Technologies of Wonder: Rhetorical Practice in a Digital World

SECTION	Chapter 2
TITLE	(Re)Vision & Remediation
AUTHOR	Susan H. Delagrange
OVERVIEW	This chapter examines the implications for principled rhetorical action of moving seeing and writing from one medium to another. The oscillation between immediacy and hypermediacy during this extended moment of remediation from print to digital allows close examination of the underlying values and assumptions of both. Interactive digital media can take advantage of their hypermediated states and move toward a multimediated feminist rhetorical practice in new media that gives "better accounts of the world" (Haraway, 1991). *Techné*, or artistic knowledge, provides a synthesis of rhetoric as a productive art with our modern idea of technology. As a rhetorical practice, *techné* enacts the paired feminist values of invention and intervention; and in new media production, the heuristic, situated, strategically mobile, and ethical characteristics of rhetorical *techné* enable it to thrive in a multimediated, multimodal digital space. The motivating force of *techné* is wonder, a visual practice, and the digital media through which we pursue an embodied *techné* of rhetorical inquiry and production are technologies of wonder. In new media, rhetorical inquiry is also a visual practice, and vision activates both embodiment and arrangement. Together visual practices of embodiment and associative arrangement provide a framework for ethical performances in digital media.
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(Re)Vision & Remediation

Image: scrappy annie, Eye samples, 2009.

Despite the progress that has been made in developing venues and models for academic scholarship designed and published in digital media, the field of rhetoric and composition still faces questions about the value and rigor of our multimodal work. In this chapter, I make a case for designing multimediated alternatives to logocentric, linear print models of scholarship. I argue that digital interactivity and multimodality (particularly the emphasis on visual rhetoric and representation) provide opportunities for scholarly inquiry that have no equivalent in print, yet are equally as rigorous intellectually. In so doing, I also show the necessity of adopting new criteria for evaluating scholarly digital media that demonstrate the inadequacy of efficiency and transparency as either necessary or sufficient standards for scholarly work. The problem lies, of course, not in word-based, linear argument *per se*, nor in efficiency and transparency as criteria. For many rhetorical situations, these are fitting and time-tested tools. My concern is that these may be seen as always the only, or the best, or the most intellectually appropriate for "serious" rhetoric in digital media, despite the potential of interactive, multimodal, non-linear, "slow" forms to produce complex, rigorous scholarship. As a counter to the tendency toward just such a conservative and limiting inscription, I argue that multimodal, hypermediated, interactive digital media are uniquely suited to produce richer models of academic inquiry and pedagogical performance, and that perspectives on embodiment and materialism afforded by postmodern feminism support a vigorous, visual, digital *techné* whose motivating force is wonder. ¶Both body studies and feminist geography teach us ways of seeing and practices of looking at bodied representations (including images, of course, but also alphabetic, audio, and other texts that are embodied by proxy) that call into question the disembodied Cartesian narratives of a "universal" subject of knowledge. But a foundation for questioning the prevailing logocentric perspective was first laid by feminist historiography, which uncovered a history of denial, a history that claimed women's bodies are incapable of being rhetorical, a history that either refused women access to the public sphere or denigrated and disavowed their performances there. Reasons given for denying women access or disregarding their public performances have ranged from their physical weakness and bodily "unreliability," to their "nervous" or "hysterical" dispositions, to their domestic roles as mothers and "angels of the house."

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With little access to public deliberative and forensic space, their opportunity to influence or participate in public discourse on their own behalf was virtually non-existent; and because this state of affairs was self-perpetuating, over 2000 years of rhetorical tradition have "represented the experience of males, powerful males, with no provision or allowance for females" (Glenn, 1997, p. 2).

Feminist historiographers of rhetoric have worked to rewrite this tradition in two ways: by revising canonical histories of rhetoric to recover the work of women rhetors whose contributions to the canon had been overlooked or ignored; and by redefining what constitutes/counts as rhetorical practice and rhetorical space. In her revisionist recovery work in *Rhetoric Retold,* Cheryl Glenn notes that the *silences* of women within the dominant discourses of an "exclusively upper-class, male, agonistic, and public, yet seemingly universal" (p. 2) rhetoric should not be read as the *absence* of women. Re-gendering rhetoric as a structure inflected by "power, performance, and societal expectations" (p. 12) enables Glenn and others to look for women's rhetoric, not only in single-authored, public texts, but as persuasive voices in textual references, in myth, and in poetry, and to seek them out not only in the public *polis*, but also in the private *idios*. Thus, for example, Glenn relocates Aspasia as companion and logographer to Pericles, Margery Kempe as medieval religious autobiographer and "witness," and Elizabeth I as astute regent who deployed metaphors of the masculine body politic and the feminine natural body (made strong by her chastity) to shore up her authority to rule. Similarly important recovery work has been undertaken for Diotima (Swearingen, 1995), Christine de Pisan (Redfern, 1995), Ida B. Wells (Royster, 1995), and others who were barred from participation in "legitimate" public forensic and deliberative spaces. Of course, the strategy of seeking to incorporate women into the traditional rhetorical canon can be problematic in that it reifies the questionable concept of a canon. Simply adding a few women's voices to an "authorized" body of work continues to confine rhetoric within a unified descriptive and explanatory historical narrative without attempting to reshape the classed, raced, and gendered public sphere. Such token additions may also reinforce the claim that some few extraordinary women are able to excel, but that exceptional rhetorical performance is outside the competence of most women.

A second feminist historiographic move is to redefine what constitutes rhetorical space and practice. Anne Ruggles Gere (1997), for example, explores the literacy and cultural practices of women's clubs, and Nan Johnson (2002) analyzes the gendered restrictions on women's rhetorical performances in the space of the Victorian parlor. Shirley Logan (1999) writes of Anna Julia Cooper, a black woman educator who claimed the right to the public sphere because of women's unique "side to truth" in moral arguments like the right to vote. This claim to an *ethos* of special virtue made it possible for abolitionist women to speak publicly in churches and halls. Unfortunately, their claims could also then be more easily dismissed as emotional (feminine) arguments rather than rational (masculine) ones. Yet women abolitionists and women's rights advocates who attempted to make their arguments using *logos*, the reasoning and bodies of evidence valued in the male public sphere, were even less successful. For example, when Sarah Grimké published letters on women's rights based on reasoned argument and Biblical exegesis, she was excoriated for being "unnatural" (General, 1837, p. 1), a "shrieking woman."

This dual history of both misrepresentation and lack of representation hints at the ongoing problematic of space and the body for women. Their exclusion from the public sphere and their historical

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lack of physical and discursive mobility were rationalized by dominant masculinist discourses about women's bodies—what they should be doing (tending to home and family), and where they should be doing it (in private). And despite the important recovery work that has been accomplished over the past 30 years, there remains a need to write new definitions of public and private space that make both spheres intelligible and available to rhetoric, and that provide full rhetorical access, both analytical and active, in public and private spheres, for women and other underrepresented groups.

The remediation of academic performances from the page and the classroom to the screen provides just such an opportunity to carefully consider how current scholarly publishing, focused primarily on the print journal and monograph, might be constraining other modes of inquiry and argument, and limiting what the academic body should be doing, and where it should be doing it. Digital multimedia provide a public space where traditional alphabetic textual authority bumps up against embodied, sensory, pedagogical performance. Of course, if digital media are pressed into the molds of print, the product that emerges will be simply a pixelated version of distanced linear alphabetic rationality. But rethinking entrenched practices might help to prevent automatic re-inscription of old ideas about embodiment and arrangement—of both people and ideas—that are our Cartesian legacy. And while this legacy has been particularly problematic for women in the academy, who have long been constrained by physical restrictions on how they should look, what their physical deportment (bodily arrangement) should be, and where they should appear (their arrangement in social space), these same concerns also apply for other groups whose class, race, ability, or other (embodied) characteristics set them apart from established and deep-rooted norms.

New media are potential sites for thoughtful inquiry and pedagogical performances that can recover vision and other modes as legitimate means of academic argument. In so doing, they reintroduce embodied rhetoric to the space of the screen. This in turn invites a reconsideration of the term "technology" and its roots in rhetorical *techné* and wonder, and of the complicated interactions of vision, embodiment, and arrangement, both on the screen and in this text. These three concepts, explored in this chapter under the rubrics of Seeing, Seeing Bodies, and Seeing Bodies in Space, circulate and intertwine, speaking freely across and through one another; which one should take precedence in any given knowledge-making performance depends upon the particular time and circumstance and context of the situation at hand. Restored attention to visual rhetoric and representation not only reveals the visual practices of alphabetic texts, but also creates a richer environment and tool-set for scholarly intellectual work; focusing on embodiment brings into the open the human beings who are the authors and subjects of our research, a move that often exposes the biases of universalizing discursive practices; and reconsidering arrangement as a visual practice opens up the possibility of alternative methods of dynamic grouping and display that emphasize inquiry and exploration in rigorous academic work, instead of/as well as proof. Taken together, new ways of thinking with and about vision, embodiment and arrangement, informed by feminist epistemology, might guide us toward an ethical academic digital remediation.

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Remediation

2.1 Middle Rhenish Master, Three conditions of women, *Speculum Virginum,* ca. 1310. Before written literacy was common, particularly among women, lessons in Christian virtue were disseminated and contemplated through images. This example, from an early fourteenth-century *Speculum Virginum* (*Mirror for Virgins*), was intended for the education of nuns, and depicts the spiritual harvest that will accrue to virgins (one-hundredfold), widows (sixtyfold), and married women (thirtyfold). Click image to enlarge.

The emergence of interactive digital media—web pages, Flash, video, blogs, wikis, databases, and more—greatly expanded the opportunities for experimenting with visual and embodied content, as well as with more flexible alternative arrangements of image and text. And once minimum cost threshholds were met, the Internet also provided a fast, low-cost delivery system for publishing scholarly work composed in electronic media. But this potential also raised concerns—about peer review, about the "seriousness" of technology and design as components of rigorous scholarship, about the evaluation of such work for promotion and tenure—as researchers engaged with the affordances and constraints of digital media vis-à-vis the more familiar medium of print.

In the Preface, I recounted an energetic online discussion about Cheryl Ball's designs for her 2003 job-market website. Arguably, the reactions she received to her designs were inflected by her respondents' sense of what is "appropriate" for job application materials—complex performances of scholarship and self—when they move from the medium of print to the newer medium of the Web. Remediation, according to Jay Bolter and Richard Grusin (2000), is "the representation of one medium in another" (p. 45), "the formal logic by which new media refashion prior media forms" (p. 273). The process of remediation is bi-directional; not only are the design, structure, and use of a new medium initially patterned on its predecessor, but as the new medium evolves, it in turn influences (re-mediates) the design, structure, and use of the previous medium. While Bolter and Grusin identify remediation as a "defining characteristic" of digital media, remediation itself is an ancient practice. Speech was remediated as writing; hand-lettered manuscripts were remediated as printed books; religious texts were remediated in satin-stitched samplers. More recently, printed and other visual and verbal texts are being

2.2 Francis Grice, daguerreotype of unidentified man and woman, ca. 1855. Daguerreotype collection, Library of Congress.
It is already apparent in this mid-nineteenth century image that photography brought about a democratization of portraiture, which had previously been available only to wealthier individuals and families.

2.3 Brayton J. Wilcox, portrait of Representative William Hough and family, 1852-53. National Portrait Gallery, Smithsonian Institution.

remediated in a range of digital media. Remediation in these (and most) cases is usually considered to be "progressive," in the sense that the customary movement is from older to newer, "better" media, but this is not always the case. Soundtracks of popular films, for example, are remediated on CDs and on the radio, and the films themselves are remediated as toys and other lucrative spin-off products.

When a new medium emerges, the process of remediation takes a predictable path. At first, an emergent medium looks much like its predecessor. Photography, for example, initially resembled painting. The couple in the ca. 1855 daguerreotype by Francis Grice (Figure 2.2) are formally dressed, and look solemnly in the direction of the camera, much as the Hough family in Brayton Wilcox's 1852-53 painting (Figure 2.3) composed themselves for their formal portrait in oil on canvas.

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In similar fashion, early film resembled the theatre; scenes were recorded from a fixed perspective with no cuts or editing. Among the most popular subjects were performances like *The Buffalo Dance* (Figure 2.4), filmed at Thomas Edison's Black Maria studio in 1894. It was not long, however, before filmmakers began to experiment with effects made possible by recorded media. In 1899, Georges Méliès, although still employing a fixed camera position and stage set, used editing techniques to create "magic" in *L'Impressionniste Fin de Siècle* (Figure 2.5).

2.4 Thomas Edison, still from *The Buffalo Dance,* 1894. Library of Congress. Other performances from Buffalo Bill's Wild West Show were also filmed at Edison's studio, including a shooting demonstration by Annie Oakley. Click image to play.

2.5 Georges Méliès, still from *L'Impressionniste Fin de Siècle,* 1899. Méliès' earliest films were streetscapes and events like those captured by the Lumière Brothers, but he used multiple exposures to create "trick" films as early as 1896. Click image to play.

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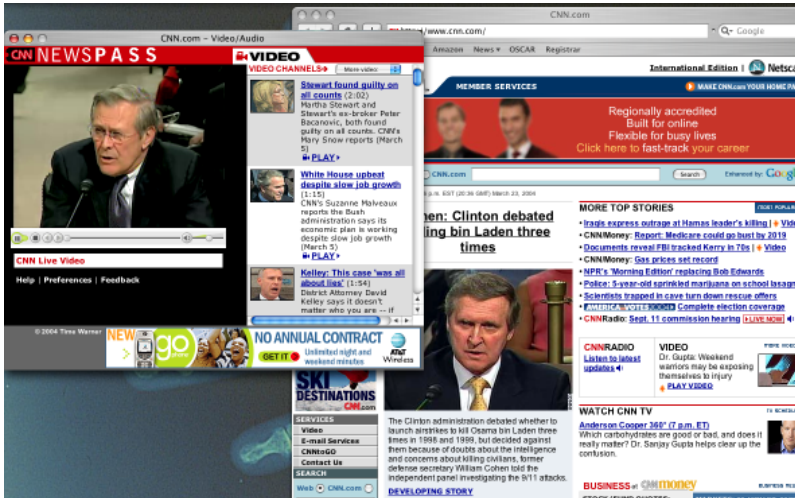

2.6 CNN.com screen capture, www.cnn.com, March 23, 2003. Image by author. This was the third day of the second Iraq War, and even with a high-speed connection, the increased traffic on the CNN website caused frequent stalls and freezes of the "live" feed.

In a more contemporary example, the Web version of CNN, which appears in the right window in this screen capture (Figure 2.6), resembles the multi-paned agglomeration of text, graphics, and video of the televised version; the televised version itself, a live feed of then-Secretary of Defense Donald Rumsfeld testifying before Congress, appears here in the window on the left in a re-remediation, the simultaneous web-casting of a live televised program. And both of these windows are layered over the desktop image of a Macintosh computer, another mediated space.

The examples of painting-to-photography and stage-to-film illustrate the most simple form of remediation, uncritical attempts to replicate an experience in which "the viewer stands in the same relationship to the content as she would if she were confronting the original medium" (p. 45). However, the CNN example is more complex. For a new medium to justify its use, it must demonstrate that it is in some way "better" than prior media. For example, simple digital remediation, like text-on-the-page to text-on-screen, might promise that it is better by reason of easier access or greater speed. Digital media might also offer "value added"; *Encyclopaedia Britannica* online includes sound clips and video in addition to the alphabetic text and static illustrations found in the print version. In a more assertive remediation, digital media might attempt to combine several older media to provide a heightened experience; Bolter and Grusin use the example of music videos, which combine the "old" media of CD-ROM and live performance into one re-mediated experience (pp. 42-43). CNN.com was uniquely positioned to provide 24-hour blanket coverage of the events of and following September 11, 2001, including the beginning of the wars in Afghanistan and Iraq. With the inclusion of the live feed from CNN television, the CNN.com screens in Figure 2.6 attempt to push their remediation

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even further and "to absorb the old medium entirely, so that the discontinuities between the two are minimized" (p. 47). In fact, however, this example, by simultaneously showing us the CNN.com web page *and* the live feed from CNN television, emphasizes rather than minimizes the remediation effect, and also demonstrates the bi-directionality of remediation. Bi-directionality is the second sense in which remediation is seen as "progressive"; both the new medium and the old continue to change and adapt in response to one another. As CNN.com developed into a multi-paned, multi-linked access point for news, the "old" televised version reacted by remediating itself in turn, adding multiple on-screen windows, menus, and "crawls" of headlines, stock prices, and football scores to replicate the appearance, if not the reality, of CNN.com's interactivity.

Bolter and Grusin's articulation of remediation runs into difficulty, however, when it maps appearance and reality onto the twinned logics of hypermediacy and immediacy. With all media, but particularly with new media, the viewer experiences an oscillation between immediacy, the sense of immersion in or "liveness" of the medium, and hypermediacy, the ways in which the medium calls attention to its mediation. Yet Bolter and Grusin seem to suggest that, for most people, immediacy—a transparently "real" experience of a medium that erases the frame and appears to provide unmediated access to its content—is the over-arching desire of new media, and the desire of their users. Prior media have also made this claim. The history of Western perspectival painting is heavily influenced by Leon Battista Alberti's notion that viewing a painting should be like looking through a window from a single, monocular point of view at a "real," unmediated scene (1645/1991, p. 55). Transparent immediacy appears to be making a truth claim, a claim that the more real something is, the more "liveness" it has, the truer it is. But the suggestion that unmediated access to "reality" or "truth" should be the goal of media in general is very much tied to a subject of knowledge who desires the power and control which come from a transcendent "view from nowhere." In this view, the desired "remedy" of remediation is the eventual restoration of a seamless, unified perceptual field in which the apparently containerless content becomes transparently real, resulting in the restoration of a disembodied relationship with information and knowledge that we currently experience through the naturalized medium of print. Bolter and Grusin rightly note that there are "ways of looking other than the appropriating male gaze" (p. 81), but it is easier to set aside "male" than "appropriating," which seems implicit in a disembodied desire for the real.

Hypermediacy, on the other hand, which calls attention to its mediation through the accumulative effect of stacking, layering, linking, juxtaposing, and other visual, verbal, and aural strategies, would seem to resist a unified perspective, offering a multiplicity of points of view on every screen (pp. 33-34). Yet ultimately, suggest Bolter and Grusin, the awareness of hypermediacy only reminds users of the immediacy they desire. If this is the unstated goal of remediation—a "new, improved" way to inhabit the same old unexamined Cartesian spaces and relations of knowledge and power—it is little wonder that conventional, conservative, transparent practices of "appropriate" academic discourse tend to reassert themselves in new media spaces. (This is reminiscent of Dennis Baron's argument [2009] that new technologies are only accepted when they appear to replicate the virtues and values of the old.) Web pages, for example, have the potential, through their expanded capabilities for arrangement and hypertextual navigation, to denaturalize the

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organization of images and text. Such a denaturalization, in making the familiar strange, alerts us not only to the possibility of multiple paths through a text, but also to the constructedness of the paths and texts themselves. Furthermore, hypermediated texts hold out the possibility for a richer rhetoric that takes advantage of diverse appeals afforded by the contributions of images, sounds, animations, and video to the meaning of the text. The "pages" of the refereed journals *Kairos* and *Computers and Composition Online* are rich with interactive multimodal work that enact a *techné* of rhetoric and pedagogy. Recent volumes include special issues on Rhetoric, Technology, and the Military (*Kairos*, 2010), Composition in the Freeware Age (*C&C Online*, 2009); Manifestos! (*Kairos*, 2008); Media Convergence (*C&C Online*, 2008); Classical Rhetoric and Digital Communication (*Kairos*, 2007); and Sound in/as Compositional Space (*C&C Online*, 2006) by such new media scholars as Jonathan Alexander, Dànielle DeVoss, Virginia Kuhn, Ryan Moeller, Alex Reid, Rich Rice, Madeleine Sorapure, Stephanie Vie, and Joyce Walker. Yet outside of a growing but still small community of computers and writing scholars, English Studies remains deeply suspicious of new media, frequently insisting even in multimediated spaces on a print-centric rhetoric that values primarily *logos* and a severely circumscribed application of the canons of invention and arrangement. Consequently, digital media work assigned to students often asks them to do little more than produce traditional linear print, with an image or two thrown in as mere illustration rather than as a necessary contribution to the meaning of the text. And the teachers and scholars who make such assignments, if they publish in digital formats at all, may still find themselves compelled to produce similarly ramified hypermediated texts to represent themselves and their work.

Interestingly, despite Bolter and Grusin's emphasis on transparent immediacy as the ambition of new media, they seem to suggest that a desire for immediacy is always already subject to a concern with the power and influence that images might acquire as they try, but ultimately fail, to become truly transparent, as the viewer becomes lost in their hypermediated surface (p. 84). But I would argue that this implicit fear of the power of visual representation provides all the more reason to teach critical techniques for the consumption and production of images, so that they will not appear so mysterious or unreasonably powerful. After all, visual representations are always already mediated (and embodied), and immediacy, no matter how transparent to us, is still an experience, not a reality.

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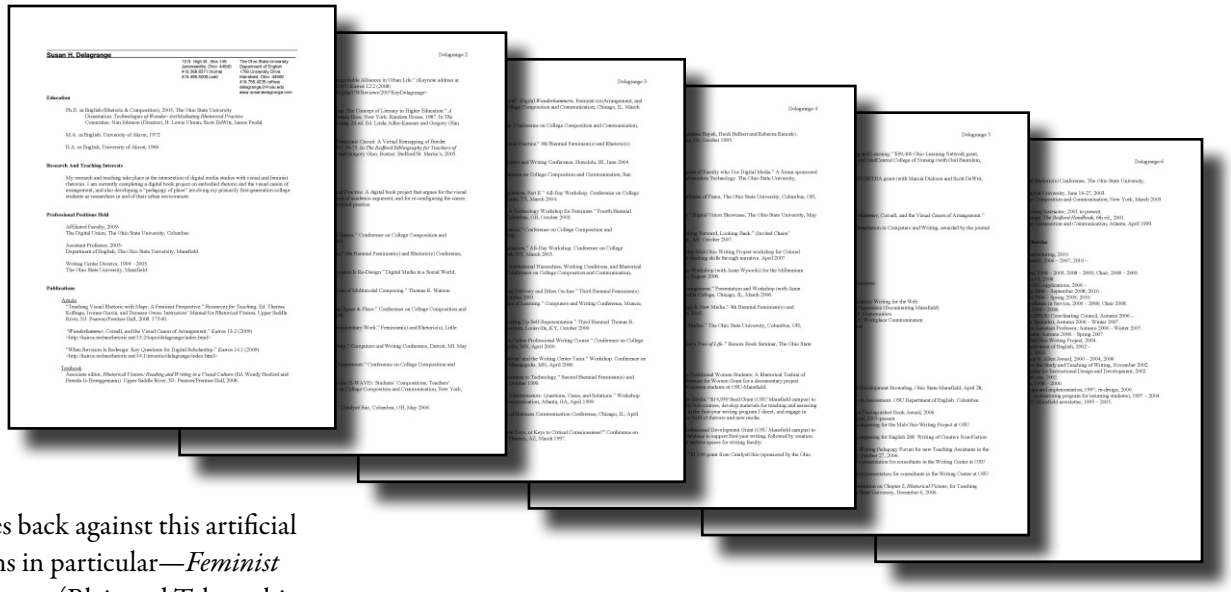
Academic Representation & Digital Media

Bolter and Grusin (2000) describe an underlying tension between hypermediacy and immediacy, between opacity and transparency; and this tension often becomes explicit when digital media scholars attempt to give an account of their professional lives, but find themselves stuck between the felt need to observe the conventions of traditional *curriculum vitae* and institutional websites, and the desire to foreground their embodied, multimodal digital work and hypermediated digital selves.

A professional academic website, like the example Ball was constructing for her job search, is a remediation of two prior media. One is the set of alphabetic texts that comprise an academic dossier: a *curriculum vitae* that provides a chronological history of degrees granted, degree-granting institutions, positions held, courses taught, presentations given, services rendered, grants received, scholarship produced, and honors awarded, along with copies of articles and other publications, course syllabi, student evaluations, letters of reference, and other pertinent documentation of a professional life. The second prior medium is the professional body, which appears in its academic identities as teacher, speaker, colleague, researcher, and in its material identities as woman, Chicana, young, plump, loud, tall. These media, one textual and one embodied, are mirrored in Bolter and Grusin's twin logics. On the one hand, the text—the academic dossier—has reached the state, through tradition and repetition, of transparent immediacy. It is no longer present to us as a medium of representation; we have been trained to see only the content, and not the form (Lanham, 1993). On the other hand, the embodied professional (particularly the non-male, non-white, or otherwise different body) is hypermediated: the form, the container, the medium, of his or her professional identity is always already present between the viewer and the "content."

2.7 Six examples of rotating images on Dànielle DeVoss' web page, 2011. Used with permission. DeVoss, an associate professor and Director of Professional Writing at Michigan State University, uses more than fifty of these four-frame "filmstrips" randomly on her splash page, where they build a complex picture of the interconnectedness of her professional and personal lives and passions.



2.8 Susan Delagrange, *Curriculum vitae*, 2011.
Even reduced to 20% of its original size, most academics would immediately recognize this document as a *curriculum vitae*, with a header including name and contact information followed by traditionally formatted categories of degrees earned, employment history, research interests, publications, courses taught, service to campus and profession, and so on. It is interchangeable in form with the CVs of most academics in the Humanities.

A significant body of scholarship pushes back against this artificial and debilitating separation. Three collections in particular—*Feminist Cyberscapes: Mapping Gendered Academic Spaces* (Blair and Takayoshi, 1999), *Eloquent Images: Word and Image in the Age of New Media* (Hocks and Kendrick, 2003), and *Webbing Cyberfeminist Practice: Communities, Pedagogies, and Social Action* (Blair, Gajjala, and Tulley, 2008)—address ways in which digital visual rhetorics and online communities contest the print-centric boundaries of traditional teaching and scholarship and take steps toward more "full-bodied" representation. Yet to date, much of this work focuses on classroom practice rather than on new models for scholarly performance.

Because of its Cartesian foundations and conservative inertia, the academy has been slow to accept the legitimacy of embodied visual representation in scholarly publications. Instead, the body is meaningful only in silent relation to an unmarked, unarticulated standard; it remains unspeakable and unintelligible: the form(less)-ness *is* the content. The body should disappear; we should be able to look through it as transparently as we do the form of the dossier. For Ball's web design to meet these expectations, her digital *curriculum vitae* should be identical to the familiar, transparently formal academic dossier; and her body, any evidence (as manifest in the images and visual design of the site) that she exists outside of her intellectual pursuits, should be expunged lest it leave the wrong impression—or any impression at all—on the smooth, regular, disembodied surface of the text.

The tension between transparent immediacy and opaque hypermediacy becomes apparent in the responses to Ball's site designs. In the respondents' articulation of what they saw as the academy's desire for immediacy, for texts that would provide easy, efficient, "unmediated" access to Ball's professional life, they suggested that her remediated

dossier should replicate as closely as possible the form and content of its print predecessor, including making print versions of the documents available for electronic download as .pdf files which would be identical to a print dossier. Of course, this means that, even had Ball composed a born-digital multimedia dossier with hypertextual links to pages and sites both inside and outside her website, she would be forced to retro-design—re-remediate—that dossier into an ill-fitting print format. In addition, her respondents had similar concerns about the visual representation of her professional body as revealed in design proposals that included a photo of Ball as a child, bowling pins, and several iterations of flamingos and palm trees. Several of her respondents liked one or more of her designs: Jeff liked the design that included a "speaking" menu; Steve thought all her sites "connoted 'fun,' 'sassy' (in a good way), 'graphic artist,' 'techno-savvy'"; Carole weighed in on two designs which she believed "clearly evidenced [Ball's] creativity while also offering an easily navigable path to the specific areas hiring committees are wanting to see" (TechRhet, 2003, n.p.). However, for others, none of these designs, it seemed, would do. For them, all of the designs spoke too insistently of the embodied presence behind the images, a presence that did not fit the deliberate calculus of professional scholarly performance.

It is impossible, of course, to know what the reactions of the TechRhet listserv might have been to different designs by Ball, so it is not possible to connect the concerns about usability and professionalism raised by the listserv to specific worries about gendered representation. However, there are tacit links between concerns about representations of our professional selves that include images and other non-traditional elements, and the widely held belief that the most "appropriate" representations of our *scholarship* are still those which are immediately and easily accessible in traditional alphabetic forms, and which do not challenge the viewer with any confusions about embodied form and disembodied content (evidenced by the relatively small number of departments in the humanities that to date have re-written their tenure documents to explicitly include publications in non-print forms and venues as proof of scholarly excellence).

Bolter and Grusin's perhaps unintentional emphasis on the desire for immediacy and Baron's claim that new technologies (e.g. digital multimedia) are accepted only when they replicate the values of their prior forms (e.g. alphabetic print) both suggest that for scholarly production, the unstated goal or unintended consequence of remediation may be the re-inscription of Cartesian space and relations of knowledge and power. Certainly it has been the case with many new technologies that their primary use has been formed by the values of a dominant, corporate, commodified culture. After a while, this dominance begins to function as a discursive social ideology: the advertisements on television, the telemarketing calls at dinner, the slick pages that we must leaf through to get to the meager editorial content in mainstream magazines, all seem to blend together into "the way things are," and we can't remember that there was ever anything else (Althusser, 1971; Eagleton, 1991, p. 196).

But there is some slippage here: the assumption, first, that technology works in only one way; second, that one way is "best" for all users and all situations; and third, that we are all passive consumers of technology and its products. We know from Foucault (1979, 1990) that social structures—in this particular instance the network of objects, bodies, and material practices that represents academic technologies on the Web—are constituted in fluid relations of knowledge and power and, because power is not given or taken, but rather arises from relations between people and institutions, those relations are susceptible to resistance and change. Points of remediation, where both the new and

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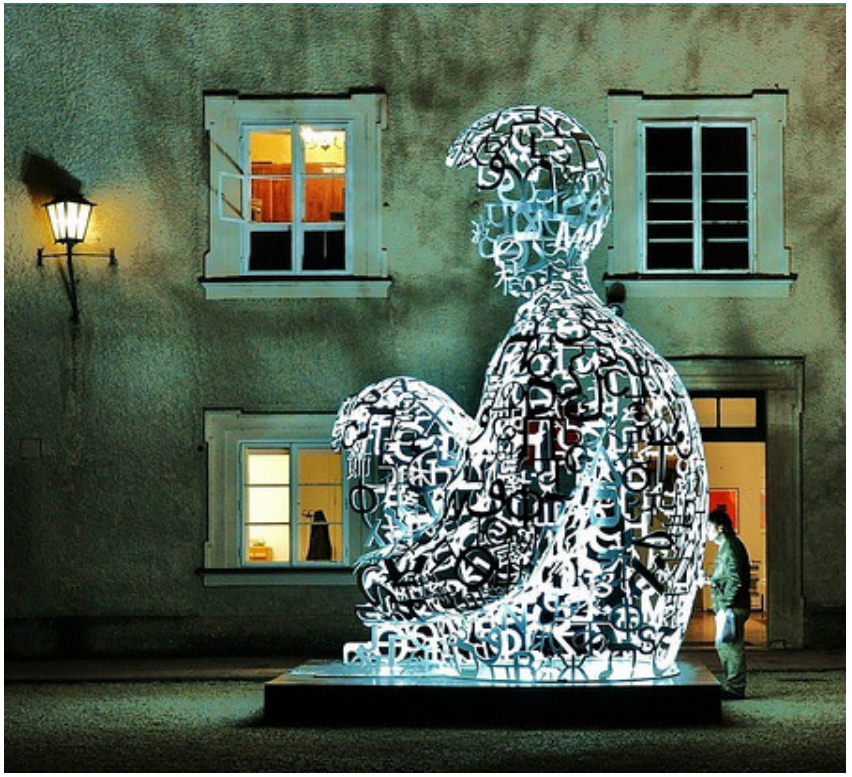
the old media become very present to us, and where the networks of practices that will become their social technologies are still forming around them, are the sites where the experience of media is most hypermediated, and therefore most susceptible to resistance. When we are aware that we are looking through a mediated lens, we know that our experience is constructed, that it is generated in part by the medium. For example, when CNN.com was launched in 1995, viewers perceived it as hypermediated in comparison to the CNN television network. They became newly aware, because of the differences between the media, that what they were seeing on screen was mediated. The format of CNN.com was more newspaper-like, less television-like. Unlike the network broadcast (and also unlike newspapers), the site was interactive rather than passive. But noticing that the information delivered by CNN.com was mediated then made viewers notice that the content on the CNN television network was also mediated. It is at these moments of remediation that both media are most open and responsive to change, because we are most able to look at, rather than through, each medium, and to perhaps see what kind of a world view it invokes, and what kind of a viewer it wants us to be.

From a feminist perspective, and thinking now about our own mediated scholarly performances, hypermediacy—the way in which the medium calls attention to its mediation—is a powerful mechanism. As soon as we realize that we are looking at a medium, we are able to notice that others stand in different relations to that medium, and to the representations it makes. They see it differently, and are affected by it differently. Furthermore it becomes obvious that changing the medium changes the message, and therefore content cannot be understood except in relation to its form, its material substrate. These insights exemplify what Donna Haraway calls "the privilege of partial perspective" (1991, p. 183). While there are those who maintain a vested interest in a totalizing monocular "view from nowhere," social theories of science lead to the conclusion that all knowledge claims are constructed and that claims about the unassailable objectivity of either methods or



2.9 *We* by Jaume Plensa, 2008. Photograph by Sasha Belopolanski. Plensa sculpts figures from letters and words in multiple languages, a vibrating remediation of image and text.

results are not supportable. While the alternative to this deconstruction of scientific method and objectivity might seem to be pure relativism, Haraway argues instead for a strong (feminist) objectivity that is "about limited location and situated knowledge, not about transcendence and splitting of subject and object" (p. 190), confident that such embodied knowledges, when considered and tested together, will result in more (although not absolute) objective vision that provides "better accounts of the world" (p. 196).

Emphasizing immediacy as the ultimate objective of remediation is yearning for the God-trick of omniscience; it is more ethical from a feminist perspective to imagine a productive, never-resolved oscillation between immediacy and hypermediacy, or perhaps even a relationship in which immediacy, the disappearance of the medium, is simply a special case of hypermediacy, in the same way that Michael Joyce (1995b) claimed, "All text is hypertext. . . . The linear is merely a special case of the multiple" (n.p.). In each case, print-based linear textuality is displaced from its position at the top of a hierarchy: in the case of hypermediacy, from a hierarchy of modes; in the case of hypertext, from a hierarchy of spatial and navigational relationships.

Thinking of hypermediacy as the "prime case" of remediation accomplishes two things: it reminds us that the multi-sensory qualities of media that are so present to us in a hypermediated state are an inextricable part of the meaning of the text; and, by calling attention to the mediation, it provides a continual *aide de mémoire* that our perspective is partial, a function of the frame, and that partial perspective is the best we can do. But that is a good thing, because claiming hypermediacy as the norm rescues us from the will to power implicit in a desire for transparent immediacy that strips away our sense of meaning as culturally constructed.

If hypermediacy were the defining characteristic of digital remediation, then inquiry and provisional understanding, rather than closure and mastery, would be its goals. We could use the Web and other interactive digital multimedia as technologies of inquiry modeled on Haraway's idea of situated knowledges, situated not only in terms of multiple perspectives, but also situated in relation to the form/content dynamics of words, images, sounds, motion, and hyper-arrangement that value patience and ambiguity as paths to embodied knowledge and performance.

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2.9 NASA, Volcanic plume Prometheus on Jupiter's moon Io, 1997. (Prometheus rises from the round crater near the day/night teminator and casts a reddish shadow.)
According to Aeschylus' re-telling of the myth, Prometheus not only stole fire from the gods and gave it to humans; he also gave them the productive arts of architecture, astronomy, writing, animal husbandry, ship-building, and medicine.
Yet arguably it is fire, which Prometheus called "mighty teacher of all arts," that enabled humankind's most significant deployments of *techné*. "I purged / The glancing eye of fire, dim before, / And made its meaning plain," he claimed, positioning *techné* as purposeful human action that takes the world as it is and makes it into something that could not come into being otherwise.

Techné

Every remediation involves either a new technology, or a new way of using an already-existing technology. This is true at the superficial level of technology-as-tool, but more importantly at the more profound and embodied level of technology as a cultural network of material social practices. We cannot think about the remediation of our scholarly pedagogical performances in the spaces of new media without first considering what it means to work with digital technologies, and we cannot approach that subject without a fuller understanding of the term "technology" itself, and what it implies for feminist-inflected rhetorical practice. Instrumentalist perceptions of technology as mere tools are well entrenched, and unfortunately this meaning has been used in academic communities to differentiate between the "intellectual work" of the mind and the "practical work" of the hands in order to denigrate or dismiss the latter. To counter this perception, any discussion of the work that digital media scholars do with the technological accoutrements of our teaching and scholarship must begin with rescuing the word "technology" from its current instrumental definition and recovering its richer, rhetorical relationship to the epistemic art of *techné*.

In classical rhetoric, *techné* occupies a middle space between theoretical knowledge (*epistémé*) and practical knowledge (*phronésis*). Theory is knowledge in the head, concerned with first principles, essential and invariant truths; practice is knowledge in the hand, concerned with taking action, with doing something in the world. Between these two stands *techné*. *Techné* is productive knowledge, concerned with a higher order of action that is guided by reason, and results in a product outside of itself. Aristotle definitively associated rhetorical *techné* with other productive arts like medicine, architecture, and navigation,

rather than with the abstractly theoretical (mathematics) or concretely practical (carpentry) arts. *Techné* relies on a relational incorporation of thinking and doing that becomes more and more inductive with experience, and as such is also the most embodied of the arts. In other words, in classical rhetoric *techné* is a "making," a productive oscillation between knowledge in the head and knowledge in the hand.

The modern theory/practice binary, which effectively conflates the productive and the practical arts, confuses productive *techné* with practical technique, or habituated knack (Worsham, 2002) and defines technology only in relation to technique, a skill or craft whose *telos*, or end, is the activity itself. But productive arts have ends that are outside of themselves, and that depend on an outside audience to judge their value. The *techné* of medicine has good health as its end, and the patient as its judge; the *techné* of navigation has safe harbor as its end, and the passenger as its judge; and the *techné* of rhetoric has belief or persuasion as its end, and its audience as its judge. While each of these involves technologies—stethoscopes, sextants, speech—those technologies are meaningless without their strategic, situated use by an experienced practitioner who employs sight, sound, smell, and touch to interpret their material output, and experience and reflection to make considered decisions about how to proceed. Janet Atwill (1998) describes this deployment of *techné* as "knowing how" and "knowing when" (p. 59), the ability to react moment by moment to a given situation and make the appropriate response. To these I would add "knowing why," the self-conscious development of explanatory models which transform *techné* from an individual skill into "a set of transferable strategies" that can be taught.

Scholars in the relatively new field of technical communication have also invoked *techné* as a means to counter the perception that their work falls exclusively on the practical side of the theory/practice binary. In 2002, a special issue of *Technical Communication Quarterly* was devoted to applications of *techné* in classroom teaching and professional projects. Ryan Moeller and Ken McAllister (2002) argued that students, rather than being pushed prematurely into the mechanics of document design and production, should first be introduced to the many manifestations of *techné* (as art, as ingenuity, as cunning) to help them "realize the role that imagination and power play in their work as artisans of technical communication" (p. 188). Frances Ranney (2002) (re)read Aristotelian *techné* as action rather than object, and pointed out, "Apparently technology was something ancient people did; they did not possess it and, thankfully, it did not possess them" (p. 211). And James Dubinsky (2002) asserted that teacher preparation for PhD students in technical communication should abandon the current formulaic, "system-centered" training in favor of preparation that emphasizes a *techné* of reflective practice in which teachers know both the "how" and the "why" of what they do, and are thus able to adapt to everyday contingencies (p. 132). Many articles in this issue invoked Robert Johnson's landmark *User-Centered Technology* (1998), in which he notes "how integrally related the arts of practice and production were for the Greeks" (p. 58), and argues that technical communication should shift its focus from technologies to the users of technology. *Techné*, says Johnson, resides in its users. Although most often portrayed merely as manipulators of technology, Johnson points out that users are also producers of knowledge. The rational/experiential mix of practice and production upon which they draw is *techné*, although the complexity and sophistication of their jobs is often invisible in workplaces that divide employees into knowledge workers and "practical" support staff (pp. 59-61).

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2.10 John Seller, Man using a cross-staff to determine latitude by sighting on the sun, *Practical Navigation*, 1680.
Knowing how to take a reading from the position of the sun or the North Star is a learned technique. Combining that information with the look of the clouds, the smell of the air, the intensity of the wind, and the pitch and roll of the deck underfoot, and then adjusting to those conditions minute by minute, is *techné*.

Johnson is interested in reintroducing *techné* to highlight the intellectual work of technical communication. Atwill's (1998) motivation in reviving *techné* is to resist the liberal arts tradition and what she sees as its emphasis on a universal subject of knowledge, a position she argues is blind to differences in gender, class, and race, and antithetical to the strategic, situational, interventionist understanding of rhetorical *techné* as an epistemic art. Defining it against humanism and the theory/practice binary, Atwill identifies three ways in which *techné* differs from the liberal arts tradition:

1. A *techné* is never a representational body of knowledge.
2. A *techné* resists identification with a static, normative subject.
3. *Techné* marks a domain of human intervention and invention (p. 2).

The productive arts do not rely on a given knowledge set, but on a process of approximation that weds experience to the exigency of the moment. The knowledge of *techné* is contingent, created in the moment of making, and as such is a heuristic process of discovery. *Techné* is also not a static quality or power, and therefore cannot "belong" to a normative subject. As it is deployed, it continuously changes both the situation and subject. It is this oscillating concept of *techné* that is in play in the postmodern feminist application of technology to gender. Understood as a relational practice, technology in this context includes both the tools "at hand," the facility of the tool-user, and the network of experiences, motives, practices, and cultural understandings that inform its use. Technology is not intelligible outside of the social and cultural contexts of its use. For Teresa de Lauretis (1989), film and other representational media function as "technologies of gender" through which gender is "not a property of bodies, or something originally existent in human beings, but the set of effects produced in bodies, behaviors, and

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social relations" (p. 3) within the larger network of institutional and cultural practices. Similarly, Anne Balsamo (1997) identifies various imaging technologies as "technologies of the gendered body" which continue to mark gender as a "boundary concept" used to monitor that cultural space where gender "is both a determining cultural condition and a social consequence of technological deployment" (p. 9). Both de Lauretis and Balsamo use "technology" here as a *techné* with which to first resist the production of a normative gendered subject, and then to map out "a domain of human intervention" that identifies alternative actions and reactions to cultural norms.

All technology is cultural, and culture is continually reproduced through technology. But there is a danger, as Christina Haas (1996) has noted, of reverting to an instrumentalist view of technology and thus concluding that we have no agency in constructing the tools we use and the knowledges that inform their use, that we are in effect caught up in the mechanisms of their reproduction. This tendency to see both physical and social technologies as descriptions of "the way things are" rather than as opportunities to imagine "the way things might be different" hobbles the productive use of *techné* as an epistemic art because it concerns itself more with analyzing "the made" than with "making." As Atwill's third point argues, *techné* is a situated and strategic art that identifies opportunities to intervene in normative discourses of power, but it is process, not product; contingent, not definitive; heuristic, not algorithmic.

The flexible, embodied concept of *techné* seems particularly applicable to interactive digital media, electronic spaces where we can see and hear, manipulate and learn from the material evidence that is at the heart of rhetorical inquiry. With the work of Atwill (1998) and Johnson (1998) as background, I want to focus in particular on four characteristics of rhetorical *techné* as they apply to modern technologies; these both define it as a productive art and are relevant to the digital technologies which have become an integral part of rhetoric's "available means of persuasion":

- *Techné* is heuristic, a process of making, and thinking, and re-making, through which meaning and knowledge are constructed; and it draws on both the embodied experience of the *rhetor* and the conscious "manifestations in the mind" (Mitcham, 1994, p. 159) that make *techné* teachable. In other words, it is a recursive process of invention that resists the conventional and conservative. Richard Enos and Janet Lauer (1992) emphasize the connection between *techné* and the heuristic potential of rhetoric as both the ability to generate new means of persuasion from existing *topoi* and the ability to invent entirely new proofs, both of which are dependent upon the co-creation of meaning between *rhetor* and audience (pp. 79, 81-82). Interactive digital technologies assist and enhance the active search for new meanings by providing a venue for trying out and reflecting on multiple connections—literal and conceptual—among images, texts, sounds, animations, and other media in a process of iterative invention.
- *Techné* is situated, specific to the embodied and material conditions of a particular time and place. *Techné*, as Atwill (1998) demonstrates, is not the application of stable and universal rules or principles to a problem, because it recognizes that values and identities shift with circumstances, and no single solution can be right and just for all individuals, all the time. It is easy to lose sight of this specificity as modern technology-as-tool removes us from the embodied, sensory interactions of *techné*. Doctors rely more on blood tests and MRIs for diagnosis and treatment

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than on prolonged observation of the look and sound and feel of their patients' bodies. So too rhetorical persuasion can become separated by abstractions and statistics from the actual circumstances of those whose lives will be affected by the deployment of that rhetoric. Digital media, by representing through sight and sound the embodied characteristics of the rhetorical situation, can support a more kairotic application of the principles of persuasion.

- *Techné* is mobile and strategic, adaptable to changing circumstances and new challenges. *Techné* remains in a constant state of preparedness to take advantage of chance and opportunity. The Sophists claimed that they could make the weaker case appear the stronger, and were criticized for this apparently amoral stance. But in circumstances where one individual or group is more physically, socially, or economically strong, the less powerful must find other strategies to prevail in a just cause. They must invent ways to

2.11 Attic unguent jar depicting Athena springing from the head of Zeus. ➛ Musée du Louvre, Paris. Photograph by Bibi Saint-Pol.
The figure under Zeus's chair may represent Athena's mother Métis, who was swallowed by Zeus while she was pregnant to prevent her from bearing him a powerful son.
Some would argue that *techné* is too compromised (because of its contemporary association with technology-as-tool and the Cartesian subject's will to mastery) to be a useful term here, particularly in the context of feminist discourse. Feminists often prefer to use the term *métis*, a wily or cunning intelligence that is always deployed by a weaker against a stronger opponent. Métis herself overcame the disadvantage of being swallowed by Zeus by fashioning inside him the armor and cloak in which Athena was clothed when she was born. However Detienne and Vernant (1991) cite sources that refer to *métis* as a *dolié techné*, a particular kind of *techné* associated with trickery (*passim*). I would rather reclaim than abandon the more commodious term, *techné*, which incorporates *métis* yet allows for other strategies, based perhaps on wit or agility, rather than those associated solely with deception.

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intervene, to interrupt "conventional wisdom," to "redefine . . . relations of power" (Atwill, p. 7), to transgress traditional boundaries in search of new paths to justice. Digital media provide unparalleled access to material information; more importantly, they have given groups and individuals who did not previously have the means to participate in discussions that affected their education, health, and living and working conditions a fast and flexible way to make their voices (and images) part of public conversations about their futures.

- *Techné* is ethical, founded in specific beliefs and values, which may or may not be those of the community at large. This point—that ethical values need not be common or shared values—is critical to understanding the *ethos* of rhetoric. In a specific rhetorical situation, the values—equality, justice, the good of an individual—may not look the same from the perspective of the dominant culture. Abolitionists, for example, argued for the freedom of slaves who, according to those in power, were not deserving of rights and privileges because African slaves were thought to be less than human. To counter these beliefs, abolitionist rhetoric had to devise alternative means of intervention, including relying on women to deliver emotional appeals rather than fact-based arguments. These strategies responded to the *kairos* of the moment, and reflected the values of the less powerful group. Patricia Sullivan and James Porter (1997), in discussing the ethical responsibilities of researchers as they determine "a should for a we" (p. 103), stress the necessity of asking, "For whose benefit does/should research operate? What changes should it effect?" Since values are always already present in research designs, whether explicit or implicit, Sullivan and Porter argue that ethically "such value [must] be explicitly articulated." Digital media, particularly visual forms, have also been deployed as rhetorical *techné* designed to interrupt other discourses that fail to take into account the material conditions of those specifically affected by that language. We need only point to recent images of what the responses to Hurricane Katrina looked like, or what health care (or lack of health care) looks like, to understand the ethical imperative to design and distribute evidence of the embodied effects of social and political policies in order to counter the more entrenched arguments and values, and to imagine how things might be different.

Ultimately, the contemporary meaning of technology and the ancient understanding of *techné* cannot be conflated. As Carl Mitcham (1994) points out, modern technology is an invention of science and the Enlightenment and, as such, is irredeemably entangled with Modernist definitions of technology as a quantifiable, reproducible object. *Techné*, on the other hand, is concerned with the production of one action/event in response to a unique exigence in time and space. But together they constitute essential components of what Nancy Kaplan (2001) calls "knowing practice." This fluid interweaving of body, mind, and machine that embodies rhetorical *techné* can thrive in media that invite interactive, multimodal performances. And so too can the practice of wonder as a material method of inquiry.

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2.12 Curious Expeditions, Back view of nineteenth-century automaton, Morris Museum, Morristown, NJ, 2009. Mechanical automata seem wondrous to children and adults alike. Children often take them literally as miniature self-motivating creatures. Adults, on the other hand, marvel first at an automaton's uncanny mechanical imitation of nature, but this astonishment quickly turns to wonder about how it works. The shift from awe to intellectual curiosity is the work of wonder as a mode of inquiry, a habit of mind that seeks, like *techné*, to know how the world might be different than it seems. Aristotle knew this when he stated in the *Metaphysics* (330 BCE/1928) that automata provoke a desire to understand first causes (p. 6).

Wonder

If rhetorical *techné* is a productive art that makes us more aware of the contingent, the extraordinary, the unexpected—things that might be different than they are—then wonder is its engine, its motivating force. *Techné* is enabled by wonder, an attitude toward the world and our experience of it that both predisposes us to be amazed and prepares us to desire to learn more about the source of our amazement.

A Wonder—an object or event that elicits astonishment—has no objective existence as wonder-full. A peach is as marvelous as an eclipse of the sun to someone who has never before seen or imagined such a thing. It is the subjective, embodied state or experience of wonder that makes the difference. Because one quality of wonder is the shock of the new, we often associate it with children and play. In a child's eyes, the world unfolds in a series of surprises. "Prepare to be amazed!" was the summer mantra of four-year-old Josephine as she breathlessly revealed her new-found delights—caterpillar-laced leaves, peas in a pod, scraps of silver foil, a desiccated mouse. As we grow older, the experience of being wonder-struck becomes less frequent; most things we encounter are enough like those we have already experienced that they don't evoke that all-at-once startle of wonder.

This most elemental experience of wonder is visual, taking place in an instant of perception (Fisher, 1998, p. 17). What happens next depends on whether 1) the object or event is recognized, on further examination, to be part of everyday experience; 2) the object or event can be neither connected to nor explained by previous knowledge or experience; or 3) the object or event, astonishing as it may be, has something recognizable in it that we can use in some small

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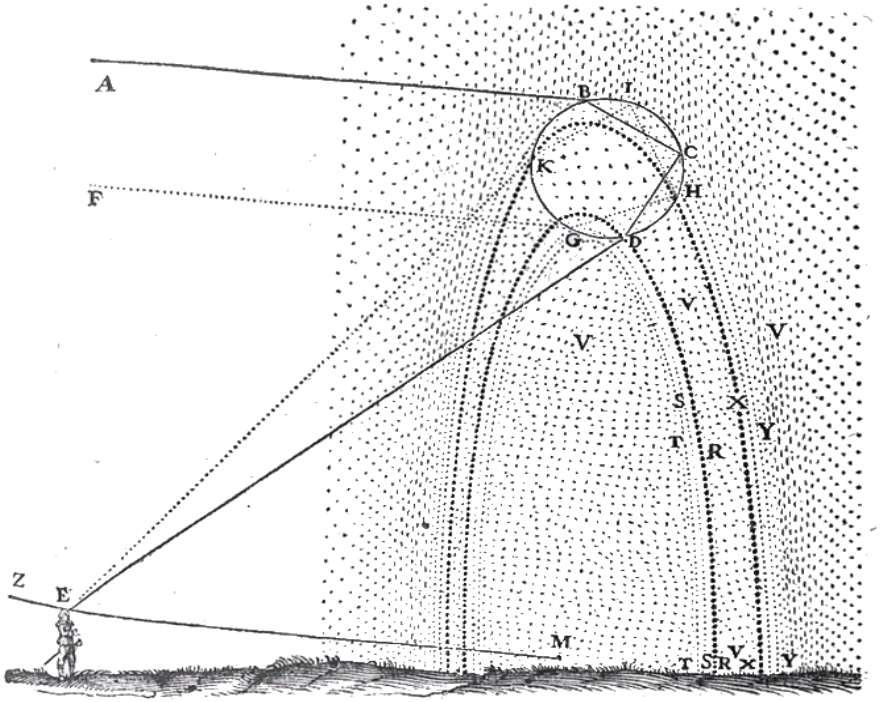
2.13 René Descartes, illustration of the refraction of light in a rainbow, *Discourse on Method* (1637).
Philip Fisher (1998) traces the concept of wonder from ancient times to the present as it has informed attempts to understand what it is that makes a rainbow; he then applies wonder-as-method to repeated encounters with two very different paintings by contemporary artist Cy Twombly. Wonder as a mode of inquiry builds "messy explanations" based on association, accumulation, and analogical thinking.



way to begin connecting this wondrous thing to our existing world view. In the first case, when the object is recognized as ordinary, nothing happens. René Descartes (1649/1967) described wonder as "the first of all passions," but declared that "it has no opposite, because if the object which presents itself has nothing in it that surprises us, we are in no wise moved regarding it, and we consider it without passion" (p. 358). A moving sprite of light catches our eye, fascinates us, until we realize that it is caused by a reflection from our watch face, or from a glass of water on the table, and we lose interest. In the second case, when the object has no identifiable referent, we are overcome with awe, but because of our inability to make any sense at all of what we see, this experience is often tinged with dread. With no way to move toward an explanation, we are at an impasse; we have no means to proceed. Under these circumstances, marvels are frequently ascribed to divine or supernatural causes, looked upon as miracles or monstrosities. There can be no further attempt to "know" them, because there is no way to connect them to other concrete knowledge of the world.

It is the third case, in which the object of wonder contains a "hook," a similarity that connects it to the already-known, which is the source of fruitful, knowledge-producing wonder. This is the middle, vibrating distance of the unknown, but knowable. In *Wonder, the Rainbow, and the Aesthetics of Rare Experiences,* Philip Fisher (1998) calls this the realm of messy explanations "where wonder occurs because thinking or curiosity is enabled, but not easily satisfied or quieted" (p. 136).

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The connection to *techné* is clear. If a rhetorical situation is perceived as a situation whose parameters are already fully known, then the solution will appear obvious, chosen from a set of conventional or rote responses to previous similar situations. This is an application of "rhetoric as technique," not as the flexible art of *techné*, and results, as William Covino (1988) has noted, in "a continually stronger refutation of the suppleness of discourse, a progressive denial of the ambiguity of language and literature, a more and more powerful repression of contextual variables" (p. 8). This response is analogous to a doctor's prescription of "Take two aspirin and call me in the morning" in response to a complaint of aches and a fever, or to the "rule" of no more than three bullet points on a PowerPoint slide. Conversely, when there is no "hook" with which to connect previous experience to the present situation, *techné*, which depends on both skill and experience, cannot be applied. If an astrophysicist were to find herself in a situation where brain surgery was required, she would have no previous experience or skill upon which to draw, and would be unable to proceed. This is analogous (although of course the stakes are lower) to the difficulties encountered by student writers skilled in the conventions of the five-paragraph essay when they are asked to produce a lengthy analytical research paper.

The art of *techné*, on the other hand, thrives in the realm of messy explanations, in which provisional and incomplete knowledge, propelled by curiosity and wonder, can be crafted into the means to take action in specific, material situations. This is the wonder of "wondering why" and "wondering if" that sustain inquiry outside of the boundaries of conventional thought and traditional response. Furthermore, discovering an explanation or a solution to a specific problem does not quiet wonder, because no two situations—in navigation, in medicine, in rhetoric—are ever identical, and often the solution to one problem simply makes one more aware of what the next problem might be.

Wonder is a visual trope and an embodied experience as well as an intellectual disposition with a rich philosophical history. The tension between feeling and knowing characteristic of wonder is reflected in how the concept has been treated over time, and is often inflected by either delight in or skepticism about vision and the senses. In Plato's *Theaetetus* (2006), a dialog on the nature of knowledge, Socrates announces that "[W]onder is the feeling of a philosopher, and philosophy begins in wonder" (p. 73). However, despite considering several definitions—that knowledge is perception, that knowledge is "true judgment," or that knowledge is true judgment about which one can give an account—the dialog ends with no resolution to the question of what exactly knowledge is; thus philosophy for Plato not only begins but also ends in wonder, in large part because humans are unable to transcend the relativity and unreliability of sensory perception and memory. In *Phaedrus* (1913), Socrates remarks in particular on the sense of sight: "[S]ight is the sharpest of the physical senses, although wisdom is not seen by it" (p. 485). Vision sees, but can also be deceived. Wonder, then, is limited by human perception; in fact, the very existence of wonder points to the limits of human understanding.

In his *Metaphysics*, Aristotle (330 BCE/1928) expresses a position on wonder similar to Plato's: "For it is owing to their wonder that men both now begin and at first began to philosophize; they wondered originally at the obvious difficulties, then advanced little by little and stated difficulties about the greater matters" (p. 5); yet the opening lines of this passage indicate that he is more comfortable than Plato with using the evidence of the senses, and vision in particular, as a path to knowledge:

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2.14 Geological samples, Teyler Museum, 2008. Photograph by Deb Collins.
Wunderkammern contained eclectic collections of natural curiosities, man-made artifacts, relics, and art that in the Renaissance fell into no clear categories. Today, natural and cultural objects are found in natural history museums like Chicago's Field Museum, and the art and armor that symbolized wealth and power occupy museums like the Metropolitan Museum of Art in New York City. Click image to enlarge.

> All men by nature desire to know. An indication of this is the delight we take in our senses; for even apart from their usefulness they are loved for themselves; and above all others the sense of sight. For not only with a view to action, but even when we are not going to do anything, we prefer seeing (one might say) to everything else. The reason is that this, most of all the senses, makes us know and brings to light many differences between things. (p. 3)

For Aristotle, things are only available for thought that we have perceived through sight and the other senses. Questions about the world and our place in it can be puzzled through by diligent application of the mind to the appearances of things and events. The desire to understand, to resolve gaps and perplexities, is natural and embodied; reflection on things/beings and their attributes and actions is evocative and epistemic. Here again wonder is a quality of thought and inquiry necessary to achieving knowledge and wisdom; for Aristotle, vision "makes us know" by revealing the "differences between things."

The "differences between things" unveiled by the senses were on display as precursors to the Enlightenment—fired in part by the abundance of objects being brought back to Europe and Great Britain from far-flung countries and cultures—in the form of *Wunderkammern*, collections of natural and man-made objects that were the precursors of modern museums. Of course, it is important to acknowledge the repressive, exploitative nature of the colonialism that made these collections possible; nevertheless, the sheer volume of wonder-inducing material nurtured a new, associative method of inquiry. Paradoxically, the wealth of materials available for scientific study in this burgeoning Age of Reason was accompanied by new worries about the senses, and about wonder itself. In *The Passions of the Soul* (1649/1967), Descartes agrees with Plato and Aristotle on the primacy of wonder:

> When the first encounter with some object surprises us, and we judge it to be new or very different from what we formerly knew, or from what we supposed that it ought to be, that causes us to wonder and be surprised; and because that may happen before we in any way know whether this object is agreeable to us or is not so, it appears to me that wonder is the first of all the passions; and it has no opposite, because if the object which presents itself

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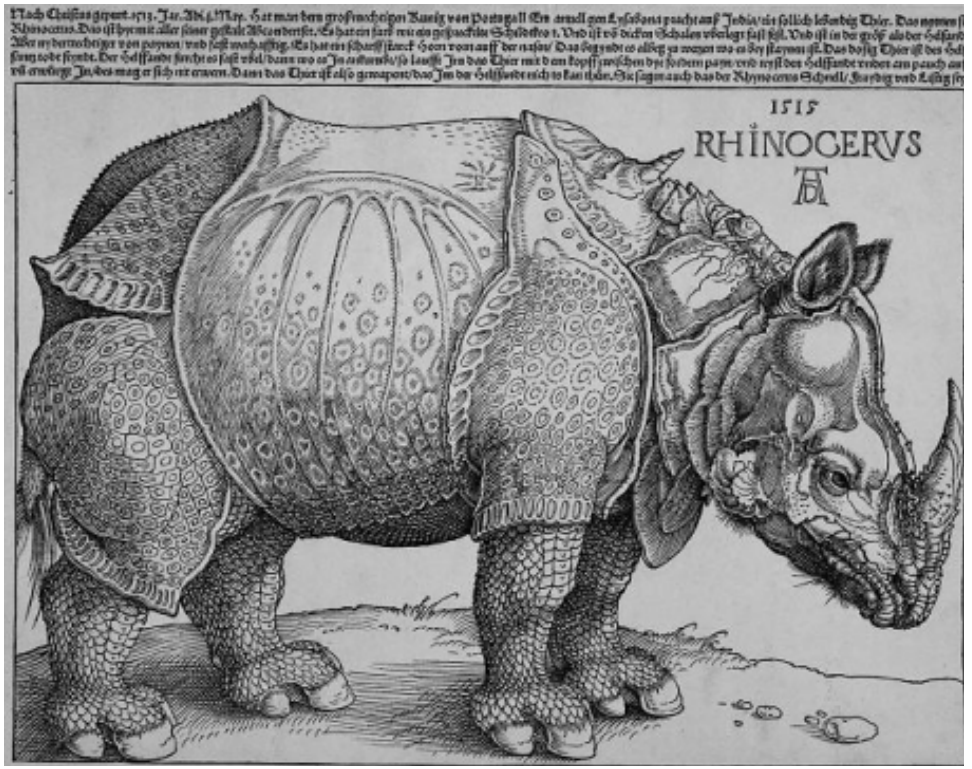
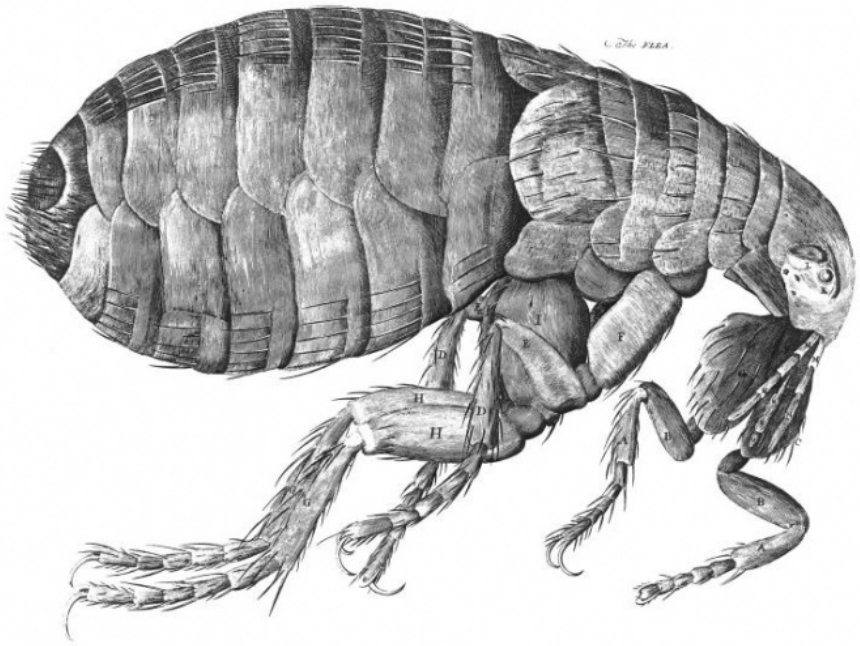
> has nothing in it that surprises us, we are in no wise moved regarding it, and we consider it without passion." (p. 358)

Of course, this encounter is enabled through our senses, which we know can deceive us, and, says Descartes, we should not "trust too much in what have even once deceived us" (1642/1967, p. 220). Yet he eventually concluded that, despite the fact that we are only human and might mis-perceive, or only partially perceive, God would not set out to deliberately deceive us, and therefore we can use both perception and deduction in our search for understanding. The key, when surprised by something wondrous, is not to be struck dumb with astonishment, but to seek "a more particular knowledge of it" so that wonder may fulfill its function to help us "learn and retain in our memory things of which we were previously ignorant" (1649, p. 364). For Descartes, too, wondrous objects are both evocative and epistemic; they incite productive thought that bridges the perceiving/feeling/knowing gap.

In its relationship to visual rhetoric and digital media, wonder not only has a history as a (visual) intellectual disposition, but also has a history that connects it with visual technologies. The early Modern period experienced a proliferation of marvelous objects to study, but it also benefitted from the growing availability of instruments and techniques with which to examine these new artifacts, and coincidentally to re-examine



2.15 Albrecht Dürer, *Rhinoceros* (1515). ➤
Dürer's iconic woodcut was created from a verbal description and a rough sketch (now lost) of an Indian rhinoceros; it influenced drawings of the creature until well into the eighteenth century, when live rhinoceros became more common in Europe. In *Art and Illusion*, Ernest Gombrich (2000) used this iterative resemblance to argue that artists are as influenced by images and objects they have seen in the past as they are by what they have before their eyes.



2.16 Robert Hooke, The Flea, *Micrographia* (1665).
With the proliferation of new technologies for bringing distant objects close, and close objects closer, vision was at the center of scientific exploration. The newly visible became objects of fascination, as did the various optical instruments that brought them into focus. The original illustration of the flea drawn by Hooke was 18" across.

elements of the more local natural world, with new "eyes." In the early sixteenth century, artists who created plates for books on natural history still relied upon written descriptions of exotic plants and animals, frequently resulting in inaccurate and often fantastic illustrations (Figure 2.15).

A hundred years later, the rapid invention of visual technologies, including spectacles, microscopes, and telescopes, revealed previously unimagined wonders, both near and far. Galileo Galilei (1610) counted the moons of Jupiter, and Robert Hooke (1665) enumerated the hairs on a flea (Figure 2.16).

Today, wonder as a visual *techné* of inquiry allows us to use these technological tools to construct wonder as both perplexity ("I wonder . . . ?") and wide-eyed delight ("Wonderful!"), to relish the ambiguities and uncertainties of a process that has no pre-determined ending, and to savor the unexpected congruencies and insights that result in the process of discovering "unexpected solutions to unrealized problems" (Feyerabend, 1988, p. 160). Digital media, like the visual technologies that preceded them, lend themselves to a process of patient, inductive, analogical, rhetorical inquiry. In what follows, I will focus on ways in which rhetorics of the visual and feminist epistemology might be motivated by a technology of wonder, and on how wonder as a form of inquiry might play out through interactive digital media as a rhetorical *techné* of embodied, multimodal, multi-perspectival, pedagogical performance and production.

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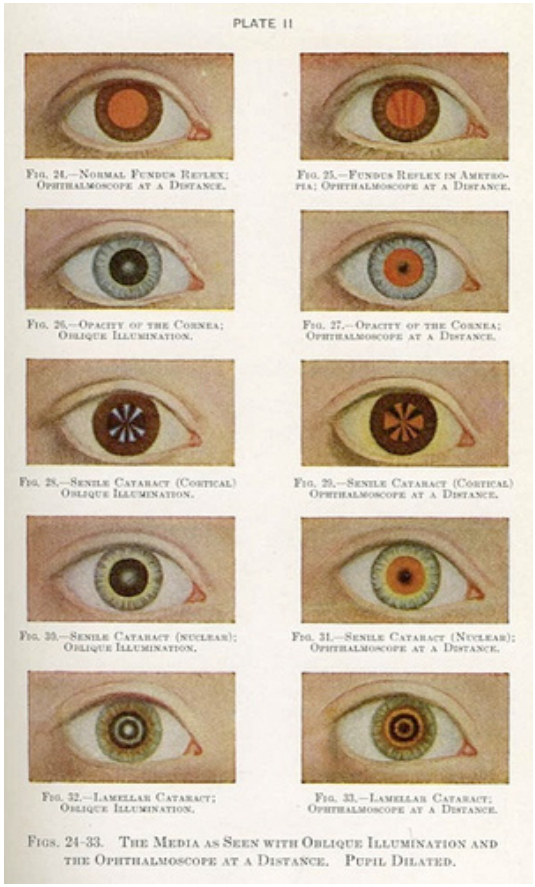
PLATE II

Fig. 24.—Normal Fundus Reflex; Ophthalmoscope at a Distance.

Fig. 25.—Fundus Reflex in Ametropia; Ophthalmoscope at a Distance.

Fig. 26.—Opacity of the Cornea; Oblique Illumination.

Fig. 27.—Opacity of the Cornea; Ophthalmoscope at a Distance.

Fig. 28.—Senile Cataract (Cortical) Oblique Illumination.

Fig. 29.—Senile Cataract (Cortical) Ophthalmoscope at a Distance.

Fig. 30.—Senile Cataract (Nuclear); Oblique Illumination.

Fig. 31.—Senile Cataract (Nuclear); Ophthalmoscope at a Distance.

Fig. 32.—Lamellar Cataract; Oblique Illumination.

Fig. 33.—Lamellar Cataract; Ophthalmoscope at a Distance.

Figs. 24-33. The Media as Seen with Oblique Illumination and the Ophthalmoscope at a Distance. Pupil Dilated.

2.17 Charles May, Ten ophthalmoscopic images of the eye. *Manual of the diseases of the eye* (1920).

Seeing

Vision is central to the development of an ethical rhetorical *techné* of interactive digital media because vision activates both embodiment and arrangement. Although the body is experienced and accessible through the entire sensorium of sight, sound, smell, taste, and touch, for sighted people embodiment is foremost a visual trope, if not always (but never only) a visual experience. We perceive individuals and objects as having a material, embodied presence even if we have no other sense of them than that of sight, and even if we are not present together with them in the same space or time, but rather present at a distance through a medium like painting, photography, or digital video. When we smell a familiar smell, or hear a familiar sound, we do not hold it in our imaginary as pure scent or pure sound, but associate it with a mind's-eye image of a rose, or of the bee buzzing around it. When we represent our selves to ourselves and to others, it is our visible presence of which we are most sensible. And it is our ability to see and make visible the faces and bodies and material consequences of our actions—to embody our rhetorical behavior—that rescues us from Cartesian abstraction and, I argue, is a necessary condition of ethical pedagogical performance.

Arrangement, too, is activated by vision. Although canonically arrangement has been treated as the mental organization of ideas rather than the physical organization of bodies and texts, the relationship between traditional academic expectations for the arrangement of text and image on the page or screen, and academic expectations for the arrangement of professional bodies and of the scholarly work they do, is too compelling to overlook. Both are often disciplined by normative standards of order and sensibility that dictate what are and are not appropriate places and arrangements for bodies and texts, standards that often remain mired in a conservative construction of disembodied rationality.

Of course, the other senses are also consequential to how both bodies and texts make meaning. Scratching down our sketches and words on a yellow legal pad with a #2 Black Warrior pencil versus inscribing them on a 24" Macintosh screen with a wireless keyboard and mouse are significantly different tactile and auditory experiences, as are the experiences of walking and talking between the rows of seats during a class discussion versus existing as an on-screen avatar

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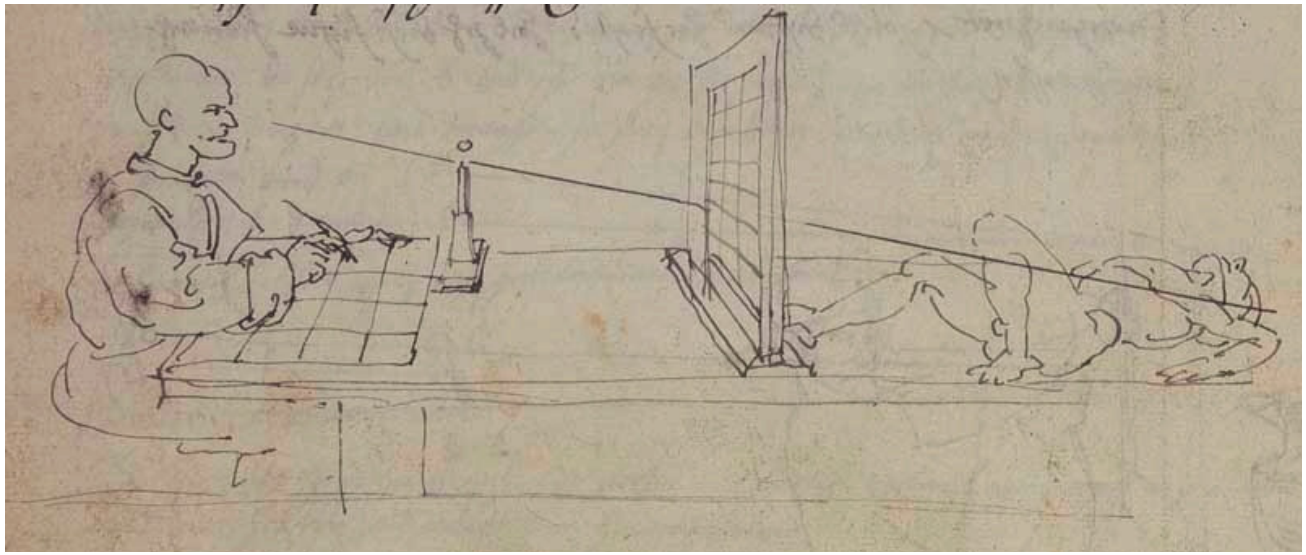
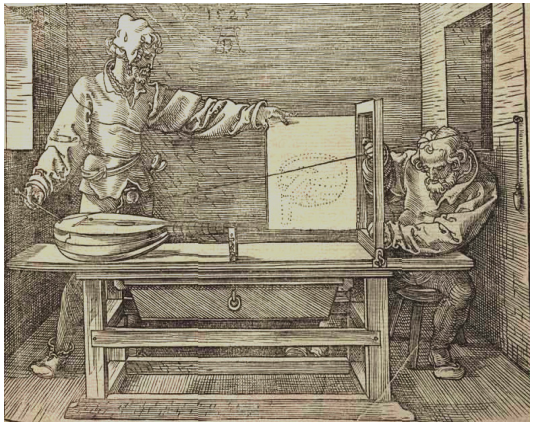
with an electronic voice on a Second Life island. However, despite the fact that it is in many ways an artificial and perhaps impossible division, my focus here for the most part is on the visual fraction of the sensorium. Critical as the other senses are to a complete understanding of embodied rhetorical performance, the visual currently holds an insistent if problematic primacy in contemporary rhetorical inquiry and pedagogy. Despite the growing body of research that incorporates the visual as a legitimate topic for analysis, there is not much scholarship (yet) that *theorizes* the active production of visual rhetoric through the *making* of visual rhetoric. Instead, the available scholarship bifurcates into a theoretical camp that offers social, psychoanalytic, cultural, feminist, and other frames for the analysis of already existing visual texts, and a pedagogical camp that focuses on the "how" of making (usually digital) visual texts with less explicit attention given to the "why" of their social and cultural implications and significance. This split gives rise to the fascinating spectacle of a discipline that vigorously critiques visual products while at the same time may engage in uncritical digital visual production, or no visual production at all. We need instead a more constructive conversation between theory and practice that restores authority and integrity to embodied visual texts, tempers the overemphasis of cultural critiques on the negative aspects of visual representation, and provokes a theoretical grounding for production of embodied visual rhetoric with our students and in our own work.

A related reason for concentrating on the visual aspects of our pedagogical performances is a desire to restore the reputation of visual pleasure, a necessary step if we are to apply an attitude of wonder to



2.18 Albrecht Dürer, Perspective Machine with Reclining Man, ca. 1525.
This sketch by Dürer, tipped into his own copy of *The Painter's Manual,* is one of several he made to demonstrate the use of his perspective grid for drawing subjects to scale.

2.19 Albrecht Dürer, Perspective Machine with Reclining Woman, *On Symmetry . . .* (1532). In texts on visual culture, this woodcut is often cited as an example of the objectification of women. Yet within the context of these images, in which Dürer not only drew multiple examples of the use of the perspective machine for objects such as vases and lutes, but also sketched both male and female figures to demonstrate his machine, singling out the woodcut of the woman as an example becomes more complicated—and more problematic. Click image to enlarge.



2.20 Albrecht Dürer, Perspective Machine with Lute, *On Symmetry . . .* (1532). This woodcut, originally from *The Painter's Manual* (1525), was re-published in *On Symmetry . . .* , as were similar images with a vase, a seated man, and a reclining woman (above) as subjects. Click image to enlarge.

the tasks of rhetorical arrangement and invention. Cartesian dualism taught that the senses were unreliable at best, deceptive at worst, and that true understanding came solely through the intellect. A significant aim of postmodern feminism (and of my project) is to counter the sedimentation of that dichotomy in academic discourse with alternatives that recognize embodied experience as a legitimate source and subject of knowledge. Yet feminist analysis of visual texts, when it focuses so completely on what is wrong, rather than right, with visual representations of class, gender, race, age, and other difference, may itself lead to a fear and mistrust of images. But surely the act of looking is not always a taking. We must strive to differentiate between looking that desires to appropriate and control, and looking that acknowledges and appreciates.

Two areas of contemporary feminist scholarship have addressed this fraught relationship between vision and constructions of knowledge and power. The first is the loose aggregation of multi-disciplinary scholarship in body studies that analyzes the social, cultural, and political representations of women in the home, the workplace, the media, and other spaces. The second area is feminist geography, which turns those spaces into places by studying the particular circumstances of women and other under-represented groups who are overlooked by the conventional mappings of mainstream geographical scholarship. When we focus our attention on the rhetorics of visual embodiment and arrangement, both body studies (Seeing Bodies) and feminist geography (Seeing Bodies in Space) encourage the development of multiple perspectives on the embodied arrangements of visual and textual representations in the academy, and help us work toward more nuanced and strategic representations in the production of our scholarship on and in digital media. However, before exploring these perspectives in more detail, I want to consider the visual problematics of persistence of vision and of visual pleasure as they bear upon discussions of seeing, of bodies. and of space in interactive digital media.

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2.21 Frame rate and perception of motion. The two animations above, composed from a set of ca. 1880 Eadweard Muybridge images, illustrate the "smoothing" of motion as the frame rate (number of images displayed per second) changes. The image on the right runs at the rate at which Muybridge photographed the event, approximately 25 images per second. The image on the left shows the same event at 12 images per second, and is visibly less continuous. Contemporary film, which appears seamless, uses a frame rate of 24, 25, or 30 fps. Click image to play.

The Persistence of Vision

The persistence of vision has largely been discredited as a physiological explanation for how viewers piece together the individual frames of a film into a "moving picture." Nevertheless, this explanation—that the retina retains an image of each frame that "carries over" to the subsequent frame, thus creating the impression of motion—still holds sway in many film studies texts and in the lore (and promotional materials) of animation studios and film and digital design companies. Joseph Anderson and Barbara Anderson (1993) argue that this particular bit of lore is so tenacious because it serves as a powerful creation myth for the medium. If we think of the myth of persistence of vision in terms of remediation, persistence of vision accounts for the immediacy of film by inventing an explanation that makes the filmic experience qualitatively different, qualitatively "better" than the media (stage performances and still photography) it remediates. The fascinating thing about this explanation is that it presents a very different sense of immediacy than that experienced by the Cartesian subject who sees the world through Alberti's "window." For Alberti's viewer, the monocular, single-point perspective fulfills his desire for control over the landscape he surveys. However, invoking the myth of persistence of vision to explain the immediate experience of the "motion" in motion pictures posits a very different kind of viewer. The film viewer, like Alberti's, also shares a single viewpoint, that of the camera, but the concept of persistence of vision constructs a viewer who is helpless and hapless, spellbound before the piling up of images on his retina. These twin perceptions—that the immediacy of images represents (irrational) desire for control on the one hand, and (unreasonable) fear of the irresistible nature of images on the other—give rise to public crusades against films, video games, and the Internet, particularly in times of moral panic; these perceptions may also explain in part the reluctance of the academy to accept scholarship that uses images, sound, and other media in conjunction with or in place of linear, unemotional, alphabetic argument.

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One way to understand this desire/fear question is to think about it, as W.J.T. Mitchell (2005) does in *What Do Pictures Want?*, as a function of an imperialist move that characterizes the icons of colonized cultures as fetishes of primitivism, barbarism, and false religious belief that "could only acquire magical power in an incredibly backward, primitive, and savage mind" (p. 161). Mitchell calls these assumptions about the beliefs of Others secondary beliefs, which suppose "that the natives are invariably gullible and superstitious; that they live in a world of fear and ignorance where these objects compensate for their weaknesses; that they lack the ability to make distinctions between animate and inanimate objects" (p. 162). Mitchell is addressing inter-cultural distinctions here, but the same sorts of demarcations are drawn within cultures; guardians of high art, for example, decry the lack of sophistication and gullibility of consumers of the "low culture" of popular art and advertising. Knowledge (of high art) is power (over low culture).

This sort of elitist thinking drives in part the academic reluctance to work with images and other multimodal media. While *we* may have the knowledge and perspicuity to engage critically and objectively with images, *they* are too simple, too naïve, to resist the siren call, the fetishistic liveness of images. Of course, this is problematic on several fronts. Consumers of popular culture, including our students, are in fact not in helpless thrall to the power of images and, given the opportunity to work with and create their own multimodal texts, students gain even more understanding of how images work, and also learn to deal with their ambiguity and complexity. And what about academics who, given their putative wisdom and sophistication, are sure that images have no intrinsic power? A colleague of Mitchell's suggests the following exercise: "When [they] scoff at the idea of a magical relation between a picture and what it represents, ask them to take a photo of their mother and cut out the eyes" (p. 9). Academics and their students all have much to learn, and to do so must engage with visual representations at the level of doing, not just looking.

This paternalistic rejection or denigration of the importance of everyday images, motivated in part by fear of their power, must be countered with a different sort of persistence of vision, one that reconnects vision with individual embodiment, and embodiment with our technologies. In place of a "devouring vision" from above/afar that claims to see and speak for all, Haraway (1991) argues for the particularity of all vision to promote the "loving care that people might take to learn how to see faithfully from another's point of view, even when the other is our own machine" (p. 190). This point is critical, as it insists that all perspectives are partial, and therefore can be located in material bodies in particular places at specific times. And by extension, the knowledge gained through those perspectives is also partial and situated, rather than universal and unlocatable. Furthermore, the particularity of vision complicates the often simplistic claim that all technologies, especially technologies of bodily surveillance, are either inherently positive and good, or inherently damaging and bad. Their value lies not in the technologies themselves, but in the uses to which they are put, the *techné* within which they are embedded, and the claims that are made about what they show us. The persistence of embodied vision acknowledges the partiality of perspective and enables a considered, ethical use of visual technologies—"devices of wonder"—to enhance the available possibilities for the "mobile positioning and passionate detachment" (p. 192) of critical feminist objectivity.

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2.22 Statue of woman, 5 Folly Bridge, Oxford, 2007. Photograph by Andrew Gray. Caught in the act of pulling her cowl more closely over her face, she enacts an awareness of seeing and being seen as always already complicated by gender and culture.

Visual Pleasure

Before moving on to embodiment, one final aspect of seeing deserves attention: the often suspect notion of visual pleasure. I resist the view that looking—at objects, at art, at people—should be a "guilty" pleasure. While I agree that cultural critiques of the visual have had the important and salutary effect of exposing the damage that ideological manipulation and opportunistic representation can do, I also worry that, by seeking and finding manipulation and opportunism everywhere, we are missing the possibility of re-framing the discussion of what defensible representation might look like, and how images can be part of an ethical rhetorical *techné*. If scholars of rhetoric and digital media are to have a positive effect on visual culture, and recover the reputation of images as legitimate forms of rhetoric, we must go beyond critique and produce models of "good representation" and "good looking" that will restore aesthetic and emotional pleasure without political or cultural exploitation. Mitchell (2002) suggests that it is time to "scale down the rhetoric of the 'power of images'" because images simply do not have the intrinsic power scholars and critics claim they have. Instead, he proposes an invitational approach to images, one that interrogates images not as containers of their own meaning, but rather as requiring something from the viewer, a kind of reciprocity, to acquire their meaning —and their power. In other words, images lack intrinsic power; if they are to acquire power, it must come from the viewer's relationship to the image, not from the image itself.

As noted above, the power invested in images by feminist critique has in many instances been negative. Johanna Drucker (2000) maintains that scholars have not been able to move past the idea that visual pleasure is historically the purview of the male gaze. By focusing solely on the more "politically viable" multicultural issues and dismissing the question of women's pleasure as "trivial," we have failed to develop a theory of visual pleasure that rises from a feminist point of view. Drucker identifies a split between the critiques of the work of men and women artists engaged in similar forms of artistic production: with painting, for example, men receive critical and theoretical legitimacy from their work with brush and canvas, but women's work in the same medium is often characterized as"tactile, sensual . . . nontheoretical" (p. 165). This difference in the art world resonates with the difficulty many women find in establishing a "legiti-

mate" embodied presence in the academy. In the art world, "It seems that the farther the work is from any trace of or imprint of the woman's body, the more likely it is to achieve a measure of critical success" (p. 167). Drucker's solution—that women artists theorize visuality and representation through the "pleasure of production" (p. 170)—works equally well for the production of, and pleasure in, interactive digital media.

Arguing for a pleasure in *praxis* does not help us to account for the discomfort we often feel when confronted by an image that strikes us as beautiful to look at while at the same time offends us intellectually or emotionally. Anne Wysocki (2004b) identifies this unease as an irreconcilable confusion between form and content that arises from an artificial bifurcation of the two in our critical apparatus. In "The Sticky Embrace of Beauty," she frames her argument around a 1/3-page advertisement in *The New Yorker* for a book of erotic photographs, an advertisement centered on the full-length figure of a woman in profile, naked except for extraordinarily high heels, long black stockings, and above-the-elbow black gloves. Wysocki observes that "this advertisement is a lovely piece of work, but it also angers me," and sets out to discover "what gives rise to my seeing beauty and feeling angry" (p. 149). On the one hand, critical studies of visual culture provide plenty of tools to analyze this image for its unpleasant objectification of women. Yet Wysocki notes that analytics based on graphic design and visual communication dissociate themselves from the content of the visual text and focus solely on formal elements such as the design principles of contrast, repetition, alignment, and proximity found in Robin Williams' *The Non-Designer's Design Book* (2008). This sort of rationalized, disembodied analysis becomes extremely problematic when, as in this case, those design elements create a focus that causes us "to hone in on . . . da woman's lovely in-soft-focus-so-as-to-almost-glow white ass" (p. 151).

To better explain these contradictory responses and move toward an analytical perspective that allows for a critical experience of visual pleasure, Wysocki argues that we must reject a Kantian notion of universalized aesthetic judgment in favor of a situated, particularized idea of beauty that is socially grounded in Pierre Bourdieu's concepts of *habitus* and *taste*. Through a situated perspective, form becomes "particular and temporal, tied to when and where and how we live, a set of structures for both representing and shaping how we see and experience each other" (p. 170). Form enters into a reciprocal relationship with the content and with the viewer, and beauty becomes the chance to "momentarily and pleasurably . . . see and understand how the shared, necessary, quotidian rhythms of our lives are built out of numberless and necessary particularities" (p. 171). The lively nature of this relationship leads again to the importance of making, of constructing, in our own work and with our students, not just theories and analyses of images and media, but also our own mediated self- and scholarly representations that embody our theoretical perspectives on seeing—and on bodies.

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2.23 William Roentgen, The first X-ray: the hand of Anna Bertha Roentgen (1895). National Libraries of Medicine.
Medical technologies have made it possible to see, hear, and analyze the body with an intensity and specificity that was previously unavailable. Like all technologies, X-ray machines, screening tests, and MRIs are not instrumental; they are not responsible for the uses to which they are put. Using them ethically and responsibly to "see" the body and attend to it in an ethical way is our responsibility.

Seeing Bodies

"Seeing bodies" speaks of twinned experiences. On the one hand, physical bodies are the objects of seeing: they are seen; they can be seen. This is the "seeing bodies" of cultural criticism, of film studies, of pornography and the *New York Times* fashion section, of medical imaging and Miss (and Mr.) America, of the speculum and the gaze. On the other hand, "seeing bodies" are "bodies that see": they look at; they look back; they look away. These are the "seeing bodies" which resist stereotypes and the ideologies that produce them, which appropriate hegemonic representations for their own use. Seen bodies are passive; their meaning is given to them by the viewer. Seeing bodies are active producers of their own meaning.

All bodies are both.

To argue, as visual cultural studies sometimes does, that most bodies have little or no independent agency outside of the dominant hegemony within which their representations circulate and are merely and passively seen, is to imply that the individuals who inhabit those bodies neither comprehend the operations and effects of visual representation nor have the ability to resist them. Too great an emphasis on merely critiquing bodies as objects of seeing holds the danger for women and other Others who are singled out for analysis that all oppressed groups will then be perceived as victims, unable to either control or defend themselves. Responsibility for their victimization is easily deflected onto their persons. "These people" are always in the wrong place at the wrong time, wearing the wrong clothes or the wrong skin. Such representations of victimhood invite in response a patriarchal institutional discourse of blame and protection and control.

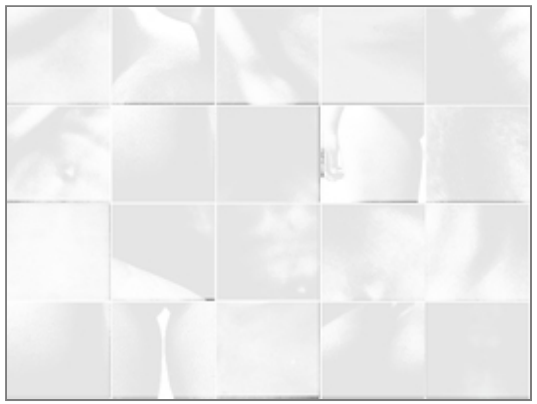
This is not to say that Critical Studies does not do excellent work in identifying discursive oppressions that are often difficult to see, and that have significant material consequences for those individuals and groups. But it should not be enough just to problematize seeing, to point out its embodied effects. Looking back, pushing back, remediating these representations by producing new representations in their stead is also the responsibility of academic discourse, most particularly now that the tools for producing new media representations for ourselves and with our students have become more accessible. As James Elkins (2003) has noted with regard

to critical visual studies in art, merely pointing out ambiguity or arriving at a state of irreducible postmodern hybridity is not enough. "There is a kind of visual intelligence, a kind of knowledge, that can come only from making" (p. 7).

The theoretical perspectives I draw on here to talk about the rhetorical academic body emerge from the loose interdisciplinary aggregate of body studies which brings together productive body constructs from science (cyborgian), philosophy (posthuman, disciplined), gender studies (volatile, performative), art history (appearing, producing), and other disciplines. These converging visual perspectives on the body and embodiment come together to show, not a unified feminist new-body, but a multiplicity of ways to think (and act) about the body—any body—not only as produced by social technologies of culture and gender, but also as infinitely productive of new and generous ways of being embodied in the world.

The fact that one focus of body studies today is a feminist project to recuperate the debased body from the Cartesian mind/body split (Haraway, 1994; Grosz, 1996) sometimes makes us forget that the body had its own rhetorical canon—delivery—and that much attention was paid to elocution and gesture in oratory. But that was then, and that was the male body. Women's bodies have historically been either suspect, or dangerous, or absent, the objects of stringent social control. Their meaning, it seems, has always exceeded their intention.

Three categories of embodiment of the rhetorical body—the material, the subjective, and the discursive—together provide a complex picture of the body as acting and acted upon. First, the body is a physical, material presence. This acknowledges our commonsense perceptions, accurate or not, of how we occupy space. While there are some who claim the luxury of being able to set it aside (the Cartesian no-body, the science-fiction imaginary), real bodies experience the world, and women and other under-represented groups have often experienced it proportionately more negatively than others. Susan Bordo (1993) critiques the cultural inscription of ideals of body and gender that have the effect of normalizing even pathological behaviors like anorexia nervosa and bulimia; Haraway (1991) counters the Cartesian no-body in science with the productive construct of the in-between, part-human, part-machine Cyborg; and Katherine Hayles (1999) argues against the postmodern perception that disembodied information can circulate without affecting or being affected by a material substrate.



2.24 The material body, 2011. Photograph by Life as a Dreamer (2010). Click image to play.

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2.25 The subjective body, 2011. Images by Leonardo da Vinci, anonymous (American Horse), Diane Arbus, Andrew Kinney, and Jessica Luna. Click image to play.

2.26 The discursive body, 2011. Photograph by bricolage.108 (2008); words by Judith Butler (2009). Click image to play.

Second, the body is also fluid, a multiplicity of subjectivities ("Ain't I a woman?"), one or more of which may be active or called into question at a specific time and place. No one, for example, is exclusively "a professional" or "a father" or "an Asian"; and no one has the ethical right to impose fixed identity categories on other individuals or groups and then speak to them or for them as if they were One. This multiplicity leads Haraway to argue for "situated knowledges" that recognize the partial perspective of all subject positions; and de Lauretis (1989) to call for a new "subject of feminism" who negotiates among potential subject positions both within and without the dominant patriarchal positioning.

Finally, the body is a discursive cultural representation, produced by language, and subject to complex relations of knowledge and power. Katharine Young (1997) investigates the discursive "realm shift" that permits the distancing from and objectification of the medicalized body; and Judith Butler (1993) contends that discourses of the body are what make some bodily performances intelligible and "normal," and others unintelligible and abject. Yet discourse produces a "real" body, and that body experiences the visible, material consequences of discourse. An embodied rhetoric recognizes that each of these bodies—material, subjective, and discursive— is always in play.

The feminist rhetorical situating of the body has shifted over the past one hundred years. Early explicitly feminist projects evolved from the struggles of abolitionists, women's rights advocates, and suffragists. These were campaigns for equal rights as humans, and equality stayed in the foreground of feminist discourse. But a rhetoric of equality—women are just like men—resulted in theoretical positions that forced women to regard their corporeality, particularly its reproductive cycles, as a drawback, and it also reified the Cartesian mind/body split that worked to devalue women in the first place. Re-embodying feminism and feminist discourse took several forms, which established significant contact zones between feminist rhetoric and rhetorics of digital media and technology.

One strategy of re-embodiment has been to examine what is erased if we begin with the premise that "bodies don't matter" (*pace* Butler). Lisa Nakamura (2000) looks at the utopian claims for the Internet in an MCI commercial—"There is no race. There is no gender. There is no age. There are no infirmities. There are only minds. Utopia? No. The Internet."—but notes

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that, on the contrary, such discourses on the Internet either presume "default whiteness" or produce a "cybertype," a simulacrum of an authentic, raced "native."

Other strategies have questioned the cultural and social technologies which have played a significant part in constructing rhetorics of the body. De Lauretis articulates a discursive "technology of gender" that, like Foucault's "technology of sex," constructs gender as a product of institutional practices and "social technologies" like film. Her project reconstructs a "subject of feminism" as ambiguously both inside and outside dominant patriarchal discourse, existing in productive tension between Woman and real, historical women. On the other hand, Balsamo (1997) considers how technologies like the tools of plastic surgery and body building position the body as a gendered, cultural artifact subject to surveillance. Of particular interest for digital media is her discussion of the effects of the growing use of digital imaging techniques on medical discourses that situate women as reproductive receptacles who must be regulated for the sake of the fetus.

Just as space and the body are fluid constructs of discourse and social relations, so too "women," spatialized and embodied by feminist rhetorics, are not a singular, unified category, but are constructed individually in the infinite particularities of their gender, age, race, sex, and other subjectivities. And this is equally true of other identities that have been stereotyped and essentialized under a single category. Speaking of "women" or "African Americans" or "the disabled" or "Muslims" as a group is always problematic, particularly if doing so re-inscribes a new, but equally exclusionary, dominant discourse. But silence is too easily read as absence. The discourses of ideology and postmodern subjectivity, while powerful, do not trap us like insects in amber. The possibility of resistance is a necessary adjunct to Foucauldian relations of power. Each of the approaches above—the material, the subjective, and the discursive—produces situated knowledges, partial and strategic, that depends upon the specific, contextualized, corporeal materiality of the body. Certainly this has been the trajectory of feminist rhetorical studies—to call on the resulting "little narratives," which, while not generalizable and totalizing (a move we've seen before and don't trust), are cumulative, and offer inductive evidence for rhetorical action.

These forms of embodiment are fluid and flexible, and resist attempts to categorize or limit them. They are more process than product, and they participate actively in their production. As tools to enact this productive making, interactive digital media have the potential to visually (and verbally) re-embody rhetorical discourse and scholarship, enabling not only new practices of looking, but new practices of thinking, and new spaces in which that ethical production can take place.

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2.27 Gilbert Austin, Resignation, *Chironomia,* Plate 10 (1804).
Chironomia is among the many texts that have proffered formal rules for men's (and later women's) gesture and speech since the *Rhetorica ad Herennium* (ca. 85). In addition to "Resignation," the women portrayed in *Chironomia* illustrate shame, agony, and repose. Similar texts include Thomas Sheridan, *A Course of Lectures on Elocution* (1762); Emily Post, *Etiquette in Society, in Business, in Politics and at Home* (1924); and Kitty Locker and Donna Kienzler, *Business and Administrative Communication*, 9th ed. (2009). In twenty-first century etiquette and comportment manuals, more texts are published on etiquette for women than for men, and women are consistently subject to many more rules than are men.

Seeing Bodies in Space

The second analytical frame for moving toward a *techné* of embodied academic performance in new media is shaped by the intersection of feminist geography with the rhetorical canon of arrangement. Just as theories of the body and embodiment demonstrate the impossibility of excluding the material bodies which produce and are produced *by* media from any discussion of intellectual work *with* digital media, so too geographical perspectives on the spatial arrangement of bodies and texts in front of the computer and on the screen demonstrate that space, like embodiment, is a social construct, produced by and productive of the discourses and practices of its inhabitants. In a literal sense, the gender, race, age, physical ability, and ethnicity of those bodies using and appearing on computers matter. It matters whether those physical bodies are working with hardware and software that allow them some critical autonomy or are doing "digital piecework" like entering data or working in an online sales boiler room. It also matters whether the digital representations those bodies see of themselves on the screen portray them as valuable individuals, or denigrate them as socially or culturally inferior. Bodies in digital space, although present to the viewer through electronic impulses rather than genetic coding, still inhabit social, political, and cultural locations that entail material consequences for their appearance and performance on the landscape of the screen.

Historically, questions about appearance and performance have invoked the canon of delivery to teach and analyze the material, embodied aspects of rhetoric. As far back as the *Rhetorica ad Herennium* (ca. 85/1989), speakers have received specific advice on how they should hold their bodies and modulate their voices for the best rhetorical effect. Delivery contributes to both the *pathos* and *ethos* of an oral performance: the volume, pitch, and tone of the voice and the carriage and gestures of the body help to create an emotional response in the audience, and these embodied characteristics combine with the reasonableness and authority and passion of the words themselves to shape the audience's judgment of the character of the speaker. Advice on these embodied elements of delivery is still set forth in texts on manners, etiquette, and professional communication. However, most contemporary rhetorics pay little attention to delivery. Prioritizing written over oral communication, they instead emphasize the

canons of arrangement and style, the organization and artful expression of written discourse. In sum, the canon of delivery has traditionally been concerned with effective spoken persuasion by bodies in space, while more recently the canons of arrangement and style have been concerned with effective written persuasion by words over time. When delivery does emerge as a topic for analysis in digital media, the emphasis is too often on media as arhetorical delivery systems. The result is a container/contained dichotomy, in which the particular container—a web page, PowerPoint slide, or iChat video—is considered incidental to or separate from the information it contains. This slippage occurs in part because of a lack of understanding of the rhetoricity of digital technologies, which in turn stems from a lack of awareness that other everyday discursive technologies, like the book, themselves contribute to the meaning of the texts that are made/read/viewed there. Despite the interactivity and multimediacy of new digital experiences, viewers may still believe that the meaning of the experience lies only in the "content" on the screen, rather than in the complex interactions among the medium, the engagement of the viewer, and the visible and audible representations there.

Important scholarship that theorizes the deep rhetoricity of digital delivery is currently being done by Kathleen Welch (1999), James Porter (2009), Ben McCorkle (2012) and others. However, I want to argue here that digital remediation opens up a new (virtual/material) space within which to re-imagine the canon of arrangement, not as concerned merely with the order of written and spoken discourse, but as a visual practice, a *techné* of discovery and representation, that takes on many of the rhetorical tasks formerly performed by delivery. As a verbal canon, arrangement deals with the order in which a discourse unfolds over time. In a visual canon of arrangement, the persuasive combinations of words, images, and other media are multiplied and multiple, and unfold in time *and* space.

Arrangement, like delivery, has become somewhat impoverished in contemporary rhetoric, often making its appearance as a set of inflexible rules that pay little attention to the adaptation of discourse to its audience. Interactive digital media provide a potential venue for more supple, mobile arrangements of images and text. (Potential, not certain; remediation by itself is no guarantor of thinking differently.) Images and text can be arranged and linked on one screen or more in rows, lines, boxes, and circles, none of which may direct the reader toward a particular reading or viewing path, or suggest a defined relationship among the elements. When arrangement is limited to the temporal, then it is easier to argue that a single, seamless, linear narrative is the ideal arrangement: What seems more "natural" than a chronological narrative? But if arrangement is also spatial and visual, then not only are other strategies for the organization of words and images on the screen available (hypertext, motion design, random delivery from a database), but argument also occupies social space that includes the material subjects and objects of those arguments: bodies become rhetorically visible. Furthermore, re-arrangement becomes a strategic practice through which to discover new relationships among the available images and texts, to literally see new ways of looking at a suddenly lively rhetorical situation. Arrangement as a mobile, embodied canon both describes/calls forth/brings into being specific kinds of bodies (of knowledge, of argument, of practice, of work), and also points back to the fact that these material bodies are created in the first place by a particular kind of body, sitting at a keyboard, standing in front of a class, etc. The representations on the screen are pedagogical performances of the professional body.

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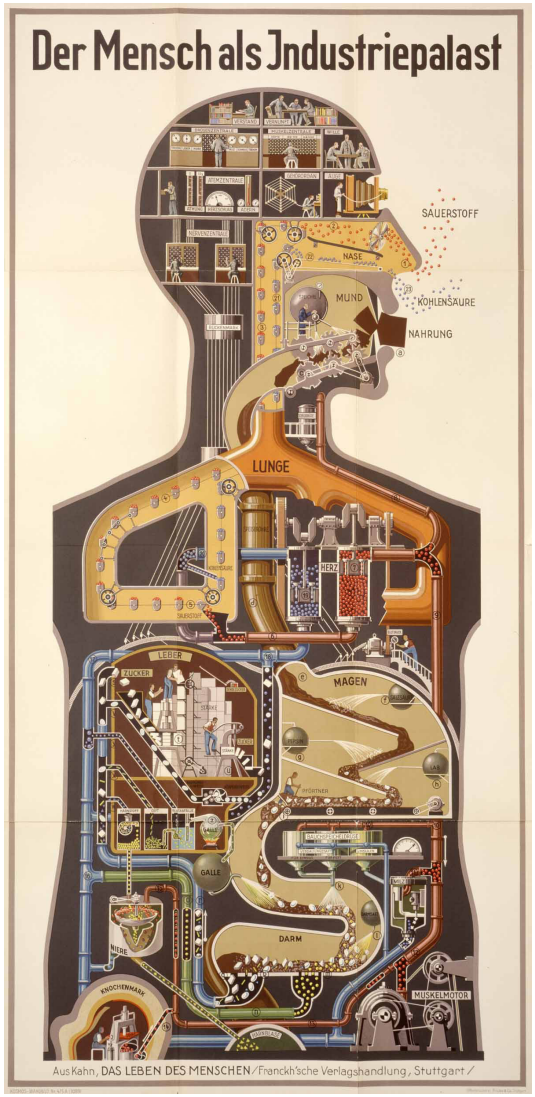
If this seems a stretch, we need only look at two examples in which the proper arrangement of the body is "performed" as a metaphor for the proper arrangement of social space. In each case, drawings designed to teach anatomy are also pedagogical performances of what a "proper" body is like; each image illustrates not only the structure of the body, but also the way in which it is expected to behave. The first is an anatomical drawing by Toviyah Kats (1708) (Figure 2.28) taken from an early eighteenth-century Hebrew encyclopaedia. We see in this case that the body is explicitly likened to a well-ordered house. The head/mind of the house resembles nothing so much as a hermetic monastic study, perched on top of the more material and open structure beneath, where the evidence of the senses is collected through the eyes, ears, and nose, and the accumulated knowledge pronounced through the open window. (We wonder where the sense of touch might have disappeared to, and we also note that the head is not anatomized, but gazes upon the viewer with a still and solemn intensity.) Moving down from the head of the house, we see a diamond-paned window; we are to imagine that the heart is here, the window to the soul. Another descent, and in these tidy rooms, the liver becomes a distillation center, and the stomach a cauldron of food at the boil. Below these, an enclosed furnace (the kidneys), an indoor fountain (the bladder), and an open drain (the intestines) receive and process the products of the liver and stomach. Finally, in a dark cellar below the house, and under the rather ornate architectural shelf on which the torso rests, we find the shadowy waste products of a well-maintained house/body. It is not hard to read this pedagogical performance; the arrangement of this body teaches us that the mind and body are separate, that each part of a body and of a household has a specific task that must remain distinct from the rest; that the body may be open for inspection, but the workings of the mind are secret and sacred. We might even read this as an early example of the modern admonition of parents to their children: "Your body is a temple."

2.28 Toviyah Kats, from *Ma'a'seh Toviyah,* Venice, 1708, National Library of Medicine.



In contrast, Fritz Kahn's 1926 "Der Mensch als Industriepalast" ("Man as Industrial Palace") (Figure 2.29) is fashioned from the industrial era of which it is a part. Unlike Kats' figure, this image is wholly metaphorical. The organs of the body are represented as the parts of a highly structured and efficient industrial machine. The head is compartmentalized into the higher (literally and figuratively) functions of understanding, reason and will, while diligent workers below maintain the mechanical and electronic systems of the nerves, glands, muscles and reflexes. Bodily functions are portrayed as chemical or mechanical processes, and all maintain the balance—in and out, up and down—of a high-functioning, efficient machine. Keeping it all running smoothly is a small army of hard-working overall-clad laborers, cooperating to make sure that the whole is served well by its parts. Like the Kats engraving, this illustration shows us how a factory should run, and by implication the order and regularity that we should strive for in the arrangement of our mental and bodily processes. In both cases, the "natural" body is imagined to be at its best when it conforms to the normative arrangement of social and cultural space.

2.29 Fritz Kahn, "Der Mensch als Industriepalast," *Das Lebens des Menschen*, Stuttgart, 1926, National Library of Medicine.

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When we use these examples to think about rhetorical arrangement as a material and *visual* practice, it becomes clear that with digital media, visual rhetoric is implicated not only in the arrangement of the words and images on the page, but also in the arrangement of representations of the body. Unfortunately, the professional body is often expected to be arranged, in person and on the page, in such a way as to be less visible, or even invisible. It should be"unmarked" (in other words, as much like the unmarked [male] standard as possible), a prosthetic cog in a well-oiled institutional machine. From the examples of Kats' and Kahn's anatomical drawings and Ball's proposed web pages, we learn what constitutes "proper" arrangement—textually, linearly, and bodily ("Keep your knees together, dear, and don't cross your legs.")—and how those standards are deeply implicated in the management and control of both ideas and bodies. We can also see more clearly that restricting arrangement on the page to alphabetic text in the form of a linear argument has the effect of reifying the mind/body split and seeming to provide "containerless" content that purports to be a direct and disembodied information download of ideas from the mind to the page. Visual arrangement, on the other hand, can more readily support a more free play of image and text, a mode of inquiry through which multiple combinations and serendipitous juxtapositions make visible the range of perspectives that must be acknowledged in ethical argument.

Feminist geography provides a helpful perspective for identifying the harm that results from the inability or unwillingness of institutionalized discourses and practices to account for embodied effects in "real" space. Lesbians and gays, for example, experience public disapproval when they express affection in heteronormative spaces and, despite Americans with Disabilities legislation, disabled persons often have to wait unconscionable lengths of time to receive even minimal accommodations. As is the case with women's rhetoric, it is also an ongoing struggle to make the spaces and places of women's physical work visible, in both the public and private spheres. Insights such as these can be usefully applied to the discourses and mappings of digital space. And because scholarship in rhetoric and composition is currently in the throes of a geographical imagination, our theoretical vocabulary replete with borders and boundaries, centers and margins, maps and territories, feminist geographical perspectives complement our understanding of rhetoric as deeply sensory and embodied, as well as textual.

Traditional geographical knowledge has claimed to be exhaustive, but in geography, as in rhetoric, there are serious questions about what constitutes knowledge. Gillian Rose (1993) argues that traditional geography offers two untenable perspectives. Social-scientific masculinity, she says, claims access to a transparently real geographical world. It assumes a knower who believes he can separate himself from his body and that his thoughts are therefore autonomous, context-free, and objective. This master subject—white, middle-class, healthy, heterosexual and male—represses everything Other to claim total (universal?) knowledge.

Aesthetic masculinity, the second option for geographical explanations of the world offered by traditional geography, asserts a heightened sensitivity to human experience in place of the disembodied omniscience of social-scientific masculinity. Aesthetic masculinity is a humanistic geography, and includes as objects of study the emotions, feelings, and actual everyday lived experiences of the populations who inhabit its landscapes. Unfortunately, says Rose, aesthetic masculinity,

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rather than thus reflexively limiting its claims to knowledge, instead claims to speak for itself *and* the Other, thus strengthening its own claims to Truth. Fieldwork, in Rose's view, is geography's instantiation of male dominance over female nature (although I would also include mapping which, by fostering the notion of socially empty space, can dominate both nature *and* culture).

Rose and others challenge this disembodied view from several perspectives. Doreen Massey (1994), in her studies of dislocated workers in Great Britain, proposes a complex politics of space-time that negates the construction of space as a feminine lack to be filled or conquered by a masculine time. In the process she also questions the nostalgia of place, especially the home, as "authentic," "opting out of space and time," a point of view that immobilizes women as domestic goddesses and obscures such embodied experiences as domestic violence and women's unpaid home-work. Nancy Duncan (1996) makes useful distinctions between public space and the private sphere that can be applied to digital rhetoric when she explores the invisibility of domestic violence in "Renegotiating Gender and Sexuality in Public and Private Spaces." She argues that distinctions between public and private space have served to keep activities that happen in private from being addressed in/by the public sphere. The private sphere has been conflated with "the domestic, the embodied, the natural, the family, . . . passion" while the public sphere is associated with "the disembodied, the abstract, the cultural, rationality" (p. 128), a gendered distinction that prevents the productive politicization of things that happen in private space. These examples locate geographical problems for women in the artificial boundaries and distinctions between masculine/feminine and public/private space. As a move toward a solution, Rose proposes a paradoxical oscillation between alignment with masculinist work and a resistant geography beyond the imagination of masculine geography—a refusal: "I won't play nature to your culture."

The power of feminist geography as a theoretical perspective from which to consider digital rhetoric is that it keeps us grounded in lived space, thinking about the lived experience of real bodies. Despite the utopian claims to transcendence made for virtual reality, (cyber)space is not an empty, pre-existing entity waiting to be filled. It is a fluid construct of discourse and social relations. Coming at questions of space and materiality through an explicitly dimensional and embodied discipline opens up new ways to investigate how space and place matter in digital media. If, for example, we imagine digital space not as "rooms" or locations waiting to be filled up with the objects and activities that "belong" there (like the kitchens, baths, and living rooms in suburban homes, or the introductions, body paragraphs, and conclusions of the academic essay), but as spaces with an excess of function that "produce both a domestic and civic architecture as envelope, which permits the passage from one space and position to another, rather than the containment of objects and functions in which each thing finds its rightful place" (Grosz, 1994, p. 165), the result might be digital space that works not "as finished object but rather as spatial process," an associative, hypermediated environment where the meanings of words and images and sounds are discovered through their mobility.

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2.30 Organic eggs, 2008. Photograph by woodleywonderworks.

Embodied Arrangement

A recurring concern of this section, and of many feminist approaches to cultural and visual studies, is the persistence of dichotomies. The most ubiquitous of these is the gendered division between male and female, but other dichotomies that have already made appearances here include content/form, mind/body, virtual/material, and public/private. Ann Berthoff (1990) coined the term "killer dichotomies" to describe the chasms we create in English Studies between terms like writing/reading, theory/practice, and objective/subjective. The problem, of course, is not with the terms themselves; binaries make excellent "objects-to-think-with," and it is arguable that binary distinctions are an inescapably human way of making sense of the world. We don't need Lacan to tell us that one of the earliest cognitive acts of children is to differentiate between "me" and "not-me." No, the problem lies not with the binary, not with "two together," but with the rigid insistence of "or" over "and," the inevitable dichotomous privileging of one term: theory over practice, for example, or mind over body.

Binary oppositions often express themselves as hierarchical differences linked to gender. The terms above line up so, with the words on the left as the "privileged" terms:

male	female
writing	reading
theory	practice
objective	subjective
content	form
mind	body
virtual	material
public	private

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These dichotomies become even more problematic when they are mapped onto larger structures like culture/nature or text/image, declared to be universal (as we saw with Rose's definitions of geographic masculinity), and used to determine the "proper place" for men and women, whites and blacks, citizens and immigrants.

If dichotomies are antithetical to an ethical understanding of difference, what other possibilities for productive representations of diversity are there? We might start by asking another question: If two doesn't work, how many is enough? Elizabeth Grosz (1994) answers this way:

> The problem of dichotomous thought is not the dominance of the pair (some sort of inherent problem with the number two); rather it is the one that makes it problematic, the fact that the one can allow itself no independent, autonomous other. All otherness is cast in the mold of sameness, with the primary term acting only as the autonomous or pseudo-autonomous term. The one allows no twos, threes, fours. It cannot tolerate any other. The one, in order to be a one, must draw a barrier or boundary around itself, in which case it is necessarily implicated in the establishment of a binary—inside/outside, presence/absence. (p. 211)

It seems, then, that the task at hand is to discover ways to make the boundaries around the One more permeable; to "see" difference more flexibly; to emphasize the affinities of two (or many) together through multiple material arrangements that discover similarity, not divergence; to explore how we might create interactive digital spaces as fluid as the body and as changeable as the maps of Empire. After all, rhetorical *techné* is mobile and strategic. It does not conform itself to already-made discursive space and subjectivity; it shapes its discursive and embodied form and content in response to the *kairos* of the moment.