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# Hacking Binaries/Hacking Hybrids: Understanding the Black/White Binary as a Socio-technical Practice

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In July 2014, New York City's Department of Housing Preservation and Development approved a separate entrance for residents of 55 affordable housing units in a 33-story luxury condominium on the Upper West Side. Owners of market-rate apartments entered the building through the front riverside lobby, separated from the entry for affordable apartment owners. Moreover, access to many services, such as the concierge, gym and pool, was also reduced for the latter. Many have argued that the inclusion of a so-called "poor door" mediates and proliferates an 'upstairs/downstairs' division between tenants (Cunha, 2014; Harmon, 2014; Navaro, 2014). While criticized by some city officials, it is one of many developments that continues to perpetuate the Black/White binary despite claims that we are living in a post-racial, post-human (Hayles, 2008) and post-digital age.

In this essay, we propose that the "poor door" might be understood as a socio-technical system—an arrangement of humans, technologies, architectures, spaces and policy regimes—that reflects and produces conventional binaries. We focus on hacking as a method that does not move *beyond* binaries but *engages* deeply in and with an object or concept. It is a practice of getting inside the 'black box' of a socio-technological assemblage and re-configuring it beyond that of its original design. The 'black box' is a physically or conceptually sealed technological artifact or system; a state 'characterized by perfect order, completeness, immanence and internal homogeneity rather than leaky, partial and heterogeneous entities' (**Graham & Thrift, 2007, p. 10**).

Hacking presents a way of gaining entry into the inner workings of a 'leaky' artefact or system, to interrogate its sociocultural, gendered, historical and material composition. It requires a positionality, which in turn generates questions such as why we 'get the technologies we deserve' and how and in what ways they 'mirror our societies' (Bijker & Law, 1994, p. 3). Hacking offers a series of tools and techniques to re-configure or change the affordances of phenomena.

We suggest that approaching a seemingly fixed and seamless entity via hacking might allow us to better understand the significance of other binaries that we continue to encounter in Western society such as digital/material, global/local, private/public, individual/community, open/closed and amateur/professional. These are central hybridized themes in our earlier studies of hacking and socio-technical practices in which we studied the ways that their affordances shape socio-economic divides that are underscored by digital inclusion/exclusion. The constant invoking of the hybrid as a stand-in for the complexity, the mess and the complications of everyday life has itself led to a reification that requires hacking of its own. So, it is not a matter of replacing or moving beyond binaries (Smith, 2006) but rather drawing on Science and Technology Studies (STS) to understand how we might simultaneously harness and hack the hybrid as a tool that serves to open up new lines of inquiry. In line with critical, feminist new media and technology studies, we explore how engaging in multiple practices of hacking – theoretical and methodological – might be used as a way of bringing to account the agency of race and the Black/White binary as a tool.

Theories from STS such as actor-network theory (**Latour, 1996**, **2005**) offer the possibility of understanding race and racial categories as socio-technical constructions — complex juxtapositions of the biological, the sociological, the political and the technical — that form and reform, align and misalign, recombine and destroy both hybrid and binary configurations. While these arguments are not unique to STS, having been traced in postcolonial and poststructuralist feminist discourses over the past 30 years, it is useful to articulate them through alternate perspectives and examples. In particular, with an STS framing, which expands understandings of the technological to a wide variety of networks, architectures and systems, we can argue that race is, in fact, a tool, a technology, an actor with particular affordances and limitations that are deliberately designed and negotiated and, also, that can be transgressed and reconfigured.

In combining feminist STS and new media studies, we are interested in acknowledging both the material as well as the representational implications of understanding race as a tool. While one of the strengths of STS is in understanding socio-technical systems and material infrastructures, it has taken longer for the field to incorporate notions around the digital; on the other hand, new media studies has focused to a large extent on the social, psychological and cultural implications of communication technologies and their representations (Boczkowski & Lievrouw, 2007) including representations of race and gender. In particular, Boczkowski and Lievrouw map out three conceptual bridges between the two fields: causality in the relationship between technology and society relationships (understood as technologically determined or socially constructed), the process of technological development, and the social consequences of technological

change (2007). Drawing on these hybrid theoretical traditions, our approach to hacking hybrids (and hacking binaries) seeks to discover – theoretically and methodologically — ways of shaping and transgressing these networked configurations so that race is not merely a tool for control by social, political and economic elites but also a site of meaningful change.

In order to engage in and hack the Black/White binary, we must mobilize understandings of hacking, hybrids and binaries. Gabriella Coleman discusses the "material, affective, and aesthetic dimensions of hacking" (2012, p. 4) in her ethnography of hackers and, in particular, its craft and craftinesss, which refers to the hacker penchant for wit and humor. "Hacking," she writes "embodies an aesthetic where craft and craftiness tightly converge. Hackers thus tend to value playfulness, pranking, and cleverness, and will frequently perform their wit through source code, humor, or both: humorous code" (Coleman, 2012, p. 17). In this definition of hacking, we are reminded to embrace the craft of humor as a means of survival in an unjust world while at the same time employing wit in order to make contributions in the world of scholarship.

Science and technology studies, we believe, is one of the most useful theoretical perspectives to bring to bear on the notion of hybrids, because it is deeply invested in the very practice of studying the entanglements, interminglings and messes that define complex socio-technical issues and 'matters of concern' (Latour & Weibel, 2005) today. Thinking like a hybrid requires multiple affiliations (including those based in gender, race, sexuality, socio-economic status), dual (and ever shifting) identities and an infinite ability to empathize. With respect to multiple affiliations, we can include not only the strengths of combining academic disciplines that have long been separated as well as the ability to traverse terrains of the academic-activist and the scholar-practitioner. A key feature of the hybrid mind is the ability to simultaneously hold multiple analytical categories in ones mind simultaneously. For example, with a specific focus on nature-culture and human-non-human relations, Bruno Latour writes:

we study in detail the work of production of hybrids and the work of elimination of these same hybrids. We then discover that we have never been modern in the sense of the Constitution, and this is why I am not debunking the false consciousness of people who would practise the contrary of what they claim. No one has ever been modern. Modernity has never begun. There has never been a modern world. (1993, pp. 46-47)

Thus, while science and technology studies seeks to understand hybrids, it also acknowledges that we are systematically destroying them at the same time as we attempt to fit society into neat categories. This observation is relevant to our discussion of the Black/White binary in that we simultaneously claim racial hybridity in the name of multiculturalism and the post-racial, while at the same time, reinserting and defending the organization of society into discrete separations as illustrated by the 'poor door' example above.

Yet, we acknowledge that STS is often critiqued for its unilateral treatment of humans and non-humans, which are both attributed agency in the actor-network, and a failure to account for certain kinds of politics. It is, therefore, useful to draw on critical feminist technology studies including Donna Haraway's definition of the dualisms (or binaries) that persist in Western science and culture, which:

have all been systemic to the logics and practices of domination of women, people of color, nature, workers, animals – in short, domination of all constituted as others, whose task is to mirror the self. Chief among these troubling dualisms are self/other, mind/body, culture/nature, male/female, civilized/primitive, reality/appearance, whole/part, agent/resource, maker/ made, active/passive, right/wrong, truth/illusion, total/partial, God/man." (1991)

In addition, Tara McPherson has written about the functionalist nature of discourses around innovation and the reliance on "technology as a quick fix that will fuel creativity, learning, and imagination," "historical discourses about America's uniqueness" and the belief that "simply using the right tools will get the job done" (2008). 'Mirror-tocracy' Mitch Kapor argues, is narrowly defined cultural codes and norms that blinker ways of thinking and forms of participation, and as a result define who gets to participate and who is excluded. It reflects and reproduces one structure at the expense of other socio-technological imaginaries. New technology communities can reflect and, as a result, re-produce many of the same binaries that underpin conventional technology practices – white, male designers hiring 'people like us' which leads to narrow ideas about what technology is and can be used for. As Bueno has written: 'After making such a show of burning down the bad old rules of business, the new ones we've created seem pretty similar' (2014). Critically, this matters because these are large-scale industries that risk producing increasingly narrow forms of technologies. Moreover, these are not insulated systems but highly influential cultures that many copy and replicate globally around the world in their own locals.

#### **Immutable Binaries**

Despite the theoretical and methodological interventions that acknowledge the blurring of discrete binaries and dichotomies, we cannot deny that, for the most part, our societies are still organized around the separation of these categories, and often in brutal and immutable ways similar to the architectural example of the 'poor door.' What follows are a series of examples that illustrate the persistence of the Black/White binary. These passages are intentionally italicized in order to differentiate the main text of the article since they are accounts from Forlano's personal experience:

A few years ago, I was filling out a United States census form for my household. After filling out my own information fairly easily (since I seem to fit into the Black/White binary), I moved on to my husband's information. I was puzzled by the question on race since the form stated "for the purpose of this census, Hispanic is not a race." Currently, race is defined as: White, Black, American Indian, Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, Native Hawaiian, Guamanian, Samoan, Other Pacific Islander, Other Asian or Some other race. The "Some other race" category is new. Since my husband is Mexican American of Spanish and Mayan descent, he did not fit into any of the traditional categories. These categories have been modified slightly in the current version of the census but they are still problematic. In another census question, "Is this person Spanish/Hispanic/Latino?" it is possible to answer: No, Mexican, Other, Puerto Rican or Cuban. However, the question still stands, how should I report my husband's race. I left the question blank.

When polling his family at a get together in the Bronx, his sister reported that she had checked White because "Mommy always said that we were White." However, his uncle, a middle school Spanish teacher, had also skipped the question on race since it did not make sense to him.

This example illustrates the ways in which the technologies of the census form, the survey questions, national and ethnic identities, the social and family context create a complicated juxtaposition of issues around the Black/White binary. Specifically, the navigation of the Black/White binary can differ even within a single family. What follows is another example from Forlano's personal experience:

In 1994 and, again, in 2003, I was sexually assaulted. While the circumstances surrounding each incident were incredibly different, the ways in which the police and law enforcement make assumptions about both victims and perpetrators of crimes continue to reify binary categories about race (as well as other socioeconomic factors). In the second incident, it was after midnight on a Sunday, and I was followed into my building lobby. A neighbor heard me scream, the man ran

out the front door and, soon after, we heard police sirens outside. My neighbor and I walked towards a police car where the man was being arrested. Before we could get more than 10 feet from the police officers, they yelled "Turn around, turn around, turn around." I did. My neighbor explained that I had been attacked. "Was he Black or White, Black or White," the police office retorted.

Without going into too much detail, this example serves to illustrate the ways in which binaries are often inescapable and stubbornly present categories. In these examples, we can see the ways in which socio-technical systems composed of protocols, forms, certificates, skin color, historical precedents, government officials, homes and families work together to either reinforce a particular, hierarchical Black/White binary and how the lived experience of race lies at the crossroads of this terrain, sometimes defying it and other times reinforced by it.

## **Living Hybrids**

We are interested in hybrids as ways of seeing, critically interpreting, making and gaining new understandings of re-combinations and configurations. We are informed by a range of hybridized interventions in theory and practice that hack at the general and conventional around us. We identify as hybrids living in a binary world. First, as interdisciplinary scholars and makers we are constantly negotiating and navigating different communities, discourses and value systems. Second, as women studying what are often very male technological practices, we are very aware of our own ability to participate and/or be excluded from gendered conversations and practices. (*What IS the appropriate response to,* "Dude, I almost blew my load when I saw those servers.") Finally, based on many online exchanges and a few face-to-face conversations over the two years, through a patchwork of technologies and the negotiation of time differences, we coordinated the collaborative and distributed writing of this essay as itself a hybrid activity that followed our own trajectories around the world, with Forlano in New York and Jungnickel in London and Adelaide.

Our earlier research documented the ways in which the socio-cultural and socio-technical practices of technologists—which are both gendered and racialized –are globally distributed and, at the same time, locally constituted and embedded in physical places such as neighborhoods, communities and urban environments. At the same time, we discuss the ways in which digital technologies such as WiFi or hardware hacking in particular are not necessarily tools of global dissemination, and, similarly, material practices are not only locally embedded. Our studies also illustrate the ways in which these practices integrate notions of 'do it yourself' (DIY) and homebrew

practices, which might be likened to those of amateurs, as well as those of high-tech professionals. These socio-technical practices complicate earlier dichotomies of global and local ('spaces of flows' and 'spaces of place' as Castells has argued (1996)), digital and material, and amateur and professional. Rather, our research points to the ways in which hybrid categories such as the globally local, the digitally material and the amateur professional become a lived reality for members of specific kinds of communities and organizations as well as contribute to the development of digital culture more broadly.

In the DiY (do-it-yourself) communities that we have studied in the United States and Australia, hacking was a common practice. Activists climbed on rooftops to create their own communication infrastructures that embedded their own socio-political ideas about equality, access and freedom. For example, they aimed to intervene in issues around the digital divide through the building of low-cost, community-controlled infrastructure (Forlano & Powell, 2011). Hybrids for these groups were an important site of socio-technical practice, material assemblages and technological imaginaries. In our respective fieldwork, we noted how these groups both break away from conventional ideas about large scale industrialized practices and established ways of knowing, offering instead new ways of exploring through doing new patterns of handson, open source, diverse community engagement. They bring to life new entities in the form of hybrid socio-technical organizations that complicate traditional binaries of digital/material, open/closed, amateur/professional, individual/community as well as many others. In our scholarship, we have argued for new theoretical and ontological categories to include different kinds of practices that challenge existing binaries in order to replace the nondescript and unspecified notion of hybrids.

DiY communities also hack these hybrids, indelibly shaping them according to cultural contexts, local environments, the weather, and available materials, producing deeply local, richly cultural customized communications networks (Forlano, 2008; Jungnickel, 2013). On the other hand, while hybrids advance the promise of new technological imaginaries, they can also become reified and imbued with conventional discourses. As such they reinforce existing social relations and, only fleetingly put forth other potential ways of being. In our practice as designers and maker, we have engaged in alternative modes of investigation such as participatory design, clothing design, exhibitions and the creation of artifacts. Like the hackers that we have studied, we have embraced the notion that alternative socio-technical systems can be designed and built

for the purpose of exploring emergent lines of inquiry, raising different questions or experimenting with different 'rules of the game'.

For example, in Forlano's earlier research on community wireless organizations and mobile workers, the gendered and racialized nature of these socio-technical configurations and spaces was apparent in a number of ways (Forlano, 2008, 2009; Forlano & Dailey, 2008). Just doing the research itself — being a women interested in WiFi technology and use — was evidence of the gendered nature of the topic. Pick-up lines were submitted through survey responses. Interviewees arrived only to evade research questions and perform the social conventions of a first date. However, in fact, what was more troubling, was the difficulty of finding women that engaged in mobile work practices – defined as people that spent two or more hours a day working at cafés, parks and public spaces where WiFi was available — to interview at all and the knowledge that just being in public spaces, regularly and repeatedly and becoming recognizable as women was problematic and left us open for harassment (as several male interviewees had observed about their female friends who would no longer work at the café).

Furthermore, turning to the subject of race and the ways in which it is embedded in socio-economic questions around work and workplaces, in 2007, Forlano interviewed an African-American illustrator and web designer who worked regularly out of cafés, which was still considered to be somewhat of an emergent phenomenon at the time. Upon retelling the story in the context of an elite private university, Forlano was asked, "Are you sure that this isn't some kind of loser?" This question signals both arrogance and ignorance in the belief that social practices that defy what is understood to be the norm in a given context, must mark one as deficient, lacking and broken. Indeed, in order to navigate the deeply sexist and racist context of academic research itself, it is necessary to marry a good deal of humor (to brush off the violence) with enough wit to mobilize language and writing as a means of working through injustice and making change in the world.

Jungnickel (2013) did not initially set out to explore the role of women in WiFi, nor directly ask 'where are the women' in her study of community wireless networks in Australia. Yet, given the overt absence of women in the group, gender became a subtext through which other actors and their actions were rendered all the more present. This is not to say women were not involved in everyday activities. Jungnickel encountered many women on the fringes of the wireless network. Wives, mothers, sisters, aunts,

female friends and girlfriends regularly helped source materials, host barbecues, pay for electricity, provide transport to events, care for children, cater for installations, source materials, agree to the use of the backyard, roof or kitchen as sites of WiFi production and otherwise sustain male makers. In many instances they were also keen users of the network once it was in place. Although appreciated and viewed by members as playing a critical role in the network's success, they remained largely hidden behind the scenes. Yet, Jungnickel noted how WiFi group members were acutely aware of the gender imbalance and actively sought to hack conventional ideas about new digital technology as a male hobby. They recognized many of the traditional barriers to entry that inhibited a broader range of people from entering the IT sector and made attempts to address this, such as holding meetings in familiar non-tech spaces such as the centrally located public school, not requiring costly membership or advanced technical skills to join, regularly participating in local community events, encouraging members to bring interested people along and giving them a warm welcome, visually representing complex ideas and emphasizing the sociality of the group. Jungnickel's involvement as a female researcher was also seen by some as an opportunity to represent different aspects and interests of the group and there were regular references to her work on the shared website. What became evident was that the group was not just engaged in hacking the technological and environmental network, unsettling ideas about connectivity and conventional producer/consumer relationships, but was also interested in hacking at theirs and others' socio-technical imaginings of who could do the hacking.

## Hacking Theory

From a theoretical perspective, one way of hacking these persistent binaries, as well as the reified hybrids, is to create new terms, vocabularies and lexicons that allow for new combinations, understandings, tools and devices. These new units of analysis enable us to combine and recombine traditional ideas in new ways. Feminist new media scholars of color have engaged in theoretical hacking around the hybrids that we have encountered in our own studies as well as additional hybrids including the digital/material, online/offline and virtual/real (Coleman, 2011); open/closed, inclusion/exclusion and freedom/control (Chun, 2008; Nakamura & Chow-White, 2013); individual/community, private/public and global/local and amateur/professional (Davidson & Goldberg, 2009; Hong, 1999). Specifically, Coleman and Chun argue that race can be thought of as a tool, and this sociotechnical understanding supports our view that theories from STS may be useful in unpacking the politics of racial binaries as well as racial hybrids.

Adding to feminist new media and technology studies by women of color, we have adopted examples of hybrids from STS, which posit that mundane everyday life is comprised of complex inter-relations of humans and non-humans. The Cyborg (Haraway & Teubner, 1991), Hudogledog (Michael, 2002) and the Citizen-Gun (Latour, 1993) are just a few examples that attend to the idea that seemingly unremarkable artefacts and systems make explicit the familiar and taken for granted ways in which people make sense of and operate in everyday life. Broadly speaking, these studies hold that a close examination of the messy and entangled nature of binaries and dichotomies that are otherwise embedded in the background of everyday life can be can be brought to the surface and investigated. They reveal the complexity, flexibility and relationality of the hybrid.

Human-non-human and socio-technical hybrids are of course not without their own politics (Winner, 1986). Indeed, actor-network theory and STS aims not to erase politics but to attribute them to a wider range of actors. The Hudogledog for instance – a combination of human, dog lead and dog – is human-centered, with the human owning and controlling the dog, and the leash as a technology of control brings up a gendered and racial domination. The leash has certain affordances (Gibson, 1977; Norman, 1990) depending on the way in which it is appropriated and used. For example, it could be hacked and used differently (as a decorative appendage) or subverted so that the dog would run free while the human remained tethered. Furthermore, we cannot easily detach the imagery of the leash from our present and historical realities—leash as chains of slave domination, leash as sexual subjugation or leash as digital tether to one's workplace. This nuanced complexity illustrates the tensions between the materialist and the representational approaches of science and technology studies and new media studies as well as how a critical feminist new media and technology studies lens is necessary to re-interpret these examples.

Another example by Michael (2004) reinforces the potential of hybrids as a unit of analysis. He recounts the story of the 'disastrous interview' whereby a conversation between two humans was interrupted and diverted from an expected trajectory by the presence of a cat who interfered with the tape recorder, a dog that took a liking to the interviewer's feet and an interviewee who had different ideas about the content of the interview. Drawing on Serres (1982), he proposes multiple modes of analysis, which do not seek to eliminate the 'parasites' from the fieldwork episode. This includes a number of co(a)gent hybrids such as the 'pitpercat' – a pit bull terrier, person and cat and the 'intercorder' – interviewer and recorder. Michael suggests several implications of

this approach, one of which is pertinent to the task of hacking binaries. In trying to incorporate nonhumans into sociological analysis in a way which does not have recourse to entrenched dichotomies, it is necessary to alter the unit of analysis' (2004, p. 19). What this and other hybrid STS examples present us with are methods of looking at new combinations of co(a)gents of humans and non-humans that we would otherwise overlook or ignore.

## **Hacking Method**

From a methodological perspective, feminist new media theorists have argued for the creation of hybrid methodologies (**McPherson**, **2008**) that cross disciplinary boundaries.

In recent years, scholars, designers, artists and practitioners have become interested in engaging in the hands-on creation of artefacts and prototypes (both physical and digital) that make complex philosophical arguments (Galey & Ruecker, 2010), often defying the binary categories that are present within Western scientific traditions and manifested through language. In fact, one of the challenges in hacking binaries and hacking hybrids, is that it is necessary to invent and disseminate news kinds of language in order to cope with their complexity. While these hybrid approaches are often deeply informed by theory, the hands-on material engagement with things (Ingold, 2010) offers new juxtapositions, configurations and possibilities. And, as artifacts and prototypes, they can demonstrate and embody new ways of thinking by becoming viral and scalable examples of new social processes.

Examples of these hybrid methodologies include inventive methods (Lury & Wakeford, 2012), public ethnography (Gans, 2010) as well as the creation of artifacts (Belman, Flanagan, Nissenbaum, & Diamond, 2011; Jungnickel & Hjorth, 2014; Jungnickel, 2014), performances (Orr, 2006; Watts, 2012), tactical and locative media (Cardenas, Carroll, Dominguez, & Stalbaum, 2009), exhibits (Latour & Weibel, 2005; Townsend, Forlano, & Simeti, 2011) and constituencies through workshops and events (Greenspan, Lindtner, & Li, 2014; Loukissas, Forlano, Ribes, & Vertesi, 2013). Moreover, the engagement in alternative formats for scholarship is itself a feminist approach as the FemTechNet community has espoused. For example, Micha Cardenas' performance in Second Life seeks to overcome binaries such as mind/body, real/virtual and self/other (Cárdenas, Head, Margolis, & Greco, 2009). Furthermore, there is a long history of the importance of art and music in cultivating activist identities and communities such as 'hip hop feminism' (Durham, Cooper, & Morris, 2013).

An interesting example from artistic practice is the exhibition "Color Bind: The MCA Collection in Black and White" at the Museum of Contemporary Art in Chicago by the artist and philosopher Adrian Piper. Piper presents a video installation called "Cornered" in which she affirms her black identity. Alongside the video are her father's birth certificates: on one of them he is categorized as white while on the other he is 1/8 Black or octoroon. Then, in September 2012, she creates a digital self-portrait "Thwarted Projects, Dashed Hopes, A Moment of Embarrassment," which declares:

## Dear friends,

For my 64<sup>th</sup> birthday, I have decided to change my racial and nationality designations. Henceforth, my new racial designation will be neither black nor white but rather 6.25% grey, honoring my 1/16 African heritage. And my new nationality designation will be not African American but rather Anglo-German America, reflecting my preponderantly English and German ancestry. Please join me in celebrating this exciting new adventure in pointless administrative precision and future institutional control.

While this declaration of retiring from one's race may seem ironic, there is much sociological research on the fluidity of racial categories over time, which illustrates that life events and socio-cultural contexts may have an impact on the ways in which people and those that they interact with perceive their racial identity (**Penner & Saperstein, 2008**; **Saperstein & Penner, 2012**). This example illustrates that, in some ways, binaries have replaced earlier categories that were more nuanced for the purpose of racial subjugation.

#### Conclusion

This essay has argued that hacking offers a way of critically approaching the Black/White binary as a tool or technology in order to re-examine emergent hybrids that are important to feminist new media and technology studies. By drawing on science and technology studies, we hope to contribute to theoretical hacking across discourses about race, gender and class as well as those around technology, new media and socio-technical systems more broadly. Through our own scholarship and making, we also advocate for the continued exploration of alternative methods and formats for interrogating complex constructs in line with feminist new media and technology studies in order to create new artifacts and objects through which to advocate for racial, gender and socio-economic equality.

Hybrids have a very real pulse. Rather than accepting them as such, we must continue to hack at them in order to create new, more nuanced definitions that in turn can create new logics and ways of thinking, making and understanding. As sociologists and designers, we know that reality is much more nuanced than the dichotomies that define our language, behaviors and ways of thinking but one cannot deny that the binaries (and race itself) as technologies whose affordances continue to structure everyday life through architectures, institutions and governments. Despite the socio-technical barriers that continue to separate people such as the census categories, the 'poor door' or the re-segregation of neighborhoods and schools, there is evidence that a post-racial, post-human and post-digital world is possible. In order to bring about genuine change, we must continue to build feminist tools that embody alternative forms of knowledge and integrate the values of diversity and pluralism (Escobar, 2012).

# **Bibliography**

Belman, Jonathan, Flanagan, Mary, Nissenbaum, Helen, & Diamond, Jim (2011). *Grow-A-Game: A Tool for Values Conscious Design and Analysis of Digital Games.* Paper presented at the Proceedings of DiGRA 2011 Conference: Think Design Play, Hilversum, The Netherlands.

Bijker, Wiebe E., & Law, John (Eds.). (1994). *Shaping Technology / Building Society:* Studies in Sociotechnical Change Cambridge, MA: MIT Press.

Boczkowski, P. J., & Lievrouw, Leah A. (2007). Bridging STS and Communication Studies: Scholarship on Media and Information Technologies. In E. J. Hackett, O. Amsterdamska, M. Lynch & J. Wajcman (Eds.), *New Handbook of Science and Technology Studies*. Cambridge, MA: MIT Press.

Bueno, Carlos. (2014). Inside the Mirrortocracy. Retrieved from http://carlos.bueno.org (http://carlos.bueno.org)

Cardenas, Micha, Carroll, Amy Sara, Dominguez, Ricardo, & Stalbaum, Brett. (2009). The transborder immigrant tool: Violence, solidarity and hope in post-nafta circuits of bodies electr (on)/ic. *Mobile HCI, University of Bonn, September, 15*.

Cárdenas, Micha, Head, Christopher, Margolis, Todd, & Greco, Kael. (2009). *Becoming Dragon: a mixed reality durational performance in Second Life.* Paper presented at the IS&T/SPIE Electronic Imaging.

Castells, Manuel. (1996). *The Rise of the Network Society*. Malden, MA: Blackwell Publishers.

Chun, Wendy Hui Kyong. (2008). *Control and freedom: Power and paranoia in the age of fiber optics*: MIT Press.

Coleman, Beth. (2011). *Hello Avatar: Rise of the Networked Generation*. Cambridge, MA: MIT Press.

Coleman, Gabriella. (2012). *Coding freedom: the ethics and aesthetics of hacking*. Princeton, NJ: Princeton University Press.

Cunha, D. (2014, August 1). What it's like to live in 'Poor Door' housing. Time.

Davidson, Cathy N, & Goldberg, David Theo. (2009). *The future of learning institutions in a digital age*: The MIT Press.

Durham, Aisha, Cooper, Brittney C, & Morris, Susana M. (2013). The stage hip-hop feminism built: A new directions essay. *Signs, 38*(3), 721-737.

Escobar, Arturo. (2012). *Notes on the Ontology of Design*. University of North Carolina, Chapel Hill.

Forlano, L., & Powell, A. (2011). From the Digital Divide to Digital Excellence: Global Best Practices for Municipal and Community Wireless Networks. Washington, D.C.: New America Foundation.

Forlano, Laura. (2008). Anytime? Anywhere?: Reframing Debates Around Community and Municipal Wireless Networking. *Journal of Community Informatics, 4*(1).

Forlano, Laura. (2009). The Invisible Politics of the Public Airwaves. Retrieved February 10, 2010, from http://www.nycwireless.net/2009/10/the-invisible-politics-of-the-public-airwaves (http://www.nycwireless.net/2009/10/the-invisible-politics-of-the-public-airwaves)

Forlano, Laura, & Dailey, Dharma. (2008). Community Wireless Networks as Situated Advocacy. New York, NY: The Architecture League of New York.

Galey, Alan, & Ruecker, Stan. (2010). How a prototype argues. *Literary and Linguistic Computing*, *25*(4), 405-424.

Gans, Herbert J. (2010). Public ethnography; ethnography as public sociology. *Qualitative Sociology, 33*(1), 97-104.

Gibson, J.J. (1977). The theory of affordances. In R. Shaw & J. Bransford (Eds.), *Perceiving, Acting and Knowing* (pp. 67-82). New York: Wiley.

Graham, S., & Thrift, N. (2007). Out of Order: Understanding Repair and Maintenance. . *Theory, Culture & Society, 24*(3), 1-25.

Greenspan, Anna, Lindtner, Silvia, & Li, David. (2014). Hacked Matter. Retrieved June 12, 2014, from http://www.hackedmatter.com (http://www.hackedmatter.com)

Haraway, Donna Jeanne. (1991). A cyborg manifesto: science, technology, and socialist-feminism in the late twentieth century. *Simians, cyborgs and women: The reinvention of nature*, 149-181.

Haraway, Donna, & Teubner, Ulrike. (1991). Simians, cyborgs, and women: na.

Harmon, L. (2014, July 26). New York's 'poor door' policy reverts to old prejudices, *The Boston Globe*. Retrieved from http://www.bostonglobe.com/opinion/2014/07/25/new-york-poor-door-policy-reminiscent-bad-old-days/K77CHSlVWMx2j7iMpkGxCJ/story.html (http://www.bostonglobe.com/opinion/2014/07/25/new-york-poor-door-policy-reminiscent-bad-old-days/K77CHSlVWMx2j7iMpkGxCJ/story.html)

Hayles, N Katherine. (2008). *How we became posthuman: Virtual bodies in cybernetics, literature, and informatics*: University of Chicago Press.

Hong, Grace Kyungwon. (1999). "Something Forgotten Which Should Have Been Remembered": Private Property and Cross-Racial Solidarity in the Work of Hisaye Yamamoto. *American Literature*, 291-310.

Ingold, Tim. (2010). Bringing things to life: creative entanglements in a world of materials. *World*, 44, 1-25.

Jungnickel, K., & Hjorth, L. (2014). Methodological entanglements in the field: Methods, transitions and transmissions. *Visual Studies*, *29*(2), 136-145.

Jungnickel, Kat. (2013). DiY WiFi: Re-imagining Connectivity. London: Palgrave.

Jungnickel, Kat. (2014). Bikes & Bloomers. Research website for the ESRC funded 'Freedom of Movement: the bike, bloomer and female cyclist and late nineteenth century Britain. Retrieved June 12, 2014, from http://bikesandbloomers.com (http://bikesandbloomers.com)

Latour, Bruno. (1993). We Have Never Been Modern. Hemel Hempstead, UK: Harvester Wheatsheaf.

Latour, Bruno. (1996). On actor-network theory: a few clarifications. *Soziale welt*, 369-381.

Latour, Bruno. (2005). *Reassembling the Social: an introduction to actor-network-theory*. Oxford: Oxford University Press.

Latour, Bruno, & Weibel, Peter. (2005). *Making things public: atmospheres of democracy*. Cambridge, MA: MIT Press.

Loukissas, Yanni, Forlano, Laura, Ribes, David, & Vertesi, Janet. (2013). digitalSTS and Design. Retrieved June 12, 2014, from http://stsdesignworkshop.tumblr.com (http://stsdesignworkshop.tumblr.com)

Lury, Celia, & Wakeford, Nina. (2012). *Inventive Methods: The happening of the social.* New York: Routledge.

McPherson, Tara. (2008). A Rule Set for the Future. In T. McPherson (Ed.), *Digital Youth, Innovation, and the Unexpected* (pp. 1-26). Cambridge, MA: The MIT Press.

Michael, M. . (2002). *Reconnecting Culture, Technology and Nature: From Society to Heterogeneity.* London: Routeledge.

Michael, M. . (2004). On Making Data Social: Heterogeneity in Sociological Practice. *Qualitative Research*, *4*(1), 5-23.

Nakamura, Lisa, & Chow-White, Peter. (2013). Race after the Internet: Routledge.

Navaro, M. (2014, August 26). 'Poor Door' in a New York Tower Opens a Fight Over Affordable Housing, *The New York Times*. Retrieved from

http://www.nytimes.com/2014/08/27/nyregion/separate-entryways-for-new-york-condobuyers-and-renters-create-an-affordable-housing-dilemma.html

(http://www.nytimes.com/2014/08/27/nyregion/separate-entryways-for-new-york-condo-buyers-and-renters-create-an-affordable-housing-dilemma.html)

Norman, Donald A. (1990). The Design of Everyday Things. New York: Doubleday.

Orr, Jackie. (2006). *Panic diaries: a genealogy of panic disorder*. Durham, NC: Duke University Press.

Penner, Andrew M, & Saperstein, Aliya. (2008). How social status shapes race. *Proceedings of the National Academy of Sciences, 105*(50), 19628-19630.

Saperstein, Aliya, & Penner, Andrew M. (2012). Racial Fluidity and Inequality in the United States. *American journal of sociology, 118*(3), 676-727.

Serres, M. (1982). The Parasite. Baltimore, MD: Johns Hopkins University Press.

Smith, A. . (2006). Heteropatriarchy and the Three Pillars of White Supremacy. In Incite! (Ed.), *The Colour of Violence: The Incite! Anthology*. Cambridge, MA: South End Press.

Townsend, Anthony, Forlano, Laura, & Simeti, Antonina. (2011). Breakout! Escape from the Office: Situating Knowledge Work in Sentient Public Spaces. In M. Shepard (Ed.), *Sentient City*. Cambridge, MA: MIT Press.

Watts, Laura. (2012). The Design Mailboat. Retrieved June 12, 2014, from http://www.sand14.com/?p=277 (http://www.sand14.com/?p=277)

Winner, Langdon. (1986). "Do Artifacts Have Politics?". In L. Winner (Ed.), *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (pp. 19-39). Chicago: University of Chicago Press.

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# 3 THOUGHTS ON "HACKING BINARIES/HACKING HYBRIDS: UNDERSTANDING THE BLACK/WHITE BINARY AS A SOCIO-TECHNICAL PRACTICE"

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