemon,” — http://i.imgur.com/vCmQpJw.jpg accessed 12/5/14

However, in his study from 2011, Mills found that although minority opinions were
not as visible as majority opinions simply by nature of not receiving as many votes, they were not totally marginalized. If nothing else, reddit affords its users the ability to create a sub-reddit for people who share a potentially unpopular view. Further, Mills found that one of the primary functions of the voting system, rather than simply eliminating minority voices, was, as the title of his article suggests, “a Collective Intelligence Approach to Information Overload.” That is to say that the curation of front page content by users is similar to the way Otto might organize his notebook, jotting down the most important (or valuable or humorous or . . .) information in the front and less important information in subsequent pages. The difference here is obviously that, on reddit, it is a group of people all contributing to this process. So here we can see how the community shaping aspect of the front page is added to by the process of distributed cognition not only are front page posts an example of ritual communication, but they are the result of a massive cognitive loop through which many thousands of users do the processing work that no individual could do alone.

This feature of reddit is, again, a reiteration of a structure already made popular by Digg. Reddit added to this cognitive functionality by pairing it with a sub-category system based on that of the WELL and other early forum sites. Reddit also upgraded this sub-category or “thread” system in an interesting way instead of having a conversation thread hosted as a sub-page of the host site, sub-reddits are distinctly separate places. Each sub-reddit, set up by an individual user, has its own set of rules, its own iconography (most sub-reddits have a logo that plays off of the reddit alien logo), its own particular lexicon (which can sometimes be adopted by the larger reddit community) – in short, its own culture. En et al. (2013) offer a post-modern critique of sidebar text of sub-reddits, which is where sub-reddit creators often provide a description of the sub-reddit as well as rules, related sub-redds, and related outside links. This text, says En et al., illustrates the ways in which construction of identity online, which is generally thought to be an unrestricted process, is in fact heavily hegemonically influenced. Although this is meant as a critique of this particular cultural artifact, it also validates the claim that these sub-redds represent a sufficiently distinct space in which a distinct sub-culture, complete with its own hegemony, can form.

![Figure 5](http://redditstuff.github.io/sna/vizit/WTF accessed 4:00 p.m., 12/14/2014)

This spatial aspect illustrates a different type of cognitive distribution. Sub-reddits afford the cognitive community of reddit the capacity to not just organize information in terms of “good” or “bad” by voting up or down. Instead, they can organize it into different “piles” of information. This is precisely what Hollan, Hutchins, and Kirsh describe as individuals “using space to encode ordering information,” and thus “off-loading memory,” (Hollan, Hutchins and Kirsh 2000, p. 191), only here the distribution of cognition is not limited to one user in physical space, but many users in an infinitely vast collection of virtual spaces. As an example of this in action (as well as rhetori-
cal reification of reddit norms), often links that are submitted to the “wrong” sub-reddit will be quickly down-voted and chastised in comment sections – a post about the New York Jets in the New England Patriots sub-reddit would not only yield abusive comments and downvoting, but likely a ban from the sub-reddit by the administrator. Conversely, users that regularly submit to a sub-reddit and adhere to its norms will often find a caring “community of interest,” similar in the level of personal engagement to what Rheingold describes of the WELL. Trusting communities like TwoXChromosomes, a sub-reddit for women that “fulfills the need for a safe place (when many places on the Internet are not considered to be as welcoming to girls and women),” allow for cognitive distribution in the form of advice seeking/receiving that in normal life might be impossible because of cultural taboos and social stigma (Workman and Coleman 2012). At work here is one of the affordances of New Media, what Julian Dibbell calls “psuedonymity,” by which he means a partial shield of anonymity tempered with some sense of identity based on a permanent screen name or other digital embodiment and community membership (Dibbell 1999).

A final useful example of the way cognition is distributed and disseminated throughout much of New Media is through the “meme.” Milner describes a meme as a “Multimodal artifact remixed by countless participants, employing popular culture for public commentary,” (Milner 2013). Memes are often, though not necessarily, image-based, arguably a hangover from Old Media design. What distinguishes memes as distinctly New Media is the element of “remix” that Milner notes. The affordances of the digital medium allow a meme to be quickly deconstructed and reassembled by anyone with basic image editing skills (reddit.com/r/photoshopbattles is a subreddit dedicated to Photoshop savvy redditors “remixing” images from around the web). Although memes are often comical and/or banal, they can also voice strong political opinions. Moreover, the re-use of a common image and regular pop culture references make memes easy and quick to interpret, a form of cognitive off-loading not dissimilar to a mnemonic device.

Milner uses Bakhtin’s notion of “multivocal and always unfinished texts overlapping” to explain memes one could similarly use Carey’s idea of ritual communication, seeing memes as a common media shared by a variety of community members or perhaps a meme is an example of Otto’s notebookâ’Äµ community constructed image that represents a larger historical moment or idea (one meme Milner focused on was the infamous “pepper spray cop” that came to be a symbolic representation of all police abuse around the Occupy Wall Street movement). Indeed, teasing apart these themes and features is difficult because they so often overlap. That overlap, in this case, is crucial Reddit’s success has hinged on a strong community ethos that emphasizes user-oriented design and self-governance, a philosophy that has informed much of the design and structure of the “material” artifact. This unification of theory and design have made reddit a breeding ground for community, and therefore a fascinating place to explore theoretical explanations of communication and distributed cognition.

V. Conclusion

Nothing about reddit is particularly novel. Certain features of reddit do not even seem to be modern, much less a glimpse at the future the Spartan design of the site was recently described by a colleague of the author as “absolutely terrible to look at.” Despite that and other issues with reddit, including spats of site crashes, reddit has somehow managed to achieve a level of popularity only dreamed of by most social news and networking sites. Reddit’s success is largely built on features and ideologies adopted from other sites, such as sub-categorization, commenting, voting, open-source software, and a “public space” for community dialogue. The combination of these features allows for materially embodied ritual communication and various forms of distributed cognition, both of which contribute to
community building.

Reddit’s continued popularity will depend on administrators’ commitment to sustaining the affordances already offered by the site, and expanding in such a way that stays true to the site’s values of self-governance and user-oriented design. Assuming those goals are achieved, reddit may have considerable staying power. An extended analysis of this site, possibly including ethnographic fieldwork that would inquire further into value systems of reddit and various sub-reddits, may offer some insight here. Comparative work on reddit and “traditional” social media sites like Facebook would also be valuable, as Facebook has increasingly become a content sharing site rather than just a personal status update site. Conversely, a comprehensive analysis of Digg and how its embrace of traditional social media characteristics arguably led to its demise could advise reddit or future iterations on how the site might evolve to encompass increasing amounts of digital sociality. (The current version of Digg has eliminated the user-submission feature almost entirely, with the vast majority of front page content being posted by Digg administrators). Most importantly, future research into digital sociality must find out a means to account for “digital transnationality” there are no reddit members who exist solely on reddit. Most users certainly have Facebook and Twitter accounts, and there are probably a large number that regularly use other sites analyzed here like 4Chan and Digg. Valuable cultural research could be done by tracking some of these internet vagabonds and seeing how they adapt to each community and manage a variety of potentially disparate internet identities.

In the meantime, it is increasingly important to start seeing interactions on the web in the terms used in this paper not as simply ephemeral and anonymous, nor as spaces where culture goes to die and .gifs are valued above all, but as sites for ritual communication and distributed cognition. Only when we start to take sites like reddit seriously will we be able to start having meaningful conversations about what we want communities to look like 50 years from now. If we continue to passively assume that online life is, as Rheingold says, a “life-denying simulacrum of real passion and true commitment to one another,” we are in danger of missing the larger story. At the same time, equally perilous would be to blindly applaud the internet as the great equalizer and site of humanity’s future without being aware of those who continue to be left out (consider the roughly 60% of the world who does not currently have internet access (6)) or the deeply entrenched ideological histories in every line of program code. If we are to finally satisfy Licklider’s suggestion that the online individual will lead the happier life, we must be vigilant in our inquiries into what that life might look like.

References


