

## Designing Choreographies for the “New Economy of Attention”

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### Abstract

The nature of the academic lecture has changed with the introduction of wi-fi and cellular technologies. Interacting with personal screens during a lecture or other live event has become commonplace and, as a result, the economy of attention that defines these situations has changed. Is it possible to *pay attention* when sending a text message or surfing the web? For that matter, does *distraction* always detract from the learning that takes place in these environments? In this article, we ask questions concerning the texture and shape of this emerging economy of attention. We do not take a position on the efficiency of new technologies for delivering educational content or their efficacy of competing for users' time and attention. Instead, we argue that the emerging social media provide new methods for choreographing attention in line with the performative conventions of any given situation. Rather than banning laptops and phones from the lecture hall and the classroom, we aim to ask what precisely they have on offer for these settings understood as performative sites, as well as for a culture that equates individual attentional behavior with intellectual and moral aptitude.

In an industrial society, the scarce resources are goods and services. In an information society, the scarce commodity is not information — we are choking on that — but the human attention required to make sense of it. Human attention-structures work differently from goods and services and will require a new kind of economics and a new kind of economist. The economists have not realized this yet, but then neither have the rest of us. [Lanham 1997, 164]

University students are browsing Facebook on their laptops and sending text messages to their friends when they should be focused on the lecture; they are tending to their instant messages, their playlists, their television shows, and their shopping while they do their homework. These are the laments of the contemporary professoriate, daily confronted with a generation of digital natives whose work practices and patterns of attention appear to be multifocal, multivocal, and driven to distraction. As Mark Edmundson has recently commented, “University students now are virtual Hamlets of the virtual world, pondering possibility, faces pressed up against the sweet-shop window of their all-purpose desiring machines. To ticket or not to ticket, buy or not to, party or no: Or perhaps to simply stay in and to multiply options in numberless numbers, never to be closed down” [Edmundson 2008, B8]. Many have decried the stupefying effects of the emerging media, arguing that the social and temporal spaces of patient reading, deliberation, and reasoned discourse have been eroded, and that, without radical intervention, young people will soon be unable to carry on a regular conversation — much less an extended argument — outside of the mediating crutch of their laptop or hand-held device [Bauerlein 2007]. Others bemoan the emergence of a new educational economy that threatens to convert students into nomadic consumers of information and faculty into “automatic professor machines” [Winner 2009]. Alternatively, advocates for the advancing media have celebrated the educational, even liberatory, possibilities of game-based strategies for student learning, laptops and wireless networks that provide universal access to information, and social networking environments that provide students (and faculty) with ubiquitous access to the network and to one

another. At the center of this debate are questions about changes in the practices and economics of education, and their bearing on structures of attention. Are these new technologies reshaping human attention in ways that undermine key practices of teaching and learning? Or do they provide a framework for new curricular designs and alternative conceptions of attention that occur at an order of complexity appropriate to teaching and learning in this “new economy”?

This article takes its point of departure from questions concerning the texture and shape of this emerging economy of attention. Our concern is not to critique the new social media as extensions of a shallow and historically amnesiac mass culture, nor alternatively to take a position on the efficiency of new technologies for delivering educational content or their efficacy at meeting students “where they live,” and thereby entering into the competition for their time and attention. Indeed, our central concern is not about technology at all, but is instead about more stable and enduring features of human performative practice that enter into and shape the physical and symbolic sites of teaching and learning wherever and however they are organized. And, as we will argue, it is precisely these basic conventions of the sited work of education that are placed at issue by the availability of easy-to-use interactive technologies. Rather than seeking to ban these devices from the lecture hall and the classroom, we aim to ask what precisely they have on offer for a culture that equates individual attentional behavior with intellectual and moral aptitude.

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## Driven to Distraction: The Making of the “Attentive” Subject

We live in a society where the inability to focus attention is labeled pathological, where millions of young people are diagnosed and treated for Attention Deficit Hyperactivity Disorder (ADHD) each year, and where the ability to focus one’s attention is tantamount to proper socialization. As agents of socialization, the onus of responsibility has long rested on educational institutions to combat the epidemic of wandering minds and diminishing attention spans. Indeed, with the recent clinical classification of ADHD, success or failure at this task can now be evaluated through measurable diagnoses (<http://newideas.net/cgi-bin/adhd-test/questionnaire.pl>). The pathological designation of ADHD provides a clear backdrop against which educational institutions and other social agencies define and manufacture attention as a property of singular focus. As a result, the possibility of a nuanced appreciation of the complex structure of attention is near absent in the contemporary discourse about knowledge acquisition and modern subjectivity.

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This reified conception of attention — as something that is more or less a property of individual neurophysiology and behavior — stands in contrast to a history of philosophy in which the concept of attention has evolved in line with differing conceptions of mind. For example, the eighteenth-century German philosopher Immanuel Kant believed that perception was *a priori*, a product of principles of synthetic unification that existed in the mind independent of our interaction with external stimuli. In the mid-nineteenth century, the neo-Kantian emphasis on apperception began to be replaced by empiricist philosophies that treated the mind as an aggregator of external stimuli. As philosophers and psychologists began to contend with the realities of modern life — daily life in the factory, photographic and moving pictures, engaging with the cacophony of urban streetscapes — subjectivity came to be viewed less as a universal property of mind and more as an individualized product of the self-organization of attention. In other words, people could no longer “take it all in”; they had to focus their attention on individual matters, or risk reaching the limits of their mental capacity. In response to concerns about the rapidly growing modern metropolis during the turn of the last century, the German sociologist Georg Simmel argued that daily life in the city required a shift in the “psychic life” of the individual. The intellect, he stated, serves as a “protective organ” and the mind functions like a calculator, capable of “transforming the world into an arithmetical problem and of fixing every one of its parts in a mathematical formula” [Simmel 1971, 327]. By the early 20th century, this rational-empiricist conception of mind had become pervasive and the command of attention was considered a normative aspect of modern life. Outside of the subject’s ability to filter external stimuli, the world was utterly incomprehensible. Consciousness in the “state of distraction,” as Walter Benjamin characterized it [Benjamin 1986], had become the natural state of mind.

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Distraction and attention go hand-in-hand. The very same new technologies and landscapes that cultivate a state of distraction are themselves directed simultaneously toward the cultivation of attention. Walking through Times Square the mind is distracted by multiple simultaneous stimuli, each of which is vying for our attention — the moving images, the street vendors, and the billboards. According to Jonathan Crary, “modern distraction was *not* a disruption of stable

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or 'natural' kinds of sustained, value-laden perception that had existed for centuries, but was an *effect* — and in many cases a constituent element — of the many attempts to produce attentiveness in human subjects" [Crary 1999, 49]. In short, distraction is a logical by-product of a successive array of technologies of attention. And so the irony and the felt contradiction of our present condition consists in the fact that, while distraction is characterized as a social problem, the underlying cause of that problem — ever intensifying technologies of attention — continues to masquerade as its solution. This comes into clear relief in the context of formal education.

Since the beginning of the twentieth century, educators have strategized about how best to employ complex visual stimuli (photography, film and painting) in the classroom, not as an object of study, but as a means of focusing attention. The psychologist Hugo Munsterberg, in his 1909 book *Psychology and the Teacher*, devotes an entire chapter to attention. He concludes that attention requires a certain complexity in the presentation of visual objects:

The greater the manifoldness of connections in the attended material, the richer the relations, the fuller the meaning, the more significant the parts, the more important the ideas involved, the more responsive the pupil's attention will be. It can shift and change and remain always fresh without leaving the work and without the mind wandering outside the classroom. [Munsterberg 1909, 165]

The concept is rather simple: the richer and more interesting the material, the more focused the mind will be. But he characterizes attention as a dynamic process, rather than as a stagnant state. Attention encompasses controlled distraction carefully directed towards a particular goal.

Munsterberg's depiction of how to capture the pupil's attention remains influential within the contemporary rhetoric of e-education. New technologies are employed to make attentive the naturally distracted minds of youth, but they are rarely employed to formulate the relationship between structures — or better, *choreographies* — of attention and the distracted subjects they seek to engage.

We take this choreographic project as our central pedagogical task. The present essay grows out of a project funded by the National Endowment for the Humanities where we are studying the integration methods of remote participation and digital backchannels into live scholarly events (<http://digitallyceum.org>). We are particularly interested in the physical organization of attention and distraction as audience members at a lecture or conference interact with one another across multiple channels and sites. Laptops and wireless devices are increasingly present in academic settings. Rather than assuming that their presence "takes away" from an established order of attention, we are seeking to understand how they reconfigure that order in ways that might allow for new methods of engagement. In practice, with the introduction of networked technologies into the traditional academic setting, the attention of individual audience members is redirected from a single stream of speech to the presence of other audience members interacting with a global network of ideas. In the absence of strong conventions for shaping the conduct of these events, the presence of the network and multiple channels for interaction could, indeed, prove highly disorienting. For this reason, we have made a series of deliberate choices about how we incorporate technologies into this context and how we introduce these channels of communication to the participants. We have designed a suite of "backchannel" tools and incorporated them into the physical lecture setting so that we can observe how these additional channels change the texture of attention: how the audience directs their glances, how they situate their bodies, ask questions, and in all these ways, demonstrate a new and different order of what it means to be attending a live event. We are not suggesting that the mere presence of digital backchannels positively enhances the academic setting; rather, we suggest that, if properly choreographed, these channels, just like the organization of chairs and podiums in a lecture hall, can augment the live event in new and powerful ways. Where this intentional choreography is present, the mind wanders from the "focal event", but does so purposively, with guidance from the organizers, the tools, the speakers, and the other audience members. Much as the controlled burning of a forest enables safe and healthy growth of an ecosystem, controlled distraction enables participants to experience richer, multimodal relations without wandering outside the space(s) of the event. In this article, we depart from the trend in the literature on e-learning that continues to treat distraction as a problem to be solved as opposed to an emerging set of practices to be cultivated. Attention is performative and situational; as such, we make the argument that designing and implementing new choreographies of attention should be central to building sustainable models for knowledge production and dissemination in the contemporary academy.

## The Traditional Stage

We begin with the example of the lecture. Conventionally understood, the lecture is a primary mechanism for knowledge delivery in the academy. The lecture is also a piece of sited work where typically a speaker stands in the front of a room and shares his or her thoughts in speech (ideally) with an attentive audience. Many of the standard conventions for organizing attention at a lecture are clear: the audience is seated, often in rows, facing forward toward the speaker, and the speaker stands, often behind a podium, facing the audience. Opportunities to talk, and their regulation, are primarily the responsibility of the speaker. The audience is responsible to attend and remain attentive. Checking email, watching TV, sleeping, or knitting do not, in most circumstances, provide acceptable outward manifestations of appropriate attention. If an audience member is not looking at the speaker, the designated presentation screen, or some other point in the room that can reasonably be incorporated into “paying attention,” then they appear — and are available to the speakers and others as being — distracted.

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In a famous paper on the topic, the sociologist Erving Goffman suggests that the order and organization of the lecture is built around a specific, situated management of the tension between maintaining an audience’s attention and exploiting their proneness to distraction. According to Goffman, the lecture belongs to “that broad class of situational enterprises wherein a difference clearly occurs between game and spectacle, that is, between the business at hand and the custard of interaction in which the business is embedded” [Goffman 1981, 167]. If the “business” of the lecture is the subject matter (e.g., Paleolithic history, or recent innovations in gene-splicing technology), then the “custard of interaction” is all the conventional work that goes into organizing and staging the event (the arrangement of the room and its furnishings, the pre-lecture conversations, the formal beginning and introductions, the transitions to questions, the closing, the informal talk afterward, etc.) Goffman’s contention is that, in comparison to other live performances like a stage play or a ballet, the lecture typically aspires to diminish attention to the staging and organization and direct the audience toward a focus on the subject matter itself. In this sense, the lecture is a form of organization that seeks to hold its staging and its overtly performative elements in check so as to provide more extensive access to the topic. While Goffman is clear that audiences nevertheless constantly direct their attention to elements of the surrounding environment, he suggests that the social and physical site of the lecture is structured in such a way that enforces audiences to act “as if” they were engaged directly with the subject matter. Ask an audience member whether a lecture was any good or not, and it is far more likely they would say something about the flow of ideas than the shape of the podium or the choreography of the event. And yet, who was there, whether the speaker was engaging, whether the event began and ended on time, and so on, are all matters about which, having attended a lecture, one might be expected to comment. Even as the unique organization of the lecture places “what was said by the speaker” at center stage, the “custard of interaction” is also deeply woven into our attention to the event. This is so even at the level of our “undistracted” listening. As Goffman argues, the audience “skips along, dipping in and out of following the lecturer’s argument, waiting for the special effects which actually capture them, and topple them momentarily into what is being said” [Goffman 1981, 166]. Despite the fact that the lecture is overbuilt to focus the audience’s attention on the speaker, Goffman suggests that, even at the level of the flow of speech, audiences have a predilection toward distraction that demands constant effort on the part of a speaker to recruit and retain their collective attention. These efforts and “special effects” might be a good opening joke, an interesting aside, an evocative turn of phrase, or a moment of clarity in an otherwise abstruse topic that transports the audience members from their natural state of distraction toward a focus on the topic-at-hand.

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On this analysis, the fact that minds wander, that they are influenced by the myriad interactions that make up any situation, that they are curious as to whether everyone in the audience is as confused as they are, are phenomena that are strategically suppressed in and through the conventional organization of the lecture. Not only does the audience have direct access to the lecturer, but the lecturer, in turn, has access to the audience and their expressions, and is able to work with that texture of attention in a variety of ways during the lecture’s course. Goffman’s analysis is focused in part on the sorts of special, rhetorical effects that speakers can use to draw an audience in, and he considers as well that audience members communicate constantly with one another, through, for instance, smiles or unsettled glances between two people, the shifting in chairs that takes place when an audience collectively expects the talk to be over, or the quiet contemplation during a particularly riveting moment. While most of these interactions are muted by the interior design of the lecture hall itself — the horizontal rows of chairs facing the speaker, and the presentation screen front and

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center — that same organization focuses the predominant flow of attention and attentional monitoring between speaker and audience. Given the centrality of these conventional performative elements to the actual conduct and success of these events, it may seem odd that lecturers, lecture planners, and audiences, continue to conduct their activities in apparent and determined indifference to the lecture's rather unique performative conventions and associated structures of attention. Indeed, we might speculate that the hesitancy on the part of some academics to integrate emerging media into their pedagogical practice is part of a larger hesitancy to consider these performative conventions as central to their craft as educators.

And yet, it is easy to imagine that if the room's design were different (both physically and informationally), the interactions prompted by the audience's natural condition — distraction — would become more central.

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## The New Economy of Attention

It is our contention that the presence of laptops and other networked devices within “live” academic events changes the texture, flow, and distribution of attention, and that this change in the practical order of these events therefore requires a rethinking and a redesign of how they are organized and performed. Richard Lanham makes the argument that the ability to summon and maintain attention is the most valuable commodity in contemporary digital culture [Lanham 2006]. His concept of “the economy of attention” is premised on the idea that all of the elements that comprise a situation — its business as well as its custard — are in the process of being reorganized by the emerging media and an underlying economy that privileges “fluff” over “stuff.” In this “new economy,” Lanham argues, the most valuable commodity is not the stuff we think we're trading, but is instead the fluff that surrounds it — that organization, and architecture, and those rhetorical effects that direct our attention and help us make sense of the stuff. In the context of the present argument, this would mean that the organizational and performative elements that comprise Goffman's “custard” would move to the foreground, and the work of choreography would occupy a different, more privileged place in our thinking about, and planning for, “live” academic events. But Lanham goes a step further and argues that fluff does not simply support stuff (i.e. the advertisement does not simply support the product), but the fluff itself becomes the commodity. On this argument, the ability to shape people's attention is now a more valuable commodity than the things around which our attention is presumably focused. Since the end of the nineteenth century, Lanham recounts, “the world of stuff has gradually come to dominate the university curriculum.” Science and business education — the study of stuff whose outcomes are assessable — have set the agenda for the modern university education. “But to the extent that we now live in an information economy...this relationship must invert” [Lanham 2006, 14]. One implication of Lanham's argument is that what Goffman deemed “special effects” become more focal to the conduct of interaction. These organizational and rhetorical elements become the fundamental mechanism of trade, the primary determinant of value, in a society where information-flows, perhaps even more than material structures, determine the parameters of every situation. Attention, diffused and de-centered, is the focal value of this new economy in which the force of symbols, rhetoric, and information design are displacing an order of industry and manufacture. The work of this “new economy” consists, at least in part, in the design and implementation of special symbolic and rhetorical effects that provide audiences with options for how they engage in academic environments and situations.

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The economist Richard Thaler, together with the lawyer Cass Sunstein, provide direction for work in this area through the concept of what they term “choice architecture” [Thaler and Sunstein 2008b]. People will be more inclined to actively engage with the world, they argue, if they are given small choices to make within discrete attentional frameworks. In the introduction to their book, they use the rather comical example of a Dutch economist who developed an innovative solution for that most annoying reality of men's restrooms: urinal spillage. The economist proposed that a picture of a black housefly be printed to the left of all the urinal drains in the Amsterdam Airport. As a result, spillage was reduced by 80%. “It turns out,” they conclude, “that if you give men a target, they can't help but aim at it” [Thaler and Sunstein 2008a]. Choice architecture is about more than just restroom cleanliness; it's about supplying focused choices *in situ* for people who are otherwise aimless and wandering. Most of us never change the default settings on our operating system, or go through the trouble of actually mailing in rebates (that is precisely why companies offer them). But if significant choices that require little energy (like aiming at a fly in a urinal) are designed into our environments, we are more likely to make use of them. If economists, architects, and lecturers, actually pay attention to fluff, then stuff will get done. It is a matter of gently nudging attention instead of commanding it, by designing small choices into every

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situation. Such is also the solution, we contend, for the “problem” of laptops in the classroom. Indeed, these additional information channels can provide endless opportunities for mental and visual wandering, but if considered part of the learning space, and designed to provide subtle encouragement towards particular modes of participation, than these digital “distractions” can in fact provide positive wayfinding tools for the productive integration of physical and digital spaces.

## Bringing Backchannels to the Front

Every situation is composed of both the physical architecture and the information-flows that accompany that architecture [Meyrowitz 1985]. The space of the hall, the time of the event, and the composition of the audience, all normative features of the traditional lecture situation, contract and expand in accordance with participants’ migratory attention patterns. For instance, a lecture in a wi-fi enabled room will include several open laptops, which provide users access to email, IM, and the wide-open web. How users engage with these communication channels determines the parameters of the situation. We assert that the virtues of surfing the web during a lecture will be influenced by the design or lack of design of web interfaces made available to participants. When there is no choice architecture to nudge the distracted participant, there is little motivation for her to integrate additional information channels into the way she assimilates information and there is no framework for her to share that information with the event community. While some institutions assume that simply providing connectivity is enough, connectivity alone does little to encourage the productive uses of the lecture hall as a space of collective knowledge creation. Simple connectivity is like a public park with no benches, playgrounds, or organized activities. Just like physical public spaces, when network spaces are left unplanned, they add complexity without encouraging focus, dissemination without articulating message. User attention needs our attention.

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Our study focuses on the design and evaluation of these emergent choreographies of attention. We assembled a suite of digital backchannels — including chatrooms, web links, virtual environments, and archives, and then directed the audience toward their use, thus altering the traditional economy of attention toward a more decentered experience where the interactions among audience members were integrated into the situation’s overall meaning. When backchannels are successfully implemented, the parameters of the lecturer’s work must, in turn, expand to take account of the user practices that are part of the overall composition of the event. Therefore, the periphery of the situation is centralized for the individual user, transforming what is typically referred to as *backchannels* into channels of parallel discourse that amplify audience participation.

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Backchannels are nothing particularly new. Multi-user chat systems have been in relatively wide use since the late 1980s with the invention of Internet relay chat (IRC). Of course in the 1980s, these systems were primarily used for individuals spread out over the Internet to congregate in a digital space for conversation. IRC was essentially limited to non-spatially proximate desktop computers. But with the introduction of laptops and wi-fi technology, the potential applications of IRC expanded. It could be used at conferences, in classrooms, or any place that people assemble around wi-fi connectivity. And of course these backchannels were no longer limited to IRC – instant messaging, text messaging, virtual worlds, Facebook, Twitter, and many other social web applications expanded the potential uses and contexts of backchannels. While these applications and their corresponding practices are commonly implemented in some industry sectors (i.e. technology conferences), outside of very specialized disciplines and institutions, the deliberate implementation of backchannels is still relatively uncommon in the academy, even though wi-fi connectivity is nearly ubiquitous at most research institutions and students and faculty are now continuously connected to the global network. In 2007, two thirds of U.S. college classrooms were wireless [CCS 2007]. However, the pedagogical need to design the sort of communication made possible by that access is routinely ignored.

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In February of 2008, we conducted an early experiment during a day-long symposium entitled *Mixed Realities* (<http://institute.emerson.edu/floatingpoints/2008/>) at Emerson College. In many ways, the symposium’s format was traditional. There was a morning and an afternoon session with a total of nine panelists. The panelists were arranged behind a standard rectangular table positioned at the front of the room. They sat, each with a microphone, facing the audience. A large projection screen was directly behind and above them, assuring that the panel and the projection would be in the same visual frame from the perspective of any audience member in the room. In addition, there was a

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secondary, smaller projection screen to the left of the panelists for the display of the various backchannels. This screen was positioned outside of the direct view of the panelists.

Instead of parallel rows of chairs, we had the audience sit around large, round banquet tables. This spatial organization was meant to disrupt the standard front-and-center focus of the room even before the addition of digital backchannels. Before the panels began, people were not necessarily training their gaze to the front of the room. Conversations took place between and across tables; people brought out laptops and began working on them, even if their backs were facing the front of the room. Walking into that room felt like walking into an active work environment. Simply reorienting audience bodies and their corresponding technologies altered the fundamental nature of the learning space.

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This physical set-up provided a good context for introducing digital backchannels. We built a tool that aggregated feeds from Delicious, the social bookmarking site, and Flickr, the photo sharing site; it also included a video feed, a space in Second Life and an open source question tool called backchan.nl (<http://backchan.nl>) [Harry et al. 2008]. When the symposium started, we announced that these features were available and we invited everybody's participation. Throughout the day, we periodically projected various feeds onto the secondary screen and the live moderator referenced questions and discussions that were taking place online.

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This experiment reinforced our assumption that *the successful implementation of communication channels should always be embedded in the physical organization of space*. Choreographing attention is physical as much as it is cerebral. Digital backchannels have to be designed into space, not in spite of it. Our experiment changed the shape of the room, as it was no longer solely defined by the one-way glances of the speaker and audience. In addition to the live presenter, people were looking down at their screens, at each other, and towards other projections. In many respects, the physical architecture required — and received — reorganization as the choice architecture of the screens suggested new possibilities for engagement. While we are interested in destabilizing the hegemony of the forward-facing gaze, we understand the importance of maintaining a collective understanding of the room's focal points, including the speaker and presentation screen(s). While an individual's use of a laptop would seem to promote and individualization of space, we are, in fact, more concerned with how individuals understand themselves as part of a group, with collective goals and common objects of analysis. There is significant research on how computers and networks facilitate collaboration ([Kiyokawa et al. 2007]; [Liang et al. 2005]; [Bachler et al. 2005]; [Billinghurst and Hirokazu 2002], but little has been written about how the practices associated with these technologies transform the presentation, assimilation and dissemination of knowledge within large educational spaces.

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With that said, we disagree with the assertions that laptops necessarily take one off topic and limit critical thinking. David Cole argues, "I am sure that the Internet can be a useful pedagogical tool in some settings and for some subjects. But for most classes, it is little more than an attractive nuisance." [Cole 2007] We do acknowledge, however, that *more channels do not necessarily equal richer communication*. Based on observations and questions asked during the *Mixed Realities* symposium, we learned quite a bit about the nuances of successful attentional choreography.

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While some people were conversing about what was just said, drawing each other's attention to relevant websites and applications, some never bothered with the channels provided, choosing instead to only check email or engage in IM chats. Some users commented that they couldn't follow what was going on in the digital space; that they needed more structure to get them to participate. And others suggested that providing these channels crippled the participatory capabilities of those without laptops, making the un-connected participant feel left out of the conversation. The successful choreography of attention, therefore, *considers how architectural space, digital channels and screens combine to produce a situation that is inclusive and expansive*. From the details of the placement of tables to the design of computer interface, how the user engages with screens and how that engagement is communicated and integrated into the overall event, is how the experience of a room (with or without a laptop) is constructed. During our symposium, we could have taken several measures to mitigate user fatigue or unproductive distraction. By providing more onscreen prompts to help participants find the designated tools we could have reduced barriers to participation. This is as simple as periodically displaying a URL on the primary projection screen. We also could have switched more often between the Second Life space, where the live audience was able to see the virtual audience, and the other feeds on the secondary screen. One of the challenges we confronted early on was the integration of proximate and remote audiences. While the

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physical audience had nearly constant access to members of the Second Life audience, who were watching the live video feed of the event, the Second Life audience had no access to the live audience. Ironically, those attending virtually had the most forward-focused attentional experience of the event. Certainly, although remote participants could have been logging on from anywhere and engaged on a variety of levels, the way the space was represented to them significantly limited their ability to engage in a collective audience experience. This affected the physical experience of the room because the avatars on screen were mere pictures to the live audience, as they were never given the opportunity to become fully engaged participants. This could have been resolved by bringing more variety to the camera angles used to stream the event.

Another element that fell short in our experiment was the frequency with which the moderator addressed the backchannel conversations. The impression of digital integration for those without laptops is enhanced when questions and statements streaming from backchannels are explicitly referenced. In essence, the goal is to cycle through the backchannel participation as if it is just another piece of the content. This is the strategy used on *Rick Sanchez Direct*, an hour-long news show on CNN. The anchor, Rick Sanchez, integrates the micro-blogging service Twitter into the newscast in order to combine live participation with the traditional newscast. Twitter is displayed on a computer monitor directly in front of him and the camera periodically pans to show the stream of questions and comments. More importantly, however, is the way Sanchez consistently refers to these participants, quoting them and taking their questions. This formula, while admittedly still a bit awkward, manages not to alienate the viewer without a computer, as it makes the concept of participation part of the content of the program. Even if not actively participating on Twitter, the traditional television viewer is asked to enjoy the restructuring of communication channels. The same is true for the “live” academic event; even if not participating with a laptop, integrating the participation of others into the subject of the event, is the challenge and promise of the this new economy of attention.

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Based on our experiment, we cannot point to absolute findings, but we can point to a need for further investigation and experimentation in this arena. As colleges and universities debate their laptop and network policies, as they build new classrooms and libraries, they need to consider how this new economy is altering the nature of academic space. They need to consider the correspondences between physical and networked spaces and their influence on how attention is formulated, captured, and purposed towards the goals of teaching and learning. This will happen as more and more committed faculty and institutions explore these considerations as central elements of intellectual and pedagogical practice. The goal is not simply to resist the literature and policies that take a hard line stance against personal technologies in the classroom – “attention diverted is attention diverted” [Cole 2007] – but to change the discourse all together. Traditional structures of attention should not simply be protected or rejected; they should be negotiated. Along with tables and chairs, wifi accessibility and data projection, the twenty-first century education environment has to design the frameworks of attention into its four walls.

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