

## Hacker Literacies: Synthesizing Critical and Participatory Media Literacy Frameworks

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**Rafi Santo**Indiana University  
rsanto@indiana.edu

### Introduction

The past year was a flagship year for participatory media literacies. Despite the lack of explicit references to “participatory” or “new” media literacies (Jenkins et al. 2006; Lankshear and Knobel 2006) in mainstream conversation, 2011 saw the rise of the Arab Spring and Occupy Wall Street movements and was characterized by increased attention to the central idea behind the participatory media literacy paradigm: the possibilities of *empowerment via participatory media* and the practices involved in that process. The recent attention is a boon for those who care about online practices as they relate to civic, social, and cultural participation.

As our culture reflects on new forms of political engagement and as participatory media literacies rise, if tacitly, in the public mind, it is essential to start a conversation about the ways an antecedent to the participatory media literacies framework, critical media literacy (Buckingham 2003; Hobbs 2007; National Association for Media Literacy Education [n.d.]), is also playing a prominent role. Critical media literacy’s central thrust is concerned with *empowerment in relation to broadcast media*. This paradigm traditionally encourages questions about the nature of a media message, its biases, agenda, and omissions. However, in considering this older (though still relevant) literacy framework, I am interested less in the ways it relates to contemporary political engagement using these traditional questions than in the ways these questions and the critical mindsets behind them are being asked in relation to participatory rather than broadcast media.

Participatory media literacies and critical media literacy are finding natural synthesis in a new set of sociotechnical practices I call “hacker literacies”—

 Visit [IJLM.net](http://IJLM.net)

doi:10.1162/IJLM\_a\_00075

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Volume 3, Number 3

practices that are representative of *empowerment in relation to participatory media*. This nascent framework stands on the shoulders of these theoretical giants that already do a robust job of explaining what it means to be literate with media. Through only a bit of tinkering (or, I daresay, “hacking”) with these paradigms, we can understand and bring attention to something new in our shifting media landscape: the regular reformulation of technologies through practices that are both critical and participatory.

### The #Hashtag as Paradigmatic of Critical Participatory Practice

Our best avenue to understanding hacker literacies and the recent synthesis of critical and participatory media practices is to look closely at a practice central to how activist movements such as the Arab Spring and Occupy Wall Street share information with global audiences: the use of the hashtag on Twitter (<http://www.twitter.com/>). I focus on the hashtag because it is, in essence, a “hack.”

In August 2007, open Web advocate Chris Messina posted a proposal for how people might self-organize on the microblogging platform Twitter using “hashtags,” pound signs followed by a short but distinct signature placed at the end of posts on Twitter in order to organize and make posts on a given topic searchable and visible (Messina 2007). By 2010, the use of hashtags was a common social practice for millions of Twitter users from around the world, allowing them to participate in wide-ranging conversations about real-world events and to organize around important issues (Carvin 2009; Gannes 2010).

Messina did not work for Twitter. But because he saw a tool that was incomplete, he proposed a solution and started to use it. His understanding of both the technical dimensions of search and the social dimensions of the needs and norms of Twitter users led to a user-generated innovation, a hack, that reconfigured a participatory media platform that was increasingly playing a central role in public life.

How does this represent a synthesis of media literacy frameworks? Viewed from a critical media literacy angle, the Twitter platform itself is the “text” Messina was “reading.” On this reading, he formed a critical perspective: the text was lacking in certain values, particularly those related to collaboration and group organization. He then engaged in a practice that can be understood from a participatory media literacies

perspective: he blogged about a solution he had to this problem, eventually reaching enough users and gaining enough influence in a many-to-many media ecology for the practice to gain widespread adoption.

Messina’s actions and their outcome can largely be understood via these existing literacy frameworks. Although critical reading of participatory platforms as texts is not traditionally talked about in critical media literacy, such reading still engages in critical media literacy’s primary mode of interaction with media. For the most part, one can say that this is, so far, a case of co-presence of critical and participatory media practices. The co-presence of these two sets of practices is an aspect of hacker-literate practices, but co-presence is not quite synthesis.

Arguably the most important action, however, does represent this synthesis: the solution of the hashtag itself, the practice that would change the way Twitter is used. The creation of the hashtag was a form of critical participation with Twitter, a “rewriting” of the text of the platform based on a critical reading and via a participatory reaction. Underlying this solution is an understanding that is central to what sets hacker literacies apart from its theoretical affiliates: participatory media, and the ecologies in and around them, are malleable. If Messina had not assumed he could change Twitter, he would never have come up with his innovation.

### Defining Hacker Literacies

I define hacker literacies as empowered participatory practices, grounded in critical mindsets, that aim to resist, reconfigure, and/or reformulate the sociotechnical digital spaces and tools that mediate social, cultural, and political participation. These “critical mindsets” include perceiving how values are at play in the design of these spaces and tools; understanding how those designs affect the behaviors of users of those spaces and tools; and developing empowered outlooks, ones that assume change is possible, in relation to those designs and rooted in an understanding of their malleability. “Empowered participatory practices” include making transparent for others the effects of sociotechnical designs and the values at play therein, voicing alternative values for these designs, advocating and taking part in alternative designs when spaces and tools are misaligned with one’s values, and employing new media as a means to change those digital spaces and tools—whether on the

social or technological level—via social or technological means (Santo, forthcoming).

This abstraction of the principles at play in the story of how hashtags came to be is also applicable to many of the other ways the participatory media landscape is increasingly being reshaped.

### Further Contexts of Hacker-Literate Practice

In the ways they use the hashtag, modern activist movements such as the Arab Spring and Occupy Wall Street, which was originally branded “#OccupyWall-Street” (Flock 2011), were beneficiaries of hacker-literate practices. At the same time, these movements also participated in these practices in ways that show what their diversity can look like in situ. Following the Arab Spring, during which Egypt’s Hosni Mubarak shut down Internet access in the country, activists the world over realized that the Web as currently formulated is increasingly vulnerable to disruption and surveillance by repressive regimes. Many activists began projects that would function to encrypt communications or even create “alternate Internets” that could be accessed in the case of shutdowns (Young 2011).

Likewise, many in the Occupy Wall Street movement have expressed understandings that existing online tools and spaces might need to be reconfigured or replaced to meet their needs. Ad hoc “hack-athons” using the moniker “Occupy the Web” sprang up around the country to work on specific technology requests that emerged from the larger Occupy movement (Kelly 2011). People made proposals for projects that supported the values of the broader movement but could not be found in existing participatory tools—for example, police brutality trackers, online platforms that supported consensus building, and news aggregators that compiled updates from the disparate protest locations. Computer programmers in cities including San Francisco, New York, and Washington, DC, then came together for short stints in which they worked to realize the projects that were in greatest demand.

In contrast to the hashtag, which aimed to change the way a specific participatory platform operated, these projects, like those to create alternate Internets, involve people trying to change the participatory media *ecology* to better suit the needs and values of a particular group. People saw that their needs were not being met by existing tools, and rather than changing

those tools they sought to build alternatives. Messina, after reading the text of Twitter, chose to rewrite it. But the text that was read in the case of Occupy the Web was the larger participatory media ecology, and this ad hoc group then rewrote the constitution of that ecology by adding new texts.

In the case of Occupy the Web, the people doing the reading and those doing the rewriting were not the same, which points to the often distributed nature of hacker literacies. Some people identified the gaps and insufficiencies with current tools, while others built alternatives. Whereas Messina was one person encompassing the spectrum of reading and rewriting hacker-literate practices, such practices, because of the communal nature of sociotechnical spaces, are far more likely to be distributed, as in the case of Occupy Wall Street.

Another instance in which this kind of distributed hacker-literate practice occurred was in user responses to Facebook (<http://www.facebook.com/>), which has proven to be one of the most controversial online social spaces because of its many user privacy snafus. In a study of reactions to a series of specific feature and policy changes that affected user privacy in the spring of 2010, I found that Facebook users took on roles all along the spectrum of hacker literacies (Santo [n.d.]).

Many reactions were on the critical, reading, side of the hacker literacies spectrum, oriented toward pointing out the divergence between the values of the space and its users, as well as the negative effects the designs had for Facebook users. Some focused on voicing what users saw as the values Facebook stood for and the values these changes implied. One user made a claim that by making more information publicly available by default, the company was “debasementing the language of privacy.” Another stated that Facebook’s business model is based on exploitation of personal information. Others pointed to specific negative effects of the privacy changes. One user pointed out an incident in which a photograph made available by the changes was used by a third party in a way the original poster had never intended, and others pointed out how the simple act of adding somebody as a friend could now compromise that friend’s privacy (Santo [n.d.]).

Other reactions fell on the participatory, writing, side of the hacker literacies spectrum, voicing alternative designs that better aligned with user values and advocating specific actions based on a theory of how Facebook might be changed. Some argued that

Facebook users should not have to be so vigilant about their privacy when using the service, that it should be designed to protect privacy by default. These users, in voicing alternative design principles, understood the nature of Facebook as a designed and therefore malleable space. Likewise, users that advocated for various kinds of advocacy and action—for example, collectively changing profile information such as birthdays to “throw off [Facebook’s] marketing data”—also understood that the social networking site could be subject to pressures that would lead it to change its policies and features (Santo [n.d.]).

Facebook eventually responded to the mass outcry by introducing a new, “simplified” set of privacy controls (Zuckerberg 2010), and in a settlement in late 2011 the U.S. Federal Trade Commission, in addition to requiring that many privacy changes be opt-in (as opposed to imposing sharing on users by default), ordered that Facebook be subject to a number of checks around privacy issues, including regular privacy audits until 2031 (Sengupta 2011). The ecology that emerged as a result of this case, in terms of both users as well as other stakeholders such as government, points to a broader culture characterized by both criticality and participation in relation to participatory media.

### Concluding Thoughts

We can look at participatory democratic movements such as the Arab Spring and Occupy Wall Street as contexts wherein hacker literacies are currently practiced, but we can also look to participatory democracy for an important metaphor that sheds light on the theoretical contours of this new literacy space. Much of democratic participation is oriented around enactment of new policies that better serve the needs of citizens. The structures of government, in these cases, are seen as mechanisms through which people can be empowered. But every so often citizens realize, often after unsuccessfully attempting to get their needs met through currently available mechanisms, that something is wrong with the mechanisms themselves—that the modes of participation must be reformulated. The movement to enact campaign finance reform, for example, is a manifestation of these realizations, an expression of understandings that other policies will not come to be unless a crucial mechanism of government is changed. More broadly, the Arab Spring and Occupy

Wall Street movements share this sentiment in their own distinct and varied ways, each taking issue with the very structure of government.

Hacker literacies are the manifestation of such a sentiment, but instead of focusing on mechanisms of government they focus on the mechanisms of the participatory media that currently shape the ways we engage in social, cultural, and political communication. They are civic in that they are based in deeply held values about what our world should look like, though they are not limited to what has traditionally been considered the civic sphere. That artifacts have politics (Winner 1986) and that specific media are themselves messages (McLuhan 1964) are notions that have long been established, and in a world that is increasingly mediated by technology, asking questions about what values are at play in the designs of media becomes a central concern. More important is that these designs are not taken for granted and assumed to be static—not by us and certainly not by future generations.

In the area of education I see a great deal of promise in pedagogical approaches that position kids as makers, tinkerers, and, most important, remixers of technology. Looking to constructionist learning principles, in particular, can form the basis of a pedagogy of critical participation with technology. More than 30 years ago, Seymour Papert opened his foundational book *Mindstorms* with these words:

In most contemporary educational situations where children come into contact with computers the computer is used to put the child through the paces, to provide feedback and to dispense information. The computer is programming the child. In the LOGO environment the relationship is reversed: The child, even at preschool ages, is in control: The child programs the computer. (Papert 1980, p. 19)

I believe communities interested in the intersection of digital media and learning will do well to heed these words and create innovations that follow the ideals at play in the LOGO programming environment: the child must be programming the computer rather than the other way around. Thankfully, many are currently doing so in ways that are a boon for the development of hacker literacies in young people. More and more tools and learning environments—including, among

many others, Scratch (<http://scratch.mit.edu/>; Resnick et al. 2009), Gamestar Mechanic (<http://gamestarmechanic.com/>; Salen 2007), and Mozilla's Hackasaurus (<http://hackasaurus.org/>)—are being developed that aim to position youth as designers of technology. Projects like these have strong potential to develop the fundamental building blocks of hacker literacies and put young people in the role of creators and makers of their own technosocial world. As a society, we must be prepared to provide not just guidance and tools but, most important, must trust that young people have the potential to work with and appropriate these tools to become creators of their own future.

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