Rhetoric Society Quarterly
Vol. 48, No. 3, pp. 251–259

The Digital: Rhetoric Behind and Beyond the Screen

Casey Boyle, James J. Brown, Jr., and Steph Ceraso

Rhetoricians first saw "the digital" flickering on screens but now feel its effects transducing our most fundamental of social practices. This essay traces digital emergence on screens and through networks and further into everyday life through infrastructures and algorithms. We argue that while "the digital" may have once been but one more example of the available means of persuasion, "digital rhetoric" has become an ambient condition.

Keywords: *computation, digital rhetoric, multisensory, transduction*

In the beginning was the word processor. It is in that moment—a supposed turn from an analog typewriter to a digital word processor—wherein we first see the effects of something resembling a "digital rhetoric." Unencumbered by the physical processes of loading paper into a mechanical device and free from the lasting material effects of a mistyped letter, writing through a computer program illuminated possibilities of electronic ephemera that would only endure if we chose to print a document. Richard A. Lanham's discussion of digital rhetoric in *The Electronic Word* is the most famous example of this, since he sees the ability to change typeface and font as a pivotal moment in our understanding of text. The electronic word forced us to look AT it, noticing surface and style, rather than THROUGH it to interpret meaning. From that moment, it seems that "the digital" became something to be marveled at and built on.

Perhaps, though, we have overstated THAT moment. In moving from a typewriter to the word processor, maybe we focused too much on the apparent

Casey Boyle is Assistant Professor in the Department of Rhetoric and Writing, University of Texas at Austin, FAC 17, Austin, TX 78705, USA. E-mail: casey.boyle@utexas.edu

James J. Brown, Jr., is Associate Professor in the Department of English and Communication, Rutgers University–Camden, 213 Fine Arts, Camden, NJ 08102, USA. E-mail: jim.brown@rutgers.edu

Steph Ceraso is Assistant Professor in the Department of English, University of Virginia, 304-A Bryan Hall, Charlottesville, VA 22904, USA. E-mail: slc7wd@virginia.edu

ISSN 0277-3945 (print)/ISSN 1930-322X (online) © 2018 The Rhetoric Society of America
DOI: https://doi.org/10.1080/02773945.2018.1454187

differences and not enough on the similarities underlying the two devices. There is no turn to the digital that does not already rely on previous technological arrangements. Prior to digital anything, we already leveraged the typewriter's compartmentalized mechanics to produce text instead of handwritten script; we already leaned on vast infrastructures of telegraphic communication connecting the farthest points of the world; we were already well entrenched in shipping goods for global distribution into standardized containers. Each of these advances themselves provide the priming on which the techniques and technologies associated with digital information further unfold. So, then what is *the digital*?

The digital is no longer conditional on particular devices but has become a multisensory, embodied condition through which most of our basic processes operate. We witness the pervasiveness of digital practices in the multiplicity of smartphones and wearable technologies fitting into our lives in ways no longer called to our conscious attention (Gouge and Jones). We cannot assume distance from the digital since even the most innocuous of activities, such as grocery shopping, now rely on computational procedures that connect local purchases to global supply chains. The digital, then, oddly echoes rhetorical theory and practice in that both can be seen (and heard and felt and sensed) everywhere at once and nowhere in particular.

Where some might induce a digital rhetoric from careful examination of the proliferating devices connecting and disconnecting us and where others might deduce the digital from a capitalistic logic of efficiency and production, we seek instead to limn transductive logics for rhetorical theory and practice. First, we survey the apparent beginnings of digital rhetoric to explore how dependent those modes of rhetorical practice were on visual modes. Second, we introduce multisensory rhetorical engagements as a model for terms and concepts that help amplify the digital as an immersive condition. Third, we investigate digital techniques as they become further realized in less visible ways through code, algorithms, and communication infrastructure. We close the essay by offering the concept of transduction to understand how rhetorical theory and practice might engage "the digital" as an ambient condition, as something "less like a *technology* and more like a common feature of modern existence" (Hess 6, emphasis in the original).

Screen Logics

The computer screen has long served as a way to understand the demarcation between digital and non-digital. In his prescient essay "Digital Rhetoric and the Digital Arts," for example, Lanham draws on postmodern visual arts to understand "what happens when text moves from page to screen" (31). Vision and the screenic surface are central to Lanham's notion of digital rhetoric. He writes, "The textual surface is now a malleable and self-conscious one… . We are always looking first AT it and then THROUGH it, and this oscillation creates a different implied ideal of decorum, both stylistic and behavioral" (*Electronic Word* 5, emphasis in the

original). This visual focus has driven a great deal of scholarship since Lanham coined the term "digital rhetoric," a trend that is underscored in Douglas Eyman's monograph, in which "Visual Rhetoric" is given its own category in a discussion of the "network of fields and activities" affiliated with digital rhetoric (44). In short, digital rhetoric is frequently associated with and defined in relation to the scholarly analysis and visual logics of digital genres and screen-based conventions.

Interestingly, however, Kathleen E. Welch's *Electric Rhetoric*—one of the most screen-centric texts in early digital rhetoric scholarship—considers both the visual and oral/aural effects of our screen interactions. Welch pushes beyond the content on screens and focuses instead on how our interactions with screens have shaped our consciousness or habits of mind. Observing that computer and television screens have become naturalized and ever-present in our work and personal lives, she argues that current literacy practices "cannot be adequately theorized unless one takes an account of writing as a definitive aspect of oralism/auralism, or the oral structures of articulation" (4). Put differently, it is not just the screens themselves but the oral/aural features of electric rhetoric—the speech and music blasting from speakers—that deeply inform literacy practices. Despite his visual approach, Lanham too invokes the language of sound, writing about "layering figures of sound and arrangement on the stylistic surface" and using metaphors like "frequency" and "wavelength" to describe screen-based interactions (*Electronic Word* 5–6). Both Welch and Lanham's texts demonstrate how theories that focus on the visual are also affected and influenced by other senses. Even at its visual foundations, digital rhetoric was a multisensory enterprise.

Multisensory Rhetorics

Let's experiment. We have shown that early work on the digital in rhetoric focused primarily on visual modes of knowing, but we wish to make sense of the digital with other senses. In this description of infrastructures of sound by Salomé Voegelin, we substitute the words "the digital" for the word "sound," a (computational?) procedure demonstrating how attention to another sense expands our account of the digital:

> Writing about the possibility of [the digital] is a constant effort to access the fleeting and ephemeral, that which is barely there and yet influences all there is. [The digital] is the invisible layer of the world that shows its relationships, actions, and dynamics. To write about it is to write about the formless, the predicative, that which invisibly does what we think we see but which struggles to find a place in articulation while what we think we see slides effortlessly into language in the certain shape of the noun. [The digital's] grammatical position as the attribute, the adjective and adverb, keeps it on the surface and holds it in a visual paradigm, when in reality its materiality is much more subterranean and mobile. (2)

A turn toward other senses amplifies the subterranean, invisible, yet material nature of digital processes that resonate with the moment in which we now find ourselves. A multisensory account positions "the digital" as neither noun nor verb but as an attribute of a larger body of movements; thus, the digital is always multisensory. Steph Ceraso similarly underscores the multisensory and relational nature of rhetorical engagement through the concept of "multimodal listening," which encourages a move "away from organ-specific definitions and instead conceives of listening as a practice that involves attending not only to the sensory, embodied experience of sound, but to the material and environmental aspects that comprise and shape one's embodied experience of sound" (105). Such an ecological approach has also been taken up by rhetorical scholars who aim to enrich and complicate ideas about human-technology interactions. For instance, Thomas Rickert's *Ambient Rhetoric* converses with-in a style of rhetoric that recognizes how "a profound externalization of media and their saturation of everyday life, a growing dispersion of human 'agency' through technologies, and new theories and practices of spatiality" blur simple divisions between minds, bodies, technologies, and environments (xiii).

We follow this line in taking up a multisensory rhetoric as a model for reorienting to the digital as an attribute rather than a category. For us, it is not so much that the digital is better expressed via any particular sense but that by attending to rhetorical encounters as multisensory events we are afforded an experience of resonance between and among a host of relations through which digital media intensify. Indeed, some of the most innovative developments dealing with digital rhetorics have been those that have taken account of its multisensory affordances. Here, we recall early work on accessibility by John Slatin (Slatin; Slatin and Rush), whose efforts on making digital content available to a wide array of users' abilities acknowledged the embodied possibilities of digitally oriented rhetoric. The possibilities of that work become realized further in recent scholarship that engages the haptic elements of rhetoric. As Shannon Walters demonstrates in *Rhetorical Touch*, interface designers often position touch as an ideal, "intuitive" interface between human and technology, an approach that brings with it ableist notions of "the user." By theorizing the rhetorical dimensions of touch alongside other senses, Walters offers yet another example of the pitfalls of privileging any single sense when approaching digital technology. Instead of understanding haptic interfaces as a way to make the interface "disappear," Walters shows us that any sensory engagement with the digital is simultaneously fraught and teeming with inventive possibilities. It is in that same spirit of simultaneity activated by the emergence of ubiquitous computing, or ubicomp, that John Tinnell articulates how ubiquitous computing technology (such as wearables and augmented reality) can become "actionable media," that "immixes, overlays, transcodes, or syncs with dynamic fluctuations occurring in one's environment" (17). Not unlike the experiment that began this section, we find that we cannot adhere to any one sense when exploring and examining the digital as it has become not only wrapped around our bodies but also woven into our surrounds.

Sunken Suasion

A multisensory approach to the digital requires that we attend to processes behind and beyond the screen. It is becoming commonplace that computation is a rhetorical medium and that the infrastructures underlying digital mediation more broadly are rhetorical. But this commonplace has been long in the making. Cynthia L. Selfe and Richard J. Selfe demonstrate how interface design expresses deep ideologies coded into the machine, and Teena A. M. Carnegie uses the rhetorical concept of "exordium" to describe how the interface encourages and manages interaction. Further, Florian Cramer argues that this tradition extends much deeper into the rhetorical tradition, demonstrating that rhetorical exercises like Erasmus's *Copia* were essentially computational machines (44).

While much rhetorical scholarship pushes beyond the screen in order to understand the relationships between rhetoric and computation, it often primarily focuses on applying rhetorical concepts to digital technologies. However, digital rhetoric has experienced a move away from *applying* rhetoric to technology and toward what Collin Gifford Brooke calls for in *Lingua Fracta*: "a mutually transformative encounter" between the digital and rhetorical theory (7). Such an approach is evident in Barbara Warnick's *Rhetoric Online*, Elizabeth Losh's *Virtualpolitick*, and Ian Bogost's *Persuasive Games*. While Warnick focuses on screen-based texts, she insists on accounting for the medium-specific dimensions of those texts. Losh describes four kinds of digital rhetoric: conventions of new genres, governmental uses of technology to disseminate messages, the scholarly interpretation of computer generated media, and "mathematical theories of communication from the field of information science, many of which attempt to quantify the amount of uncertainty in a given linguistic exchange or the likely paths through which messages travel" (48). It is this last type that signals a shift since it engages theories typically associated with mathematics and engineering. Similarly, Bogost argues that computational procedure is a rhetorical medium for modeling systems and mounting arguments. While his preferred medium is video games, *procedural rhetoric* offers a generalized theory of persuasive processes. From customer service to government bureaucracies, procedural rhetoric is a tool for composing and designing persuasive systems as well as for interpreting and understanding how systems shape and constrain experience.

One key feature of procedural rhetoric as an analytic frame is that it does not require access to internals of a "black box." One can rhetorically analyze a system or video game by playing; however, many have developed methods for digging into, dissecting, and analyzing computational systems. Texts such as James J. Brown, Jr.'s *Ethical Programs* take up some of this work, teasing out the ethical and rhetorical underpinnings of computational systems and even engaging in the rhetorical analysis of code. In addition, a special issue edited by Annette Vee and Brown demonstrates the range of rhetorical research that opens up when we see computational systems as more than just the backdrop

for rhetorical exchange. From analyzing style in code (Brock) to the "computational phronesis" of artificial agents (Maher), the issue establishes a far reaching research program for rhetoricians interested in studying questions of code and computation.

Interests in computation and rhetoric both precede and exceed the field's opening to networks and infrastructure as more than transmission of messages and within culture more traditionally understood. Adam J. Banks describes African American digital rhetorical practices that remake digital tools and spaces. He develops the figure of the "digital griot," which combines a knowledge of tradition with technical skills and ability to build and sustain communities and "move the crowd," and he argues that such practices should be used to actively confront the pervasive figuring of "digital theory, rhetoric and writing as white by default" (27). Technology here is overtly political, and it affects and is affected by cultural and epideictic rhetorics. K. J. Rawson's work on queer digital archives traces how digital spaces encourage what Lauren Berlant and Michael Warner call "queer worldmaking" and present opportunities for "creating, sharing, and preserving trans histories that would otherwise remain untold" (39–40). Again, digital technologies are not mere conduits for such activity; they are transformed by practices even as they transform them. For instance, Kevin Adonis Browne tracks how the digital practices of Caribbean people are constrained by networked spaces but also adapt these digital spaces by way of cultural practices. Jeff Rice's theorization of a database-driven rhetoric similarly describes how rhetorical practice intermingles with the digital, transforming mapping technologies from representational tools to ways of understanding space as a "network of complex and possible meanings that extend from communal moments as well as personal associations" (216). These associational networks lead us, Laurie E. Gries argues, back to the visual not as something to look at but as a circulation of material relations. A focus on networks has also led to research on how such spaces open up additional avenues of public debate and intervention as, for instance, how blogs and social media allow for new avenues of public intervention for citizens (Pfister). These new avenues have become gridlocked as bots and programmed persuasion circulate so-called "fake news" throughout social media to sway public sentiment.

In moving from the means of discussion into the mediation of meaning, research extends these computational and networked media approaches, inaugurated by social media, into infrastructure more broadly. Perhaps infrastructure is what rhetoric has been working toward all along. In speaking of how spaces are now intertwined with processes that include culture as much as computation, Peter Simonson introduces *inventional media* as a way "to refer to the habitats, artistic materials, and communicative modes through which rhetorical generation occurs" (301). Such is also the claim John Durham Peters offers about media and communication that "[o]nce communication is understood not only as sending messages—certainly an essential function—but also as providing conditions for existence, media cease to be only studios and stations, messages and channels, and become

infrastructures and forms of life" (14). These conditions, Peters continues, compel us to reorient toward mediation since "media are our infrastructures of being, the habitats and materials through which we act and are" (15). Sunken into the substrate of our practices, we find that the digital resonates through us as the environments from which we emerge. The digital is not only irreducible to what we see, it also exceeds that which we feel—in any traditional sense—and extends far out to what helps organize our collective bodies.

Tomorrow's Rhetoric, Transduced

We wish to conclude by reviewing *the digital*'s movement through rhetorical scholarship. Rhetoricians have come to know the digital by first seeing it on our screens, experiencing it through multiple senses, examining its inner workings, and now feeling it permeate our daily practices. The multisensory logic underpinning our essay echoes the modes through which the digital traverses rhetorical theory and practice. Neither deductive nor inductive, we define the movement of the digital as *transductive*. Transduction refers to how a signal moves across disparate registers of relations: neural firings move to fingers to perform keystrokes that then transform into electrical charges that then become digital bits and are delivered to a screen by software or saved to a hard drive that becomes transcoded again whenever someone opens a file. We find this multidisciplinary term (computing, sound, biology, engineering) especially fruitful for a multisensory discipline that cannot be easily located in any one subject or object. In fact, we believe transduction—especially given that it helps account for the ambience of the digital—can provide the integrated theory of digital rhetoric that James P. Zappen called for in one of the earliest discussions of digital rhetoric.

If we have shown *the digital* to be anything, we have shown it is never one thing. The movements offered by the digital generally are not unlike what Kristin L. Arola and Adam C. Arola, in discussing assemblages of traditional indigenous music and/as DJing, call "creative repetitions," which are "repetition[s] without an essence" (207). As we cannot locate *the* digital only on a screen or solely in distributed networks, no one encounter with the digital adequately disposes our rhetorical sensibilities towards productive engagements. Anne Frances Wysocki too turns to transduction to propose that "persuasion … follows not from a decision made inside one's mind but rather from a sinew or pulse shifting, and perhaps staying shifted, in response to something meant to shift it" (94). Along with Wysocki, David M. Reider also uses the concept to explain how, in a world that has moved beyond the desktop computer as its primary encounter with the digital, transduction becomes a rhetorical tool for allegorizing our interactions with physical environments. By both describing and creating physical computing projects, Reider enacts a rhetorical method that transduces physical energy into data and vice versa. Casey Boyle suggests that a transductive approach has the potential to reframe rhetoric's implicit paradigms from argumentation to information. He argues that to

practice digital rhetoric is to participate in a transductive process of in-formation through a series of incorporations that involve culture, technology, and biology along with many more registers.

Rhetoric as a transductive process is not interactivity between separate nodes but a relational practice assuming pervasive connections across disparate registers. This relationality means the digital is everywhere and nowhere, everything and nothing, invisible and ever present, and transduction offers a way to immerse ourselves in that set of contradictions while still effecting change. It is *perhaps* too late to single out the digital as being a thing we can point at and whose fate we can easily determine. Instead, the digital portends to be a momentary specialization that falls away and becomes eventually known as the conditions through which rhetorical studies finds itself endlessly transducing.

ORCID

Casey Boyle http://orcid.org/0000-0003-4910-7418

Works Cited

Arola, Kristin L., and Adam C. Arola. "An Ethics of Assemblage: Creative Repetition and the 'Electric Pow Wow.'" *Assembling Composition*. Ed. Kathleen Blake Yancey and Stephen J. McElroy. National Council of Teachers of English, 2017. 204–21. Print.

Banks, Adam J. *Digital Griots: African American Rhetoric in a Multimedia Age*. Carbondale: Southern Illinois UP, 2011. Print

Bogost, Ian. *Persuasive Games: The Persuasive Power of Videogames*. Cambridge: MIT P, 2007. Print.

Boyle, Casey. *Rhetoric as a Posthuman Practice*. Columbus: Ohio State UP, 2018.

Brock, Kevin. "The 'FizzBuzz' Programming Test: A Case-Based Exploration of Rhetorical Style in Code." *Computational Culture* 5 (2016). Web. 29 Feb. 2017.

Brooke, Collin Gifford. *Lingua Fracta: Toward a Rhetoric of New Media*. Cresskill: Hampton, 2009. Print.

Brown, James J. Jr., *Ethical Programs: Hospitality and the Rhetorics of Software*. Ann Arbor: U of Michigan P, 2015. Print.

Browne, Kevin Adonis. *Tropic Tendencies: Rhetoric, Popular Culture, and the Anglophone Caribbean*. Pittsburgh: U of Pittsburgh P, 2013. Print.

Carnegie, Teena A. M. "Interface as Exordium: The Rhetoric of Interactivity." *Computers and Composition* 26.3 (2009): 164–73. Print.

Ceraso, Steph. "(Re)Educating the Senses: Multimodal Listening, Bodily Learning, and the Composition of Sonic Experiences." *College English* 77.2 (2014): 102–23. Print.

Cramer, Florian. *Words Made Flesh: Code, Culture, Imagination*. Rotterdam: Piet Zwart Institute, 2005. PDF file.

Eyman, Douglas. *Digital Rhetoric: Theory, Method, Practice*. Ann Arbor: U of Michigan P, 2015. Print.

Gouge, Catherine, and John Jones. "Wearables, Wearing, and the Rhetorics That Attend to Them." *Rhetoric Society Quarterly* 46.3 (2016): 199–206. Print.

Gries, Laurie E. *Still Life with Rhetoric: A New Materialist Approach for Visual Rhetorics*. Boulder: UP of Colorado, 2015. Print.

Hess, Aaron. “Introduction: Theorizing Digital Rhetoric.” *Theorizing Digital Rhetoric*. Ed. Aaron Hess and Amber Davisson. New York: Routledge, 2017. Print.

Lanham, Richard A. “Digital Rhetoric and the Digital Arts.” *The Electronic Word: Democracy, Technology, and the Arts*. Chicago: U of Chicago P, 1993. 29–52. Print.

______. *The Electronic Word: Democracy, Technology, and the Arts*. Chicago: U of Chicago P, 1993. Print.

Losh, Elizabeth. *Virtualpolitik: An Electronic History of Government Media-Making in a Time of War, Scandal, Disaster, Miscommunication, and Mistakes*. Cambridge: MIT P, 2009. Print.

Maher, Jennifer. “Artificial Rhetorical Agents and the Computing of Phronesis.” *Computational Culture 5* (2016). Web. 29 Feb. 2017.

Peters, John Durham. *The Marvelous Clouds: Toward a Philosophy of Elemental Media*. Chicago: U of Chicago P, 2015. Print.

Pfister, Damien Smith. *Networked Media, Networked Rhetorics: Attention and Deliberation in the Early Blogosphere*. State College: Penn State P, 2014. Print.

Rawson, K. J. “Transgender Worldmaking in Cyberspace: Historical Activism on the Internet.” *QED: A Journal in* GLBTQ Worldmaking 1.2 (2014): 38–60. Print.

Reider, David M. *Suasive Iterations: Rhetoric, Writing, and Physical Computing*. Anderson: Parlor, 2017. Print.

Rice, Jeff. “Urban Mappings: A Rhetoric of the Network.” *Rhetoric Society Quarterly* 38.2 (2008): 198–218. Print.

Rickert, Thomas. *Ambient Rhetoric: The Attunements of Rhetorical Being*. Pittsburgh: U of Pittsburgh P, 2013. Print.

Selfe, Cynthia L., and Richard J. Selfe. “The Politics of the Interface: Power and Its Exercise in Electronic Contact Zones.” *Computers and Composition* 45.4 (1994): 480–504. Print.

Simonson, Peter. “Reinventing Invention, Again.” *Rhetoric Society Quarterly* 44.4 (2014): 299–322. Print.

Slatin, John. “The Imagination Gap: Making Web-based Instructional Resources Accessible to Students and Colleagues with Disabilities.” *Currents in Electronic Literacy* 6 (2002). Web. 29 Feb. 2017.

Slatin, John M., and Sharron Rush. *Maximum Accessibility: Making Your Web Site More Usable for Everyone*. Addison-Wesley Longman, 2002. Print.

Tinnell, John. *Actionable Media: Digital Communication Beyond the Desktop*. Oxford UP, 2017. Print.

Vee, Annette, and James J. Brown, Jr., eds. “Rhetoric and Computation.” Special Issue of *Computational Culture* (January 2016). Web. 29 Feb. 2017.

Voegelin, Salomé. *Sonic Possible Worlds: Hearing the Continuum of Sound*. New York: Bloomsbury Academic, 2014. Print.

Walters, Shannon. *Rhetorical Touch: Disability, Identification, Haptics*. Columbia: U of South Carolina P, 2014. Print.

Warnick, Barbara. *Rhetoric Online: Persuasion and Politics on the World Wide Web*. New York: Peter Lang, 2007. Print.

Welch, Kathleen E. *Electric Rhetoric: Classical Rhetoric, Oralism, and a New Literacy*. Cambridge: MIT P, 1999. Print.

Wysocki, Anne Frances. “Unfitting Beauties of Transductions Bodies.” *Rhetorics and Technologies*. Ed. Stuart A. Selber. Columbia: U of South Carolina P, 2010. 99–112. Print.

Zappen, James P. “Digital Rhetoric: Toward an Integrated theory.” *Technical Communication Quarterly* 14.3 (2005): 319–25. Print.