Refiguring the Interface Agent: An Exploration of Productive Tensions in New Media Composing

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It’s not easy to see things in the middle, rather than looking down on them from above or up at them from below, or from left to right or right to left: try it, you’ll see that everything changes.

Gilles Deleuze & Felix Guattari, “Rhizome”

In both our individual and collaborative work with technology, we strive “to see things in the middle.” Imagining possibilities for situated technological practices, we draw upon critical theories of technology to inform our positions as teachers, administrators, and researchers. Our enactment of a critical approach requires that we continually interrogate the ways in which technology affects and is affected by the cultural, social, and historical contexts of its development and use. This inquiry is particularly important for those of us who engage literacy issues in our work. Notably, Cynthia Selfe and Gail Hawisher, Cynthia Selfe, and Christina Haas and Christine Neuwirth remind us that our study of literate practices cannot be separated from the complex roles that technology plays in those procedures. In other words, writing always has had a technological dimension, but cultural and institutional shifts have placed increasing emphasis on this aspect. Discussions of the importance of technology circulate widely, yet these dominant discourses often elide rather than encourage middle spaces. Contradiction and multiplicity infuse our experiences with technology, yet deterministic narratives about technical mastery and customization often obscure this complexity. While living with such complexity—trying to inhabit the middle—is not easy, we believe this tension can be a productive force, one that reminds us not to be seduced by binaries and absolutes about teaching, learning, and technology.

In fact, our desire to maintain this tension motives our continued collaborations. Throughout our years of collaborating, we have attempted to question deterministic assumptions about technical
ease, transparency, efficiency, and universality. Team teaching, sharing administrative positions, and co-presenting our scholarship, we have explored the potential for critical strategies in a range of forums. Our most recent collaboration involves the co-authoring of a multimedia piece. This composition offered us productive opportunities to reflect on and instantiate our shared commitment to maintain critical approaches. We were able to articulate our ideas about technology in ways that were not only concrete and embodied but also supportive of indeterminacy, contradiction, and multiplicity. In this article, therefore, we frame our collaboration as teachers and mentors, foreground and define our commitment to critical theories of technology, and then discuss the ways in which visual figuration, interactivity, and sound can invite new media authors and audiences to see technology from the middle.

**Discussion of our Collaboration**

We began our collaboration during our graduate work in Rhetoric and Composition at Purdue University. Like many other graduate student colleagues, we spent time both in and out of the classroom grappling with certain concepts, pushing one another’s thinking, and sharing commitments to teaching and research. Our relationship, however, could not simply be characterized by our roles as graduate students in the same program. Instead, we found our investments in critical theory, methodology, and issues of technology and media also were closely related. As with many academic collaborations, ours is shaped by a desire to support yet still challenge one another. That is, the productive tension between our shared commitments and individual differences helps to foster the critical reflection that we desire and thus enrich our experiences as teachers and learners.
Our collaborations have been and continue to be diverse. We shared two administrative positions: Computers and Composition Mentors and Professional Writing Program Mentors. We team taught graduate-level practica in these areas and also undergraduate technical writing courses. Our duties planning and teaching courses, developing pedagogy and curricula, and meeting with other administrators all involved a great deal of time reflecting on relationships between pedagogy and technology. Because technology cannot be separated from cultural, historical, or institutional systems, it involves complex, dynamic relationships among people. Technology often is described in relation to myths about its ease, inevitability, and mastery. These sorts of determinisms easily elide social complexity and reinscribe binaries related to issues such as gender. For example, whether narratives of technology are expressed through frontier metaphors or panoptic allusions, computer technologies are often masculinized, and this gendering impacts the relationship that users—including students and teachers—can have with those technologies.

As women collaborating on issues of technology, we are committed to critical theories and instantiations of media. Rather than attempting to reconcile contradictions or play to gender binaries, we strive to foreground the complexity, multiplicity, and dynamic aspects of our roles as teachers and administrators and examine the ways that technology informs and is informed by cultural forces. In pursing such commitments, we approach our collaboration with the knowledge that meanings are never completely fixed or closed and that technologies are not separate from the work we do but rather are integrated into our everyday lives. In our individual and collaborative work, we want to share our understandings of critical views of technology and offer mentees, students, and colleagues ways of engaging the complexities of teaching, learning, and researching with technology.
Critical Theories of Technology

Collaborating at both Purdue and our current institutions—University of Arizona and New Mexico State University, we have felt it important to articulate our commitments to critical theories of technology. Drawing upon Andrew Feenberg’s philosophy of technology (Feenberg, Alternative Modernity, Critical Theory, “Subversive Rationalization”, Questioning Technology), Johndan Johnson-Eilola (Nostalgic Angels, “Wild Technologies”) and Stuart Selber each have discussed the difficulties that determinisms pose for enacting critical approaches. Deterministic frameworks commonly assume that technology is neutral, universal, inevitable, and easy. These approaches grant technology an autonomous functional logical and thus position it outside of social, cultural, and historical contexts. Such determinisms are often characterized by two different impulses: substantive and instrumental. In the substantive view, technology operates as an autonomous force of social change. Whether substantive positions define technology as beneficial or insidious, they assume that technologies have inherent and inalterable characteristics and outcomes. Christina Haas argues that oversimplified views of technology take many forms including “simple replacement” and “straightforward progress models” (210); these models posit that new technologies simply replace older ones and new versions are automatically better. Instrumental approaches, on the other hand, construct technology as neutral tools that adapt to user intentions. Thus, issues of design and history are neglected in considerations of technological forms and practices.

Critical theories of technology contest and complicate these determinisms in order to reinvest technology as part of social and political practices. Technologies are culturally situated and ideologically invested hybrids and thus cannot be free of social bias. As Johnson-Eilola (“Wild Technologies”) argues, “…technologies define allowable ranges of action, hierarchies of power, and appropriate ways of communicating” (98). In other words, technologies are situated dynamic
sets of processes that are manifested in our imaginative and material lives (For further discussions of democratic development and implementation of technology, see Haraway, “A Cyborg Manifesto”, “Situated Knowledges”, Modest Witness; Latour, We have Never Been Modern; “Where are the Missing Masses?”; Winner). As teachers and researchers of rhetoric and composition, we seek to instantiate critical theories of technology as a means to challenge uncomplicated constructions of user agency. Rather than seeing technological practices as results of individual will or structural destiny, we want to promote critical questioning and reflection on user agency. In our collaborations, we have explored this potential in relationship to our teaching, administration, and scholarship. The most recent instantiation of these efforts has been our work in new media.

Discussion of New Media Piece

During a two-week summer New Media workshop at the 2002 Computers in Writing Intensive Classrooms (CIWIC), we continued our work with issues of technological determinism, hoping that new media would help us to both reflect on our own individual and collaborative experiences with technology and articulate the complex relationships between culture and media. Our new media piece, “Build Your Own Interface Agent: A Technically Perfectible Future,” is based upon a metaphor posited by Nicolas Negroponte, a co-founder of MIT’s Media Lab and a provider of start-up funds for Wired magazine. In his book, Being Digital, Negroponte explains the complexities of digital technology to a lay audience. The focus of this text, like much of Negroponte’s work, is human-computer interaction. He believes that computer interfaces eventually will achieve “true personalization.” According to his theory, digital technology should be integrated seamlessly into our lives. Interfaces should be invisible and intelligent enough to “know” the needs and desires of their users. Thus, rather than having to engage technology consciously, users should have
customized “interface agents” which manage all of their informational needs (For other similar views on the role of technology, see Kaku, Dertouzos *The Unfinished Revolution, What Will Be*).

This desire for transparent, neutral interfaces is an example of the technological determinisms that we sought to complicate in our work together as mentors and teachers and that we still pursue in our own individual research. Thus, in the creation of our Macromedia Director movie, we invite readers to consider the investedness of technology design and question the premise of the value-free, completely customizable interface. In constructing this piece, we did not want to rely too heavily on text in our design. We, however, wanted to credit Negroponte and frame the interface agent in relation to his sense of its potential to mediate our digital lives. Therefore, the piece begins with a dissolve from an orange frame into a quote from Negroponte’s *Being Digital*:

> Imagine a future in which your interface agent can read every newswire and newspaper and catch every TV and radio broadcast on the planet, and then construct a personalized summary. Imagine a computer display of news stories with a knob that, like a volume control, allows you to crank personalization up or down. You could have many of these controls, including a slider that moves both literally and politically from left to right to modify stories about public affairs. (153-154)

Once readers have read this quote, they can click on the text and watch it recede into the screen of an IMac, which becomes visible. This portion of the movie is an animated sequence in which a shape at the center of the IMac’s screen moves towards the reader. The object is the outline of a torso—wire-like and androgynous.
Concurrent with this animation is a voiceover introduction delivered by Amy in a machine-like cadence:

“Welcome to build your own interface agent, your personalized gateway to the digital world. Please proceed in order to customize your intellectual and functional components.”

After the torso stops moving and the voiceover ends, the animation zooms in on the torso as it moves over to the left of the frame. Once the torso is in position, a dissolve transition introduces the rest of the interface agent—its arm, “head,” and tools (please see figures 3-6). The tools are held in the hand of the agent’s only limb. This appendage, a digital photograph of Melinda’s left arm, has a greenish pallor and looks somewhat cadaverous.

Another voiceover provides instructions for engaging the agent:
“You may now begin the customization process. Please click to explore various options for your agent’s components.”

The screen includes three “clickable,” or executable, areas. The first two are the options for the head and tools. The head portion of the agent is placed atop the figure’s neck and contains 23 different images\(^1\) some of which include a red rose, a globe, a baby, and an African American woman. Additionally, the tool portion contains 20 images\(^2\) some of which include a hypodermic needle, a computer mouse, a gun, and a book. Each of these sets of images is programmed in a random loop. That is, rather than cycling in a consistent order, the images move through a random rotation in response to a reader’s clicks.

The third executable area is associated with the text at the bottom of the frame, “Please build your interface agent*.” The asterisk at the end of this phrase takes the reader to a new screen where the “fine print,” or warranty, for his or her customizable agent is located. It reads:

\[
\text{THIS WARRANTY IS FOR THE ORIGINAL CUSTOMER AND IS NOT TRANSFERABLE.}
\]

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\(^1\) A brain, a red circular graphic, a girl with her tongue sticking out, a Caucasian woman, an older woman with glasses, a heart, a African-American man, a Caucasian man, Medusa, a tribal mask, a pineapple, a target, a cog, a mallard head, a BMW hubcap, a light bulb, a dollar sign, a pizza, a bird of prey, a red rose, a globe, a baby, and an African American woman.

\(^2\) A pen, a compass, a laptop, a clock, birth control pills, a spade, a camera, a hypodermic needle, a computer mouse, a sickle, an iron, a turkey baster, a gun, a tomahawk, a book, a hairdryer, a typewriter, a blender, a CD, and a stethoscope.
Transparent Technologies, Inc. warrants to the customer that the interface agent will be free from defects in materiality and/or workmanship for the period of time of the warranty from the date of invoice. This excludes external peripherals such as contradictory assumptions, inconsistent behavior, and deviant desires. During the warranty period Transparent Technologies, Inc. will correct any defects in materiality or workmanship, or
any failure of the agent to conform to normalized specifications. The terms of this agreement are subject to change without notice.

Instead of directly commenting upon the assumptions behind the notion of a “truly personalized” interface, we include this warranty as a prompt for questioning the promise of such a design. If a reader wishes to return to the agent itself, he or she can click on the text of the warranty and return to the previous screen.

**Visual Figuration**

When we began working on this Director piece, we started with a more literal sense of how we would articulate our concerns about technology. In fact, we started with words, trying to envision ways in which we could take terms—such as technology and gender—and morph them into each other. Each word could be a primary color, and we could offer ways for readers to blend them into other color combinations. Or, the terms could be associated with different shapes that were reconfigurable in relation to each other. These possibilities, however, seemed unsatisfying. Although they presented technology as interconnected with cultural issues, these presentations did little to engage the audiences’ imagination. They also lacked the critical edge that we were hoping for in our composition. Alterations in color and shape didn’t necessarily invite readers to examine their own and others assumptions about technology.

Rather than explicitly telling an audience about our assumptions and experiences, we wanted to conceive of other ways to communicate our arguments. The process of composing visually turned out to be extremely productive for us, but it was by no means automatic. As academic writers and thinkers, we were not accustomed to expressing our ideas visually. Many dominant assumptions
position images as distracting or less intellectually sophisticated than verbal expression. Following the proliferation of the print medium in the West, writing and pictorial art traditionally have been relegated to separate disciplinary spaces, and one result of this split has the privileging of text as an academic means of expression. “Words and images together are considered, at best, a diversion for the masses, at worst a product of crass commercialism” (McLeod 140). Having been trained in relation to these sorts of institutional and cultural assumptions, we did not have a well-developed set of visual strategies upon which to draw. Referencing a range of theoretical formulations, we wanted to comment upon deterministic narratives about technology. But, how could we visually represent these approaches in a way that was meaningful yet still accommodated our desire for contradiction and inconsistency?

Critiques of technological determinism suggest that technologies are cultural constructions which reflect the assumptions and investments of their designers. In thinking about this idea of technological creation, we started with images of Dr. Frankenstein piecing together body parts in a laboratory. Envisioning some of these parts as electronic, we then started thinking about the cyborg as a possible trope. We felt that this notion had promise, but we still needed a way to engage the audience in the overall concept of the piece—in the constructedness of technology. Working with the trope of the cyborg, we wanted to ask readers to reflect upon their own positioning in relation to technology. In order to address this goal, we decided to have readers construct their own cyborgs, ones that would represent their engagements with technology. To refine this metaphor, we drew upon the work of Nicholas Negroponte, and ultimately settled upon the figure of the “interface agent.”
This trope would allow us to raise the issue of technological determinism through the notion of customizable interfaces. Rather than definitively pronouncing that total customization is problematic, we could introduce the possibility and ask the audience to explore its significance.

That is, this figuration allowed us to enact our critique through the design of our own interface. We could create a scenario in which users have choices, but those choices are constrained. Users have a variety of heads and tools from which they can choose, but these selections are not limitless. Similarly, the cycling of the optional components is random, but this randomness is limited by the number of images that we included in the sequence.

The figure of the interface agent, therefore, allowed us to make an assertion about technology without also having to provide a definitive interpretation of our examples. We undoubtedly encourage certain kinds of reflection in the design of the piece. In setting a commercial tone, constructing a sterile, white environment, selecting certain heads and tools, and including “fine print” to qualify the promise of total customization, we hope that users question deterministic assumptions about the neutrality of technology. This questioning, however, is deferred and open-ended. Rather than explaining our stance, we invite users to become aware of their own interpretive roles as audience members and, by extension, our interpretations as the authors of the piece. Rather than working towards transparency or efficiency, we encourage readers to consider how structure shapes their engagement with the materials. As Anne Wysocki suggests, “the visual structures of a text are...also assertions about what kinds of readers we should be” (9).

In certain respects, any type of figuration could be used to facilitate this sort of indeterminacy and audience engagement. A verbal figuration also can encourage readers to interpret ideas through association, juxtaposition, and contradiction. For example, in her discussions of technoscience,
Donna Haraway engages both words and images, considering the ways in which various tropes articulate the complex, imbricated relationships among people, culture, and technology.

“Figurations are performative images that can be inhabited. Verbal or visual, figurations can be condensed maps of contestable worlds” (Haraway *Modest Witness* 11). Although they are not representational or mimetic, figurations have material significance; they both reflect and influence assumptions about the roles of technology in our daily lives. Further, because figurations map dynamic sets of relationships, they also can illuminate the ways in which technological practices and structures are contingent, and thus resistible and revisable (For other insightful discussions of figuration and its deployment as a means to question and rearticulate such areas of our cultural experience as aesthetics, race, hypertext, corporate web pages, critical computer teacher training, and communication practices, see Jameson; Hall, “Ideology”, “Signification”; Johnson-Eilola, “Control”, *Nostalgic Angels*, “Wild Technologies; Kimme Hea, “Articulating”, “Re-articulating”; Slack).

Though both verbal and visual tropes can highlight associative meaning, we believe that the visuality of our interface agent added another productive dimension to our composition. Our process for constructing a visual figure did not involve a complete break from our established composing processes, yet it nonetheless was experientially different. On the hand, our role as authors in this project followed many of the rhetorical habits that we established throughout previous collaborations. We recursively contemplated the relationship between this text and larger cultural contexts, and our visual choices were no less purposeful or complicated that the verbal ones that we make in print-based texts.
For example, the shape of the agent itself was constructed to draw upon certain moods and expectations. We wanted it to be cybernetic and contain both technical and organic components. We gave the agent a humanoid shape in hopes that users would identity with it. Yet, we also wanted to maintain a certain level of abstraction and ambiguity so that it could be positioned in a variety of ways. Thus, we gave it a skeletal frame, an androgynous torso. Additionally, we selected heads that depict a variety of forms, both human and non-human. We wanted these juxtapositions, along with audience assumptions, to complicate the positioning of the agent’s gender, race, age, and other characteristics. This tension optimally would arise not from what was visible at all times but what was visible in relationship to other possible choices.

In selecting these features and placing them within the scenario of an application that lets users create their own computer avatars, we were using visual strategies to build our assertion. Like our composing in other media, we were thinking about our audience and the assumptions that they might bring to the piece. And, using these speculations about our audience, we made choices concerning which images we would use and how we would use them.

Though our rhetorical processes were similar in working with new media, they also were different. Thinking visually, we relied much more on association rather than explanation. For instance, we put 20 potential objects in the agent’s hand. Some of them, like the computer, immediately register as technologies, whereas as others, like the book, might not be placed as readily in this category. Implied in this construction is our desire for readers to not only select a technology for their agent, but also question the category of “technology” itself. Instead of offering overt commentary on any of the objects, we rely on their relationships to each other and the heads to communicate their significance. In supporting this sort of associational presentation, new media allows us to explore
issues of technology in ways that our print-based compositions have not. No textual form (new media or otherwise) has inherent characteristics. Nevertheless, the visual, interactive components of new media can support ways of thinking and communicating that are relational, multiple, and dynamic.

Differences between our work with visual and verbal components, however, were not limited to meaning and authorial choices. Composing with visual elements, we got the sense that text and images engage people differently. We cannot definitively identify either the nature or source of this difference, but we often felt it. For example, we would witness this distinction as readers moved through the piece. After reading thought the introductory quote from Negroponte, people sometimes would remark or ask questions about it, but generally they would move directly to the next screen without displaying a marked reaction. Responses to the images on the agent screen, however, were much more perceptible. People often would react almost instantly with a laugh, facial expression, query, or comment. The visual figure of the agent, with its various heads and tools, prompted viewers to externalize their interaction with the text.

In noting this difference, however, we do not want to slip into determinisms about the visual or privilege one form of expression over another. The relationship between text and image is cognitively and historically complicated, and thus absolutist comparisons oversimplify the mobile, permeable border between the two. “‘Word and image’ seems to be better understood as a dialectical trope...It is a dialectical trope because it resist stabilization as a binary opposition, shifting and transforming itself from one conceptual level to another, and shuttles between relations of contrariety and identity, difference and sameness” (Mitchell 53). Nevertheless, we do want to recognize the potentials for the visual to support desires for contact and embodiment. Our beginning
quote from Deleuze and Guattari suggests that the privileged position for vision often is one of
distance and control—that looking frequently involves detachment rather than involvement.
Nonetheless, the quote also posits that, though seeing things differently is not easy, it is possible.
Rather than enforcing specular distance, vision can encourage connection and engagement.

Although images do not have automatic effects, our response to them is, on one level, visceral.
They seem to have an affectivity and accessibility in proportions different from those of linguistic
signs. Part of this difference is historical and disciplinary, but other aspects seem correlated to the
ways in which images function. Theorist Regis Debray focuses his work on the ways in which
abstract ideas become transformative acts. Part of his inquiry into these political and material issues
is a consideration of the relationship between textual signs and images. In particular, he makes an
argument for the erotic power of images to motivate political action. He suggests that “[w]ords
speak to the intellect, but pious figural representations touch a consciousness attuned to embodied
things. Whether one describes it as ravishment, pleasure or poignancy, under the heading of
euphoria or anguish, the suspension of words is a sensual agitation which holds true in the case of
mobilizing people and participation, physically” (156). His notions of “animality” and touting of the
libidinal and strategic power of images sometimes flirt with essentialism, yet the spirit of his
distinction speaks to our interest in the appeal of visual elements. When people perceptibly and
instantly react to the figure of our interface agent, they are engaging our ideas about technology in
notable ways. And, though we cannot identify exact causation for this kind of response, we
recognize it as important. Visual figuration has potentials for audience engagement—potentials that
have only begun to be explored in our field.
Interactivity

In relation to audience engagement, interactivity also raised significant issues for us in our composition of the interface agent piece. On the technical level, interactivity in new media can be defined as the reader’s ability to use the mouse to initiate “effects” coded into the work. On the theoretical level, however, new media interactivity is more complex than a summary of potential actions. Because the new media reader is navigating the piece and triggering certain effects, he or she is engaging the piece, calling it into being through his or her actions and choices. Elizabeth Ellsworth raises questions about interactivity in educational CD-ROMS, arguing “[i]t’s the suspicion that just as you can’t make someone learn, no matter what pedagogy you’ve designed, you can’t design interactivity. Designed interactivity is an oxymoron” (165). Her skeptical position is well noted—what is at stake in creating a work that at once asks for reader response and yet predetermines the actions triggered by that response? In other words, if the outcome is predetermined, is there really any interactivity? Ellsworth posits an alternative view to such predetermined electronic texts arguing for an approach that understands “interactivity as a constitutive structure of in-between in which ‘there is constantly something to be settled’ (Chang, 1996, p. 102)” (166). This in-between-ness is part of what we were striving for in our own construction of the interface agent, trying to establish a middle space for exploration and allow for the juxtaposition of the work, the reader, and our roles as designers to come into play together.

Without slipping into an uncomplicated, celebratory discussion of freedom and reader empowerment, we want to note how thinking through options for interactivity helped us represent the tensions we experience with technological determinism. Asking readers to click, move, or follow a path gave us an opportunity to play on tensions, juxtapositions, and ambiguity. Rather than relying on one example, honed down to its “essential parts,” new media interactivity allowed for
layering, for imbrication. As creators of the media piece, we can figure a range of possible relationships without making any one of those relationships the privileged example that speaks to technological determinism. In other words, as we constructed the stage on which the interface agent can be built, we allowed for the possibility that readers would, or perhaps would not, discover a juxtaposition of a tribal mask and laptop, pizza and stethoscope, man and turkey baster, or brain and blender. Our own interpretations of the ways in which gender, as one example of cultural difference, is constructed in relationship to technology need not be fixed and predetermined in the writing of our new media piece. Our commentary is embedded into the piece, but this embeddedness does not preclude other possible interpretations of the roles of gender and technology. That is, while we hope that the different juxtaposition of heads and tools prompts readers to question Negroponte’s assertions about the idea of total customization—whether it is achievable, desirable, or even a matter of individual choice, we did not want to argue for a particular interpretation or response from readers.

Negotiating the boundaries of interactivity and coding it into our work, we found ourselves faced with a range of choices—when should an element of the piece be “executable” and how should that action be performed? Choices like having an action occur at mouse up, mouse over, mouse click, among other options, meant we had to negotiate the tension between making meaning and trying to create a single argument. Our choice to “pull” readers into our new media piece, allowing only one choice of mouse click to move past the Negroponte quote, was purposeful. Just as we, in our roles with technology, were not explicitly choosing the ways we were always already hailed into certain subject categories by technology, gender, or collaboration, we wanted a similar context for the readers of our piece. Limiting reader actions, however, is a trade-off. As writers, in choosing to make only one of the frames under the control of readers, we are closing off their opportunities to
skip to another section of the piece. We also chose this pulling in effect to play on the irony of choice articulated in terms of Negroponte’s theory of the interface agent. That is, we sought to complicate his idea that we all (regardless of gender, class, race, sexuality, and other differences) can freely and equally determine our own technological mediators.

The section of our new media work where readers are presented with more executable options appears at the build your own interface screen, the screen where readers can click for a “head” and a “tool” for their own interface agent. This interactivity, the clicking of the torso or clicking of the hand, however, is written as a random selection of 1 of 23 of “heads” and 1 of 20 of “tools”. Theorizing interactivity, David Rokeby suggests that “the interactive artist decides at some point in this process not to choose from among the remaining possibilities but to create some sort of audience-actuated choosing mechanism” (136). In terms of such a mechanism in our pie of our choosing mechanism, we coded randomness into the piece with a purpose—we wanted to pull back from making our own overt mono-story of how users and technologies are positioned in relationship to one another. Our desire for such openness is explained by Rokeby as:

allow[ing] the interactor [reader] to establish a personal identity in the context of the work; this identity is a reflection of the decisions that the interactor makes on his or her path through the possibilities presented. It is possible, and generally intended, that the interactor try out other possible identities, to explore alternate readings of the same structure. (140)

We, however, wanted alternative readings to be possible for us, not just our readers. In our composing, we too wanted to question whether our own commitment to non-deterministic views of technology could be tested against a range of juxtapositions. Would readers, ourselves included,
feel the tension of a representation of medusa and a hairdryer or a Caucasian man and birth control pills? Trying to maintain a tension for the reader, we also embedded the choice to click the asterisk of the disclaimer. A reader who selects the asterisk discovers the most overt aspect of the piece—our claim that the agent cannot necessarily fulfill its promises of universality.

As authors in new media, we acknowledge that readers’ potential actions are constrained and determined by the range of choices we coded into the piece. This acknowledgement, however, does not negate the fact that we are able to present our ideas about binary tension in a different, and for us, more satisfactory way in our new media piece. Representing those juxtapositions is, in fact, less “fixed” than in print and other media in which we have discussed the same binaries. This statement is not to suggest that this preference is always so; we do not believe that new media interactivity always is the best way to express relationships. Rather we want to claim that new media interactivity allowed us to express binary tensions in ways not afforded to us in other media. We are not deceived that choice is equivalent to “freedom” or engendering of democracy. We are convinced, however, that interactivity provides a productive means to articulate power relationships by visualizing assumptions about writer control over texts and reader submission to that control.

**Sound**

Although we have spoken collaboratively about technological determinism at national conferences, we never identified sound as a key feature of these performances. That is, even though we presented our discussions together and took great care in the transitions between each of us as speakers, we did not consider the sound of our own voices in the delivery of the words that we had written. We never considered, for example, whether or not we should have background music to frame the opening of our talk or if we should bring audio recordings of conversations we had with mentees or
students. Considerations of sound are rarely defined as key aspects of composing in most academic presentations or most print-based academic texts. New media not only opened up technical spaces for the incorporation of sound but also asked us to acknowledge this technological capacity as an aspect of our composing.

Despite our collaborative development of a range of electronic texts from email messages, MOO spaces, and WWW pages, neither of us had ever consciously deliberated over the role of sound in our compositions. The only ways that sound had affected our work up until our new media experience was in the form of audio files as “noise”—something to eradicate from the classroom. From turning down computer speakers to using headsets, sound functioned as a distraction to the “real” business of the computer composition classroom. Sound functioned as embarrassment as in the case of students or mentees coming across an audio file in a WWW page, one that causes everyone else in the room to crane their necks quickly to locate the “violator” of auditory decorum. These violations are related to the sense of the classroom, even the computer classroom, as a space where the teacher’s voice dominates the space. Rarely are student voices considered the dominant voices except during class presentations, and discussions of voice are most often “heard” in our field in relationship to the voice in a written text.

Despite rhetoric’s historical tradition in oratory, sound has not been a preoccupation in our field. We considered this aspect of our own composing in new media a challenge—how could we draw upon our limited understanding of both the technical and theoretical role of sound? Our consideration of sound also was narrowly defined up until this point in our composing of the interface agent: we “toyed” with the idea of music as another possible way of engaging our audience, but even our discussions about the incorporation of music made this aspect minimal at
best. Then, we began to realize our own limits as writers of new media—our own print-based assumptions dredging themselves up to the surface of our process. In viewing our own work-in-progress, we could not describe what the “something” was that was missing. Our figuration of the agent was not simply a confluence of textual and visual experiences but one of audibility.

Despite our complex understanding of tropes like “silence”, “naming”, and “coming to voice”, we were not bringing such complexity to our composing in new media. This complexity—the layering of text, image, and sound—made itself even more apparent in our own struggles to articulate the contradictions of technological determinism. Even our own preferred term of “articulate” seems ironic in our reflection on our process to come to sound. As the torso of the interface agent came into view, the reader of our new media piece was left to wait dutifully for the next screen to appear. The pacing of the torso as it emerges onto the screen of the IMac offers the idea of the “digital butler” being called forth, or hailed into being. The missing aspect of this hailing was the voice of being called. Since Melinda already had been embodied in the work through an image of her arm as the human appendage to the technological torso, we agreed that Amy would create a voice over for when the torso appeared on the computer screen.

The effect of the voice over on our audience is interesting. We noticed in the review of our piece by other members of the workshop that those with their speakers turned down did not experience the piece in quite the same way—they didn’t have the “HAL-effect” that other participants described. Roland Barthes contends with the role of sound, particularly music, theorizing that:
the ‘grain’ of the voice is not—or is not merely—its timbre; the significance it opens cannot be better defined, indeed, than by the very friction between the music and something else, which something else is the particular language (and nowise the message). (185)

We do not claim that all persons who heard the voice over experienced the piece in the same way. Instead, as Barthes suggests, there is a connection in the sound of the voice of the words that adheres the listener to the performer, more particularly to the body of the performer and the idea of the physical presence of another person. This understanding of voice, however, further complicates the connections exploited in the interface agent—what is the role of technologized voice? Is the voice the voice of the IMac? The agent? The voiceover plays on the boundaries between the human and the technological.

Conclusion

Whether it is one’s first time facing an empty Word file, a bare HTML page, or a blank Director movie, working in an unfamiliar medium is both intimidating and exciting. A new medium offers productive possibilities but access to those potentials is not unconstrained. As our interface agent piece suggests, the design of a technology impacts our abilities to engage with it. These sorts of concerns have been a continuing theme throughout our work together. Having felt the anticipation and anxiety of composing in a new medium such as hypertext, we have worked together to make this defamiliarization productive. We have not only helped one another learn new technologies but also pushed one another to reflect critically upon these experiences. Such reflection provides us a means of maintaining productive tensions and articulating our commitments to challenging deterministic narratives of technology. By foregrounding the indeterminacy, complexity, and
multiplicity of technical and rhetorical situations, we want to question tendencies to normalize our composing practices.

Collaborating on the interface agent provided us new means to reflect on our long-standing concerns about technological determinism and articulate them in open-ended, ambivalent ways. In pursuit of these goals, we rethought our assumptions about and strategies for audience engagement. Similarly, we explored relationships between form and content and words and images. In our new media composing, we drew upon strategies from our training in print media. We continued to ask questions such as: What assertions are we trying to make? What are our assumptions? Who is our audience? What are their assumptions? And how are we going to make connections among these contingencies? In our answers to these questions, however, we found ourselves drawing upon experiences outside of our typical print-based authorial strategies. Negotiating between the familiar and unfamiliar reinforced for us the importance of pushing at the boundaries of textual production.

Both teachers and students in our field encounter a range of digital media on a daily basis. Though these encounters are often cast as entertainment or extracurricular pursuits, we should seek out ways to investigate these media critically in our classrooms and scholarly discussions. Rather than seeing these engagements as peripheral, we should focus more attention on new media and find ways to see them from the middle.

**Works Cited**


