Infrastructural Strangeness in Virtual Spaces

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A project on interracial dating online provides the backdrop for a survey on the conceptual frameworks available for research in the folds of race and virtual spaces. This essay discusses some of the methodological challenges that might be encountered, and relies on past work as guideposts for negotiating the tricky nature of virtual environments. The difficulty of examining website infrastructure, particularly the technologies used by dating websites to sort, profile, store, and filter, is the central problem. Using Susan Leigh Star's (1999) notion of infrastructure—the invisible, embedded, systems that orchestrate the background—I suggest the infrastructure of dating websites can allow users to discriminate in ways that are not possible in real life. I propose that research situated at the intersection of race and virtual spaces would benefit by looking more closely at the built environments that scaffold social relationships and practices.

Keywords: race, internet, infrastructure, categorization, dating websites, interracial relationships.

The internet is a revealing platform to examine the contours of interracial dating. Today many singles in North America live in increasingly multiethnic and cosmopolitan environments where lingering stigma around mixed unions are fading (Pasel et al. 2009; Milan et al. 2010) Examining this gradual social shift through the lens of interracial dating online can provide insight on current race relations, and reveal a trajectory from racial tolerance to racial embracement (Yancey 2002).

Interracial relationships have increased largely due to the more accepting attitudes of young people; given that the same demographic is the most active online, it is fair to assume that their liberated outlook is carried to their online dating practices (Passel et al. 2009; Madden and Lenhart 2006).1 While there is much to be celebrated, there is also room to examine how persistent racial prejudices are reinscribed in new platforms and in new epochs. An illustration of how racial prejudices, interracial dating, and virtual spaces intersect can be found in a 2009 blog post released by the popular dating website OkCupid.2 This provocative report titled "How Your Race Affects the Messages You Get", tallied the reply rates from one million of the site's seven million active users, and revealed troubling patterns of racial exclusion. The most controversial claims in the report suggested that black

women received disproportionally less responses from all races of men, while white men were disproportionally preferred by women of almost all races (Rudder 2009). As expected, the report moved through the blogosphere lauded, contested and heavily debated; to date, at over 1500 comments, it is the site's most discussed post. Amid the brouhaha, I wondered if dating websites allowed users to date *differently*? Specifically, does the infrastructure of dating websites serve to augment, preserve, or mitigate real-life barriers to interracial, interethnic and intercultural relationships? By providing singles with the features to sort, profile, and filter, are users able to discriminate in ways that are not possible in real life? Could the infrastructure be returning users to regressive dating pools and practices?

While discussing these very questions with my professor, he quickly challenged my preoccupation with the structural aspects of the websites. He interrupted my effusive, "but the websites do X, and the websites do Y…" and sketched out a simple Venn diagram where the sphere of user practice imbricated the sphere of website infrastructure: the answer to my questions resided in the overlap. Indeed, Star and Bowker (2007, 277) who have written extensively about structure, point out that "the choice does not lie between formal architecture and lived experience—the

unit of analysis is in their intersection". Yet, I couldn't deny that I was especially troubled by the websites themselves—the ways in which users were encouraged to interact with the interface, the mystery of what took place *behind* the screen. This inability to orient oneself within structure can be thought of as 'infrastructural strangeness'; "infrastructural strangeness is an embedded strangeness…that of the forgotten, the background, the frozen in place" (Lampland & Star 2009, 18). Behind a visually pleasant interface hides a technically sophisticated system of databases, algorithms, categorization, and code that ultimately processes and delivers users' desires. Using my project on interracial dating websites as a backdrop, this essay discusses some of the analytical approaches available to research in the folds of race and virtual space, with particular attention given to the unique challenge of infrastructure.

Background

Early attitudes on the internet remind me of a line from a 1963 poem by Bob Dylan: *You need a Greyhound bus that don't bar no race, that won't laugh at your looks, your voice or your face* (Dylan). He uses the analogy of a Greyhound bus to suggest that discrimination is integrated into the routine systems of our everyday lives. The transportation platform Dylan alludes to parallels the virtual platform of the internet which, to this day, echoes similar

utopian ideals. At first glance, the internet could "bar no race" given that its unrestricted network consisted of seemingly "invisible" users (Turkle 1996; Nakamura 2002). Research on the digital divide represented the first substantive challenge to these assumptions. Numerous studies examined the political, social, and economic reasons that some groups—many of which were people of colour—encountered barriers to access and participation on the internet (Hoffman & Novak 1998; Nakamura 2002). Nakamura underscores that "people of color were functionally absent from the internet at precisely the time when its discourse was acquiring its distinctive contours" (2002, xii). While concerns of access and participation have quieted with increased worldwide adoption of the internet, there are still critical voices emerging. For example, Dalhberg (2007) challenges the rhetoric of "universal access". Presumably, it could "end up supporting the dominant discourse—attracting people into spaces of liberal capitalist practice while obscuring this structuring of online space, the associated asymmetries of power and the lack of any significant institutional change" (Dalhberg 2007, 838). Both Nakamura and Silver (2006) challenge internet researchers to consider the subtle ways in which virtual environments function as communicative technologies that shape social relationships and attitudes about race.

In the introduction to David Silver's (2006) anthology *Critical Cyberculture Studies*, he calls for the re-centering of marginalized voices by insisting the field approach "cultural difference— human elements of race and ethnicity, gender, sexuality, age, and disability—not as an afterthought or a note inserted under 'future studies' but, rather, front and center, informing our research questions, frameworks, and findings" (2006, 8). Given the nature of my project, I find Silver's petition relevant. However, his emphasis on the "human element" overlooks the perplexing work of *non* human agents, the invisible machinery ordering a seemingly nebulous space.

Science and technology scholars have contributed much along the continuum of social practice and the built environment. Bruno Latour (1996) for example, argues that purely technical things can influence behaviour, morality, and even discriminate in ways that go unnoticed; seat belts and doorstops illustrate this phenomenon. Winner (1985, 26) posits that the material, physical, and structural components of technology "embody specific kinds of power and authority"; in this sense, technology is not neutral; it is a *political* artefact, an "exercise of power and experience of citizenship". Winner was referring to the bridges in Long Island, New York, constructed during the 1920's up until the 1970's. He was

of the opinion that the bridges were wilfully designed low-hanging to "limit access of racial minorities and low-income groups" from the public parks and beaches (1985, 28). While the creditability of Winner's provocative case has been a source of much dispute (see Cooper & Woolgar 1999; Joerges1999) there is an important question that emerges. Asking who are *not* served by a particular built environment is one method researchers can use to begin uncovering what seeks to be hidden (Lampland & Star 2009, 17). Applying this question to dating websites, it strikes me that those philosophically open to interracial relationships, and an overall more meritocratic approach to dating, might find the technical systems used to ensure matching and compatibility—categories, clickable boxes for race, defaulting settings, and so on—working to discriminate.

Methodological Challenges in Virtual Space

The village matchmaker and newspaper personals have paved the way for the newest rendition of mediated matching: dating websites. Since they exist online, the characteristics of virtual spaces become an indelible part of this old, yet still awkward, dance. Whether it be hyperlinks or the cacophony of co-produced medias; the jerky tension between the ephemeral and profoundly permanent; or the mixed blessing of audience participation;

the internet and its various capillaries, present researchers with a number of distinct challenges.

Studies on race and the internet frequently turn to discussion boards as a source of available "unfiltered" discourse. Peter Chow-White's (2006) project looks at 1363 discussion board postings on sex tourism websites to identify the larger conversations around race, gender, sexuality, and economics. He comments on the complexity of parsing this kind of amassed data:

From a micro point of view, they are part of a particular discussion string and, at the macro level, each contributes to an evolving discursive formation about sex tourism. The overall narratives that structure sex tourism stories are evolving in the sense that the mechanism of user feedback constantly pushes the discursive possibilities and actual boundaries of the board in terms of its size. The readers are also writers. None of the posts is a self-contained unit (Chow-White 2006, 888).

Chow-White compares this virtual space to Foucault's position on the intertexuality of books "beyond the title, the first lines, and the last full stop, beyond its eternal configuration and its autonomous form, it is caught up in a system of references to other books, other texts, other sentences: it is a node within a network" (as quoted in Chow-White, ibid). The difficulty resides in

containing a specific site of analysis in an environment that is always kinetic and always morphing.

Another tricky aspect of virtual spaces is evident when traditional media and new media converge. André Brock (2009) points to such tensions in his paper "Life on the Wire: Deconstructing race on the internet". The Wire, an acclaimed HBO series that fictionalized realistic narratives of Baltimore city urban life, is the topic of discussion on Freakonomics, a popular blog on the *New York Times* news website. Brock highlights the layers that inevitably spill into each other:

> This article looks at four elements: the New York Times website, which through a combination of professional ethos and code, fostered a venue for civil public discussion about race. The television show The Wire serves as a topical focus for the third element, the blog Freakonomics. In the blog, race was articulated by the fourth element – the commenters and the blogger – in terms mediated by the show as well as by the forum in which the discussions were presented. The four elements: environment, culture, internet, and audience combined to present an internet experience that opened up understandings of American race relations (2009, 345).

For this media tier, Brock proposes Critical Technoculture Discourse Analysis (CTDA) as an interpretative method for examining internet phenomena within a sociocultural media matrix (2009, 345). Why do traditional examinations of talk, text, and technology not suffice? Hales et al. argue that "a solely discursive analysis or solely technological analysis would, by necessity, obscure important interactions between discourse and technology" (Hales et al. 2009, 1046). CTDA, then, attempts to address the manifold media types that permeate virtual spaces, as well as the rich discourses they stimulate.

Methods such as critical discourse analysis (CDA), despite the limitations suggested above, are frequently used by researchers looking at race and the internet. Dating websites produce a variety of talk and texts; advertising copy, personal advertisements, discussion boards, design, images, graphics, user photos and such. For example, the pictures of blissful (white) couples or attractive (white) women that greet users on the homepages of all the most popular websites, reflect normative assumptions about what constitutes compatibility and desirability in couples. Furthermore, CDA considers the sensorial experience of media, creating a valuable opportunity to study users' interactions with new communication technologies:

> As a medium for the social construction of meaning, discourse is never solely linguistic. It op-

erates conjointly with vocal and visual elements (depiction, gesture, graphics, typography), in the context of meaning-laden architectures, with the semiotics of action itself, and with music or other extra-linguistic auditory signs. Its form is constrained by the media through which it moves (Fairclough et al. 2004, 5).

While Fairclough describes a rich site for analysis, the quote sidesteps the complexity of trying to see these "meaning-laden architectures" or the framework constraining the discourse. Indeed, the best structural systems disappear as it is "designed to become invisible as it is stabilized" (Lampland & Star 2009, 207; Bowker & Star 1999). Herein lays the challenge in wanting to understand the black box of dating websites.

Infrastructural Strangeness

"Technology proposes itself as the architect of our intimacies" (Turkle 2011, 1). This terse assessment on the material that brings texture to our modern relationships is a useful prologue to the question of whether dating websites allow us to date *better*. The ways in which dating sites both constrain and enable certain kinds of unions is partly related to the nature of the material and its arrangement. Approaching structural elements that are not readily visible (or knowable) can leave researchers feeling ill-equipped. Infrastructural

inversion provides a conceptual tool for exposing hidden work. By turning infrastructure inside out, one can foreground the truly backstage elements of work and practice (Star 1999, 380; Bowker & Star 1999, 34). Star (1999) provides a number of "tricks"—essentially, defining characteristics of infrastructure— that help with infrastructural inversion. For simplicity, I have focused on a few of the characteristics that are especially relevant to my project:

1) Infrastructure is embedded in other structures, social arrangements, and technologies.

2) Infrastructure requires a great deal taken-for-grantedness or naturalized familiarity with the processes and conventions in order for it to be successful.

3) Infrastructure becomes visible upon breakdown.

Certainly, dating websites are comfortably ensconced in larger social arrangements and technologies. For instance, sociological research suggests that potential partners are *first* screened on similarity of physical characteristics, and *secondly* on psychology and/or culture similarities (McIntosh et al. 2007). When people do cross romantic racial boundaries, they typically feel that the social distance between groups is small and that the propinquity is great (Yancey 2007; Park 1924).[3] These practices are unlikely to be disturbed when dating habits move to a virtual platform.

Embeddedness cushions standards which at one time may have been questioned, but eventually come to feel natural, comfortable, and operate, for the most part, unnoticed and unchallenged. Banking, shopping, watching movies, checking email, catching up on news, talking to friends, and yes, even dating, can feel like a one continuous motion when online. An otherwise consequential "click" to eliminate a specific racial group on a dating website might be framed along with other more efficient, time-saving actions that take place online. The longstanding practice of ticking boxes for race on paper, and later electronic forms, have now become engrained into the woodwork of dating websites.

In a book about young people and the digital world, Craig Watkins (2009) writes that "race is a kind of 'inconvenient truth' for evangelists of the social web" (76). He is referring to a utopian imagination that sees the internet as an extension of the American Dream, imbued with ideals of democracy, pluralism, diversity, and emancipation from identities stamped to the body (Dyson 1994; Nakamura 2002; Turkle 1995). Recent scholarship that looks at online dating practices, however, draws attention to the breakdown of these ideals. Feliciano and Robnett (2011) and Yancey's (2007) work in the field of sociology reveals patterns of racial exclusion in online dating, buttressing OkCupid's claim

that race does in fact play a role in online dating choices. A deeper understanding of infrastructure includes considering those that are not served by a particular way of ordering, such as the marginalized groups that exist on dating websites (Star 1999; Lampland & Star 2009).

Categories—indeed, a salient feature of dating websites—can exert power, torque, and fail on a mass scale. Bowker and Star's concept of "torque" is worthy of pause; it refers to a kind of biographical mangling that occurs when classification systems go awry, when people can't be easily categorized, or when systems enforce categories that conflict with ones biography (2000, 225). The authors use the case of apartheid to illustrate how racial categories can weld lives, especially as they relate to personal and intimate relationships.

Apartheid serves as an extreme example of what can happen when rigid categories are evoked. Under apartheid, sex between racial groups was criminalized to the extent that police were diligently involved in the imitate affairs of people; "more than 11, 500 people were convicted of interracial sex; anything from a kiss on up" (Bowker & Star 1999, 198). Putting aside obvious differences in the scale of consequence, apartheid's heartbreaking example allows us to seriously consider the problematic ways in which dating websites use categories:

Not all systems attempt to clas-

sify people as globally, or as consequentially, as did apartheid; yet many systems classify users by age, location, or expertise. Many are used to build up subtle (and not-so-subtle) profiles of individuals based on their filiations to a myriad of categories. In the process of making people and categories converge, there can be tremendous torque of individual biographies…For these people the infrastructures that together support and construct their identities operate particularly smoothly (though never fully so). (Bowker and Star 2002, 225)

Expanding on the idea that good structures are mostly invisible, Peter Chow-White's (2009) research on the HapMap project demonstrates how conduits of information on race are subtlety concealed. The HapMap project focuses on the ways in which humans are genetically different, while its parent, the Human Genome Project, looks at how we are 99.9% the same. While both international projects use the human genome and similar technical information systems, their goals and subsequent racial frames are vastly different. Chow-White contends that where race was once seen as biological, and more recently as cultural, it has now been transformed into information bits: the "informationalization of race" (221).

These informational infrastructures, made up of databases, the internet, and code, play a constitutive role in social, political, cultural, and scientific processes…the myriad of decisions that go into creating information technologies and the attitudes and values that are written into code become hidden behind the frontend interfaces. (222)

There are moral implications to how information travels, on which pathways, to what destination, and to what social effect.

Mobilizing race as information seems to be one of the ways in which dating websites can sidestep the messiness of racial categories. In our current environment where careful, non-racial, colourblind language inflects the way we talk about race, racial difference is often constructed as cultural differences (Bonilla-Silva 2006). Rendering race as information is not only a design feature of the dating websites, it may also serve to frame users perceptions of the choices they make. For example, Match.com places height, body type, eye colour, and hair colour under the "Appearance" rubric. The choices of race/ethnicity are found under "Background / Values" (faith, language and education are also included there). The decision to place race/ethnicity in a more cultural category, rather than the appearance category is consistent with our current racial discourse (Bonilla-Silva 2006). Situating race/ethnicity within Background/Values

allows users who want to exclude certain races, to do so without feeling like they are making a decision based on racial phenotype. Instead, race is situated along side "faith", as almost a lifestyle choice. In this way, "information" based on race is softened, neutralized, and made nearly invisible by way of infrastructure.

A Practical Model

Acknowledging the sway of infrastructure doesn't necessarily require a complete overturning of a complex organizing system. Jenny Davis' (2010) work provides a simple model that considers the role of both practice and structure. Her paper, "Architecture of the personal interactive homepage: constructing the self through MySpace" looks at how the physical structure of MySpace homepages influences self presentation and online identity formation (Davis 2010, 1108). She acknowledges that like the real world, "physical structuring (or architectures) of [online] space has a very real impact upon the ways in which action and interaction are organized within it" (Davis 2010, 1104). Along with traditional ethnographic methods such as interviews, she also chooses to build her personal MySpace page from scratch.

This straightforward approach allows her to pay close attention to the taken-for-granted actions that become an entrenched part of the built environment's many layers. In an interview, Susan Star comments that despite the habitual ways in which technology is utilized, there is real absence of research on its everyday practice. She suggests researchers most often tackle the big questions—for example, the pervasiveness of social networking sites—without paying attention to the routine uses of technology (Zachry 2008, 446). By building a MySpace page from the bottom up, Davis as user and researcher is able to shed some light on these overlooked customs.

Davis' research shows that MySpace users share different types of information, with different intentions and different levels of awareness. While this claim is modest, she is still able to draw conclusions about the role of structure: "The point is that the architecture of MySpace, by providing templated biographical categories, a *top friends* section, and the open-ended *about me* section, provides a format for actors to overtly disclose who they are" (Davis 2010, 1111). Later on, she says, "the point is not that all users do contextualize their presentation, but that the architecture of MySpace gives actors the opportunity to contextualize their presentations (Davis 2010, 1113). Admittedly, I was first underwhelmed with Davis' conclusion; this is obvious, I thought. However, my reaction was a direct result of infrastructure's lull, a complete taken-for-grantedness that allows it to be overlooked as the central artefact for study.

The presence of clickable boxes and input fields on dating sites are used to describe potential partners in terms of skin colour, eye colour, hair colour, geography, personality and many other physical and social characteristics. Similarly to Davis, I surmise that research will reveal the somewhat boring conclusion that users chose to date someone (of filter a certain type of individual out) based on a variety of factors. While this is not terribly novel, the role of structure in facilitating a more profound way of profiling, sorting, and filtering, might be. For example, sites such as Match.com, eHarmony.com, and Chemistry.com all require postal codes to move past the homepage and begin actually browsing profiles. The postcode field operates as "key" to go through the next door, to open the next page. If a user chooses not to enter their postal code, perhaps, as way of subverting their fixed location, the website will read the IP address and present users with matches closest to them geographically. This kind of default setting can impose filters on those who may actually be making the choice not to exclude. Furthermore, postal codes don't always correspond with racially or ethnically diverse neighborhoods.

Conclusion

Nakamura (2006, 30) asserts that much of what is available to students doing work in the cross-hairs of race and cyberculture is inadequate in its most fundamental purpose—helping students "analyze actual interfaces and new media objects". Teachers and scholars too are at a loss "if they are trying to teach theory, cultural difference, and cyberculture studies together" (ibid.) Similarly, there are insufficient resources for studies pertaining to what occurs *beyond* the interface. Because structures categorize, sort, name, torque, and enforce standards on such a large scale, but also disappear like white paint on walls, it is easy ignore the role they play in off and online movements. Likewise, this invisible work ends up being neglected in our critical scholarship as well. While Star and her colleagues have provided a solid grounding for social scientists to approach the work of structure, many questions remain. Given how these systems of information and code organize the picayune to the global, escaping classification altogether is impossible. Is classification always exclusionary and problematic? Are there *better*, more democratic ways to classify? Can systems be made stable without sacrificing transparency? The language of algorithms, databases, and computer code can be disorienting and baffling for the lay researcher so then, *how far is too far*, or whether one has looked far enough remain important considerations. The goal of the social scientist must be to keep the highly technical aspects tethered to their real world applications and effects.

As it stands, the tools we have to analyze virtual space and their invisible structures are still in the coals, ready to be employed in burgeoning research on race and the internet.

Endnotes

[1] Madden and Lenhart found that the largest percentage of online daters was among 18-29 year olds. Passel et al. found that those 25 and younger were the most likely to marry out. This percentage declines as an increase in age.

[2] This post was released on OkCupid's sister site OkTrends, described as providing "original research and insights from OkCupid. We've compiled our observations and statistics from hundreds of millions of OkCupid user interactions, all to explore the data side of the online dating world." Both sites are run by four men with math degrees from Harvard University.

[3] Social distance does not speak to spacial distance. Rather, it gauges the attitudes, feelings, and constructions toward the Other. Who do we sympathize with and to what extent? Who do we frame in terms of different/same, us/them, or insiders/outsiders?

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