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Designing for Difference

In his purposefully provocative essay, "Where Is the Cultural Criticism in the Digital Humanities?," Alan Liu argues that "the digital humanities are noticeably missing in action on the cultural-critical scene. While digital humanists develop tools, data, and meta-data critically, [. . .] rarely do they extend their critique to the full register of society, economics, politics, or culture" (491). While Liu usefully insists that our current political moment demands that the digital humanities must engage both theory and politics, such debates are not entirely new. Martha Nell Smith, among others, has for many years narrated a particular history of humanities computing (as the field was known before its rebranding under the sign of the "digital humanities") as a kind of reaction formation to the "concerns that had taken over so much academic work in literature—[those] of gender, race, class, sexuality" (4). The present essay considers some recent variations on this debate around the role of cultural theory within the digital humanities and its close analogs in order to argue for a theoretically explicit form of digital praxis within the digital humanities. It takes seriously Gary Hall's recent claim that the very goals of critical theory and of quantitative

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or computational analysis may in fact be incommensurable or, at the very least, that their productive combination will require "far more time and care [. . .] than has been devoted to it thus far." As such, I ask what it might mean to design—from their very conception—digital tools and applications that emerge from the concerns of cultural theory and, in particular, from a feminist concern for difference.

This need to attend with more time and care to the potential intersections of theory and the digital humanities has been the subject of recent and often heated online discussions, conference panels, and various publications. Groups of emerging scholars have organized under such rubrics as #TransformDH and #DHPoco in order to catalyze just such exchanges, as has the recently formed FemTechNet organization. One online forum initiated by Adeline Koh and Roopika Risam on the *Postcolonial Digital Humanities* blog in May 2013 fostered a lively and sometimes heated debate in response to the question "Is DH a refuge from race/class/gender/sexuality?" While I will not attempt to summarize that conversation here (Koh and Risam have undertaken a summary elsewhere on their blog, prompting even more conversation and a shared Google doc), I do want to zero in on a few points in the exchange to stage the beginnings of a claim for a particular mode of enacting the digital humanities (or, following Katie King, one might say "reenacting" the humanities). Entering the forum's fray by "tapping" on his phone, Ian Bogost wrote: "On the one hand, anyone who believes computational platforms are transparent doesn't really understand those platforms. But on the other hand, a blind focus on identity politics above all other concerns has partly prevented humanists from deeply exploring the technical nature of computer systems in order to grasp those very understandings." Bogost's insistence that we must explore the technical nature of the computer resonates with various formulations of the digital humanities, even if Bogost himself might not claim membership in that particular tribe. It aligns as well with a good deal of digital media studies, including hardware and software studies, where Bogost's research has been quite prolific and important.[1] It is an insight that has also fueled my own work. In the conversation that unspools throughout the thread, he goes on to observe that "doing hardware and software studies sometimes requires one to bracket identity—even if just for a moment, in order to learn something in the latter's service. But those of us who do that work are frequently chide[d] for failing to focus all energy and all attention at all times on the accuser's notion of what comprises the entire discourse on social justice." Certainly, it is hard to sustain a focus "at all

times" on the "entire discourse of social justice" while undertaking technical (or any other) investigations, but I find two things especially curious in this formulation. First, it is interesting that a forum originally framed quite broadly as about the "intermingling of race, class, gender, sexuality and disability in the digital humanities" quickly moves to a discussion of "identity politics" as the natural or likely terrain for such concerns. Later in the forum, Anne Balsamo observes that there are certainly many ways to address questions of feminism and of difference that do not narrowly default to identity politics, and she points the forum toward the work of feminist philosopher Karen Barad. In her book *Designing Culture: The Technological Imagination at Work*, Balsamo builds upon Barad's theory of "intra-actions" in order to develop a complex model of design practice that understands the relationship between materiality and discursivity, between objects and subjects, and between nature and culture to be fluid, open-ended, and contingent. In such a model, design (of technologies, of software, of code) proceeds from an acknowledgment of our messy entanglements with matter and with each other. For Barad, "To be entangled is not simply to be intertwined with another, as in the joining of separate entities, but to lack an independent, self-contained existence" (*Universe* ix).

Given this formulation, a second element of the forum exchange cited above stands out: the notion of the "bracketing" of identity or other signs of culture that might prevent one from accessing the technical nature of the computer. Similar ideas surface in a number of moments across the discussion. For instance, Andrew Smart observes that "digital technology, at its lowest level, relies on the physical laws of how information is represented in voltage. The way computers and networks work is determined (or maybe very constrained) by the laws of physics." The tendency to describe computation as a series of levels increasingly abstracted from culture surfaces in other online venues as well. A further interesting example is found at *Lambda the Ultimate*, a site that "deals with issues directly related to programming languages" and is largely populated by programmers. On May 5, 2010, Travis Brown created a forum there under the heading "Critical Code Studies" (CCS) asking the Lambda community to reflect on the idea of critical code studies as articulated by new media scholar Mark Marino, linking to a CFP and essay by Marino as well as to essays by scholars N. Katherine Hayles and Rita Raley. The ensuing discussion lasted several days. While a few contributors were intrigued by the possibility that cultural theory might be useful in the study of code, many were skeptical or rejected the idea out of hand.[2] Typical comments included:

> *To begin with: "code" can be a byproduct of a software design. "Code" can be automagically generated from a formal model, for instance, so there're no "socio-historical context" [*sic*] to study there. (vieiro at Sat, 2010-05-15 08:41)*
>
> *What I mean is that the "sociological" aspects of "code" are not in the code itself, they're elsewhere. (vieiro at Tue, 2010-05-18 13:05)*
>
> *You have the code and the math and the reasoning behind the code, and you have the history. Both are interesting but should be treated separately. (Jules Jacobs at Fri, 2010-05-14 22:53)*

In these examples, code functions much as Smart imagines it does, in a realm determined by math, physics, or reason, apart from the messy realms of culture.

This tendency to frame computational technologies in levels is also reflected in the description of the book series Platform Studies, edited by Bogost and Nick Monfort for the Massachusetts Institute of Technology Press. On the website describing the series, Bogost and Monfort offer a chart delineating five "stacked" levels of analysis for new media studies; from top to bottom, these are reception/operation, interface, form/function, code, and platform. The platform is framed as the "foundation" layer, "an abstraction layer beneath code" and obviously given primacy within the series itself. A later revision of this chart in their book *Racing the Beam* encloses the five levels in a box labeled "culture and context," and the authors stress that "we see all of these levels—not just the top level of reception and operation—as being situated in culture, society, economy, and history" (147). Yet, the very model of discrete boxed layers neatly enclosed in the larger box of history puts into place a conceptual framework that undervalues entanglements and intra-actions, encouraging a focus on individual layers rather than a focus on the complex ways in which the layers themselves come into being, delineate particular possibilities and boundaries, and foreclose potential futures and becomings. Obviously, we need to focus our scholarly attentions somewhere, on particular things, processes, or ideas, but the models we work from are important. To follow Barad, if matter matters, *how* we focus on matter also matters.

Despite this critique, I value and learn from the work of code and platform studies, including Bogost and Monfort's careful examinations of specific platforms, and from the practices of the digital humanities more generally. I, too, have written about how hard it is to entangle examinations of code with cultural critique, how easy it is to give in to the lure of

the bracket. I have called for humanities scholars to take code seriously and to make things. But I also worry that the digital humanities, code, and platform studies all too often center computation and technology in a way that makes intra-action hard to discern. In fact, I have argued that this conceptual bracketing, this singling out of code from culture, is itself part and parcel of the organization of knowledge production that computation has disseminated around the world for well over fifty years. In an essay that tracks the entangled historical moment that produced both new racial codes and new forms of computation, I maintain that the development of computer operating systems at midcentury installed an extreme logic of modularity that "black-boxed" knowledge in a manner quite similar to emerging logics of racial visibility and racism (McPherson). An operating system like UNIX (an OS that drives most of our computation, directly or indirectly) works by removing context and decreasing complexity. Early computers from 1940 to 1960 had complex, interdependent designs that were premodular. But the development of databases would depend upon the modularity of UNIX and languages like C and C++. We can see at work here the basic contours of an approach to the world that separates object from subject, cause from effect, context from code. I am suggesting that there is something particular to the very forms of digital culture that encourages just such a partitioning, a portioning off that also plays out in the increasing specialization of academic fields and even in the formation of many modes of identity politics. We need conceptual models for the digital humanities and for digital media studies that do not rely upon the bracket, the module, the box, or the partition. Feminist theory, particularly theories of difference, has much to offer in this regard.

Participants in both the #DHPoco and the Lambda forums, and in the digital humanities more generally, call on humanities scholars to learn to code or, at the very least, to acquire advanced technological literacies. I agree, but I would also issue a reciprocal call for coding humanists to engage feminist phenomenology, postcolonial theory, and theorizations of difference. Gender, race, sexuality, class, and disability might then be understood not as things that can simply be added on to our analyses (or to our metadata), but instead as operating principles of a different order, always already coursing through discourse and matter. And, if we cannot study all discourse and all matter at once, Barad offers up not the bracket but the agential cut as a method through which, "in the absence of a classical ontological condition of exteriority between observer and observed," we might enact "a local causal structure among 'components' of a phenomenon" (*Signs* 815). If

bracketing tends to recapitulate the modularity of code, treating difference either at the level of content (i.e., as something on the screen or something that narrative is about) or of background (i.e., as part of the box that wraps around technology), the cut is fluid and mobile even as it recognizes the constitutive work of difference. As Barad notes, cuts are "part of the phenomena they help produce" (*Universe* 145). Sarah Kember and Joanna Zylinska have highlighted the dual ontological and ethical dimensions of Barad's agential cut, observing that the cut is a "causal procedure that performs the division of the world into entities, but it is also an act of decision" (82). That is, where and how we focus matters. This concept of the cut resonates (if unevenly and imprecisely) with a number of other feminist conceptual paradigms, including King's reenactments, Chantal Mouffe's articulations, Chela Sandoval's differential consciousness, and Jane Bennett's vital materiality. While these theoretical models are as different as they are alike, they each offer ways to understand relation—between object and subject, between discourse and matter, and between identity and difference.

How might any of this matter for the digital humanities? Liu maintains that "the appropriate, unique contribution that the digital humanities can make to cultural criticism at the present time is to use the tools, paradigms, and concepts of digital technologies to help rethink the idea of instrumentality" (501). If a core activity of the digital humanities has been the building of tools, we should design our tools differently, in a mode that explicitly engages power and difference from the get-go, laying bare our theoretical allegiances and exploring the intra-actions of culture and matter. Several feminist scholars offer models of how such practice-based work might unfold, including Anne Balsamo, Susan Brown, Micha Cardenas, Kim Christen, Sharon Daniel, Mary Flanagan, Julia Flanders, Alex Juhasz, Marsha Kinder, Bethanie Nowviskie, Susana Ruiz, and Jacqueline Wernimont.[3] To move toward a close, I want to detail briefly the ways in which my own collaborative practice attempts to think through such questions as "Can software be feminist?"

In 2005, several close collaborators (especially Steve Anderson, Craig Dietrich, Raegan Kelley, and Erik Loyer) and I launched the multimodal, online journal *Vectors*. *Vectors* was developed as a space for experimentation in screen languages, open access publishing, and collaborative design and authorship. Our projects were speculative in the sense that Johanna Drucker describes, committed to pushing back against the cultural authority of rationalism in the digital humanities and in digital design. They were also centered on the critical and theoretical questions that motivated

the scholars with whom we worked, humanities scholars interested in questions of memory, race, gender, embodiment, sexuality, perception, temporality, ideology, and power. While *Vectors*' projects began as experiments at the surface of the screen, they soon led us toward building tools. In particular, we began to grapple with the database as an object to think with and to think against. We found that the constraints of much relational database software were not particularly well suited to the ways in which humanities scholars think and work.[4] Through the guidance and insight of Information Design Director Craig Dietrich, the team developed a customized database tool that allowed more flexibility in how scholars could iteratively work within our middleware, allowing them to modify the database and its tables much more easily. We also began to explore ways in which interface design might mitigate the database's relentless logic, refusing the tyranny of the template even as we were obviously still working under the sign of computation. In exploring relations of form to content, we privileged particular kinds of content, choosing to work with scholars interested in questions of gender, race, affect, memory, and social justice. These concerns were and are at the core of our research, and they profoundly shaped (and continue to shape) how we use and design technological systems.

Over the past four years, concurrent with the work on *Vectors*, our team has also been expanding upon the lessons learned through our ongoing research. With support from the Mellon Foundation and the National Endowment for the Humanities, and in close collaboration with many colleagues (especially original grant co-PIs Wendy Chun, Brian Goldfarb, Nicholas Mirzoeff, and Joan Saab), we have been forming a larger organization, the Alliance for Networking Visual Culture. Our goal is to formulate new ways of working with digitized archival materials within the humanities and to continue to model emerging genres of digital scholarly publishing. In support of these goals, we have been building a new authoring and publishing platform, Scalar, that was released into open beta in spring 2013. Scalar allows scholars to create with relative ease long-form, multimedia projects that incorporate a variety of digital materials while also connecting to digital archives, utilizing built-in visualizations, exploring nonlinearity, supporting customization, and more. For instance, visual culture scholar Nicholas Mirzoeff used Scalar to create an extension of his print book, *The Right to Look*. In *We Are All Children of Algeria: Visuality and Countervisuality 1954–2011*, Mirzoeff not only incorporates a rich set of multimedia examples, but he also structures his piece along multiple intersecting pathways in a manner that serves to reinforce his larger ideas about the value of the demonstration

as a theoretical model. Form and content merge in very compelling ways. Other scholars have used the platform to reimagine the edited volume, to engage deeply with media collections, and to attend with care to records of performance and testimony.[5]

Many of the scholars we have collaborated with are interested in allowing the users or readers of their research to engage with their primary evidence while also exploring the scholar's own interpretation of that evidence. Working in Scalar, scholars are pulling sets of visual materials from digitized collections into a Scalar project or "book," encouraging the project's reader to examine these materials in their own right while also engaging a scholar's analysis of the materials. Such a project is neither solely a book nor solely an archive, but rather a hybrid space between the two that blends scholarly analysis with a rich trove of primary materials. Using Scalar's built-in commenting features, the reader of the project can then add her own commentary, providing more context for the collection of primary materials or responses to the scholarly interpretations of the collection.

This type of connected and shared research and writing space has emerged as a key area of interest for Alliance partners, who recognize the capacity of such practices both to reach new audiences (with certain paths more relevant to certain types of readers) and to facilitate close analysis and collaborative methodologies. Within a single project, we glimpse research operating across scales, with scholars able to move from the micro level of a project (perhaps a single image or video annotation) to the structure of the entire project and its integrated media. The researcher can create careful close readings within a project of many components that can also be instantly represented as a whole collection, thus moving beyond the artificial binary of "distant" versus "close" reading that so often surfaces in conversations about the digital humanities. The result richly combines narrative interpretation with visualizations that are automatically generated by the semantic elements of the platform. These visualizations allow an author or reader to see the larger structure of a project that may have been built up more organically piece by piece, while also allowing iterative refinement to this structure. Visualizations can also allow a user to access and explore specific elements of a project, including tags, media files, and narrative "pathways." Thus, the visualizations are not merely illustrative; they are also powerful interpretations that present a project's structure, evidence, and arguments in new ways. They bring together narrative (and analysis) with the database, enriching each. This method of researching and writing across scales now predominantly unfolds within a given Scalar

project, but the possibility for porting these modes of analysis back to our archival partners' larger holdings represents a key area for future research.

The software that underpins Scalar was born of the frustrations our scholars often experienced working with traditional database tools. *Vectors* engaged intersectional, political, and feminist work at the level of content but also integrated form and content so that the theoretical implications of the work were manifest in the aesthetic and information design. Scalar is now seeking to integrate these methodologies at the level of software design. Scalar takes our early experiments at hacking the database for *Vectors*' projects to a different level by wrapping a relational database in a very particular semantic layer, a process spearheaded by Craig Dietrich and Erik Loyer.

In effect, we wanted to build a system that respected and extended the research methodologies of the scholars with whom we work. Scalar resists the modularity and compartmentalized logics of dominant computation design by flattening out the hierarchal structures of platforms such as WordPress. While easy to use, it also moves beyond the template structures that frequently categorize the Web, allowing a high degree of customization through its API (application programming interface). Thus, it mediates a whole set of binaries: between close and distant reading, user and author, interface and backend, micro and macro, theory and practice, archive and interpretation, text and image, database and narrative, and human and machine. Scalar takes seriously feminist methodologies ranging from the cut to theories of alliance, intersectionality, and articulation not only in support of scholars undertaking individual projects but also in our very design principles. As authors work with the platform, they enter into a flow of becoming through the creation of a database on the fly and through an engagement with the otherness of the machine. Scalar respects machinic agency but does not cede everything to it.

As Anne Balsamo reminds us, "[E]very intra-action that constitutes a technology offers an opportunity to do things differently" (35). Scalar offers a way to explore the rich intra-actions that link matter and discourse, to engage the alterity of technology, and to cut through plenitude with ethical intent. Our goal is to build technology in order that we might better understand it and its entanglements with culture; we aim to bend the digital to our desires and to use it in our utopias, if only in the instant. In theories of difference, we already find bountiful ways in which we might rewire these circuits. Feminists have long brought together those who value hybrid practices: artist-theorists, activist scholars, theoretical archivists,

queer failures, mestiza cyborgs. I ask you: who better to turn the digital against its darkest logics?

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Notes

1 There is much that I value in Ian Bogost's work, and, while he is here situated alongside a number of others who argue that code and culture exist in separate realms, I do not think he would concur with them. His position is typically more sophisticated. I very much agree with his statement elsewhere in the forum that "to really show how gender assumptions are baked into computer systems is such an enormous task, it's hard to know how to begin sometimes." But begin we must. Katie King's ideas about reenactments are developed in her recent book, *Networked Reenactments: Stories Transdisciplinary Knowledges Tell*. While there is much that separates their work, Bogost and King share an interest in things and our relations to them.

2 Other comments in the forum push back against these assumptions that code exists apart from culture, including:

> *I'm strongly in favor of opening an area of study which attempts to address these issues and bring them into the light. We could certainly call it CCS, although this may not be what is currently meant by that term. I'm strongly in favor of this despite (or perhaps because of) the fact that so many programmers will undoubtedly have a strong negative reaction to any discussion of these issues, and even deny the existence of any issues to discuss.*
>
> *Of course programs are both mathematical artifacts and social creations situated in a particular context. (Matt Hellige at Sat, 2010-05-15 04:51)*
>
> *But more to the point, whether CCS is going to be the way to tackle it, I think there are plenty of important questions to be asked from the standpoint of rhetoric, sociology, genre theory, and even some more down-to-earth critical theory.*
>
> *After all, if we are to take seriously one of our favorite aphorisms ("Programs must be written for people to read, and only incidentally for machines to execute.") then lots of questions which are both literary and social arise very quickly. (S. Clover at Wed, 2010-05-19 17:14)*

3 This list could include many others, particularly those scholars working within the #DHPoco, #TransformDH, FemTechNet, and FemBot rubrics, as well as many feminist artists. Certainly they would not agree on theoretical models or technical processes. I primarily list here those with whom I've had some working connection.

4 Relational databases are the predominant form of database in use today and are behind much of the data we interact with on the Web as well as in programs like Access and Oracle. They organize data in a set of formally described tables. This allows a user to quickly sort a large amount of data via different queries but also requires an atomistic view of data. The relational database was first described by Edgar Cobb at IBM in 1970; if I have argued that the operating system UNIX was bound up in its cultural moment, the same might be argued of the relational database. That is, its highly atomistic structure was perhaps part and parcel of broader cultural changes under way at that time. At *Vectors* and later with Scalar, we were interested in seeing if the relational database might be hacked in order to better suit the methodologies of humanities scholars.

5 For a full description of Scalar's capacities, see the Scalar website, which also links to several sample projects.

Works Cited

Balsamo, Anne. *Designing Culture: The Technological Imagination at Work*. Durham: Duke UP, 2011.

Barad, Karen. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham: Duke UP, 2007.

———. "Posthuman Performativity: Toward an Understanding of How Matter Comes to Matter." *Signs: Journal of Women in Culture and Society* 28.3 (2003): 801–31.

Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Durham: Duke UP, 2010.

Bogost, Ian, and Nick Monfort. *Platform Studies*. http://platformstudies.com (accessed 20 Aug. 2013).

———. *Racing the Beam: The Atari Video Game System*. Cambridge: MIT P, 2009.

Brown, Travis. "Critical Code Studies." *Lambda the Ultimate* (blog). 11 May 2010. http://lambda-the-ultimate.org/node/3944.

Gold, Matthew. *Debates in the Digital Humanities*. Minneapolis: U of Minnesota P, 2012.

Hall, Gary. "Toward a Postdigital Humanities: Cultural Analytic and the Computational Turn to Data-Driven Scholarship." *American Literature* 85.4 (2013): 781–809.

Kember, Sarah, and Joanna Zylinska. *Life after New Media: Mediation as a Vital Process*. Cambridge: MIT P, 2012.

King, Katie. *Networked Reenactments: Stories Transdisciplinary Knowledges Tell*. Durham: Duke UP, 2012.

Koh, Adeline, and Roopika Risam. "Open Thread: The Digital Humanities as a Historical 'Refuge' from Race/Class/Gender/Sexuality/Disability?" *Postcolonial Digital Humanities* (blog). 10 May 2013. http://dhpoco.org/blog/2013/05/10/open-thread-the-digital-humanities-as-a-historical-refuge-from-raceclassgendersexualitydisability.

LaClau, Ernesto, and Chantal Mouffe. *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*. New York: Verso, 1985.

Liu, Alan. "Where Is the Cultural Criticism in the Digital Humanities?" *Debates in the Digital Humanities*. Gold 490–509.

McPherson, Tara. "Why Are the Digital Humanities So White? or Thinking the Histories of Race and Computation." Gold 139–60.

McPherson, Tara, and Steve Anderson, eds. *Vectors: Journal of Culture and Technology in a Dynamic Vernacular*. http://vectorsjournal.org (accessed 17 Aug. 2013).

Mirzoeff, Nicholas. *We Are All Children of Algeria: Visuality and Countervisuality, 1954–2011*. Durham: Duke UP, 2012. http://scalar.usc.edu/nehvectors/mirzoeff/help (accessed 17 Aug. 2013).

Sandoval, Chela. *Methodology of the Oppressed: Theory Out of Bounds*. Minneapolis: U of Minnesota P, 2000.

Scalar. http://scalar.usc.edu (accessed 17 Aug. 2013).

Smart, Andrew. Comment. "Open Thread: The Digital Humanities as a Historical 'Refuge' from Race/Class/Gender/Sexuality/Disability?" *Postcolonial Digital Humanities* (blog). 10 May 2013 at 9:35 a.m. http://dhpoco.org/blog/2013/05/10/open-thread-the-digital-humanities-as-a-historical-refuge-from-raceclassgendersexualitydisability/.

Smith, Martha Nell. "The Human Touch Software of the Highest Order: Revisiting Editing as Interpretation." *Textual Cultures: Texts, Contexts, Interpretation* 2.1 (2007): 1–15.

Vectors. http://vectorsjournal.org (accessed 17 Aug. 2013).