Chapter 5: Attention as a Thing Composed

> What if direction, as the way we face as well as move, is organized rather than casual?
>
> –Sara Ahmed, 2006, p. 15

Although millennials have been blamed for ruining everything from bar soap to the auto industry, the years between 2005 and 2015 saw the population of people born between 1981 and 1996 blamed most for lack of attention. With the ubiquity of personal computing devices happening alongside the rise of social media and the shift of the internet toward user-generated content models, attention practices were unquestionably changing. The result was pervasive cultural confusion: do ideals of attention exist for which we should strive? Do technologies harm these ideals? These tensions could be observed in public media accounts, which often depicted the under-35 generation as the walking, talking, texting embodiments of attachment to mobile devices. Take, for example, a late 2015 example in *BBC Online* entitled "A Generation of Cyberslackers" (Alsop, 2015). The piece opened by describing Alexandra Douwes, a 26-year-old entrepreneur who had recently taken steps to detach herself from the habit of constantly checking her cell phone. Alexandra explained that she had difficulty trying to avoid constantly looking at her messages and social networks. As she put it, "it fe[lt] unproductive to do otherwise." The article positioned Douwes as a kind of unicorn: an elusive member of the "cyberslacking" generation who managed to beat the odds by breaking her constant phone habits. Others, either unlucky or less trained, remained affected by how continual mobile phone use was "making it difficult for young people to concentrate and stick with demanding assignments at school and work" (Alsop, 2015, para. 7).

Distraction is often positioned as a cognitive state to which people are "hard-wired" due to the use of technologies, and that wiring is often discussed generationally, usually unfairly. A broad interdisciplinary literature has challenged the myth of the digital native. For instance, contributors to Michael Thomas' (2011) *Deconstructing Digital Natives* covered domains ranging from multimodal texts to internet searching to networked participation while questioning the appropriateness of assuming digital fluency based on generation. If public media examples illustrate tensions around how to interpret attention in landscapes impacted by mobile devices, digital studies scholarship also

bears out many different takes on the subject. As Howard Rheingold (2012) explained, the distraction associated with using mobile technologies can be alternately positioned as a neurological problem resulting from the neuroplasticity of brain cells (Carr, 2011); a social problem arising from the anxiety of needing to be "always on" and available to other people (Baron, 2008); an "adaptive behavior" of continuous partial attention through which employees try to gain a competitive economic advantage by "constantly scanning for opportunities and staying on top of contacts, events, and activities in an effort to miss nothing" (Stone, 2007, p. 28); and, a textual problem difficult to avoid in the convergent materiality of digital interfaces, whose conflicting fields and components invite split attention (Jackson, 2009). These differences matter because they position attention as stemming from divergent institutions or interfaces, which influence whether we understand attention as a neurological condition, social anxiety, required performance in a knowledge economy, or an inevitable part of navigating the current media landscape.

The ambiguities related to what we mean when we use the term "attention" are compounded because literacy and humanities researchers and teachers are often removed from the research on attention as a neuroscientific phenomenon. Scientific approaches can position attention as a black box to researchers and educators in the humanities (Nass, 2010; Ophir et al., 2009). By contrast, *distraction* is often associated with observable embodied interactions and gestures rather than with cognitive function: the tendency to glance down at one's phone repeatedly, to return habitually to social media sites, or to focus on online interactions at the expense of face-to-face ones. As a result, the so-called cyberslackers of Alexandra Douwes' generation are simultaneously labeled by their embodiments and reduced to their brains, but not at all easily understood.

In the prior chapter, I argued that the experience of networked mobile device use can be associated with ambient sociability, by which I mean a context in which some form of social potential is continually relegated to the background of focus. In this chapter, I analyze attention as an outcome and contributor to composing in contexts where ambient sociability is at play. To do so, I emphasize how attention can be understood as a product composed during the process of interacting with networked mobile surroundings. To put it another way, attention may be bracketed through a neuroscientific lens, an economic lens, or a behavioral lens, but also through a material/rhetorical lens that positions it as invented through interactions. To understand attention in this way is to imagine it as produced in collaborations that involve both people and materials. This stance toward attention opens it up to the expertise of rhetoric and composition and digital literacy scholars. It enables us to take this easily generalized phenomenon and re-specify it as something that humans participate in with the people and materials that surround them. This way of understanding attention

makes it possible to challenge the assumption that distraction is the causal result of a particular technology based on a reading of specific cases.

To begin an example of that work in this chapter, I first further set the scene by taking up the recent interest in how mobile devices affect attention dynamics in classroom spaces. However, although classroom-based models are relevant to understanding how students are attending (or not) to *some* materials that matter to composing in *some* contexts, the vast majority of writing practices take place in environments where norms and expectations for attention are less tightly controlled. While ambient sociability is experienced across these locations, mobile surroundings differ and thus shape the materials that participate in constructing attention. To provide examples, the chapter traces two instances of composing attention, using examples to draw out vocabulary for how attention is composed in interactions with surroundings.

Learning from Classroom Device Debates

Positioning attention as a crucial underlying aspect of twenty-first century digital literacy competence, Howard Rheingold built on the now-familiar concept of the attention economy (Lanham, 2006; Lankshear & Knobel, 2003), which captured the market-like dynamics surrounding attention in cultures whose technological development resulted in round-the-clock information access. As Richard Lanham's (2006) *Economics of Attention* emphasized, attention has become a "scarce resource" sought and cultivated due to the multiplying choices people have for expression, information, and interaction across modes and media. Positioning attention as a resource that circulates within markets has been a useful conceptual lens for navigating the emerging dynamics of university classrooms, where many instructors find that attention is a scarce resource. As I described in Chapter 1, networked mobile devices impact environments by creating conditions through which unrelated materials interact. When students carry networked computers into classrooms, materials within proximity of students' perception multiply exponentially. The supply of materials to which one might attend multiplies as the digital reserve surrounds us. Mobile devices bring invisible clouds of information front and center in classroom environments, dispersing the number and kinds of materials that compete for focus.

Instructors often find it difficult to ignore the presence of the digital reserve during classroom instruction because it positions their voice as one competing in a marketplace of sights, sounds, words, and images. As a result of this dynamic, educators disagree about how to adjust and have debated their options publicly, which has resulted in fruitful and generative conversations about the limits and possibilities for attention in classrooms. For the past 10 years, negotiating how to address classrooms of students with heads

turned toward smartphones or hiding behind laptops has become a defining part of developing contemporary composing pedagogies, an issue routinely addressed when supporting new teaching assistants for instance. Clay Shirky (2014) invigorated a conversation about laptops in classrooms by publishing a blog entry that explained how he had asked his students to stop using mobile devices during class. This was an unanticipated response, given that Shirky is otherwise understood to be a technology supporter or even enthusiast. The complexity and thoughtfulness of Shirky's posting set off a wave of replies from across academics and public intellectuals. To name a few, digital humanities scholar Dave Parry (2014) admitted to making similar decisions for similar reasons; *The Shallows* author Nicholas Carr (2014) took the opportunity of Shirky's post to echo his longstanding refrain that mobile devices lead to destabilized classrooms and reduced learning; and Steven Krause (2014), a digital writing scholar and educator, suggested that teachers should respond to the impact of mobile device distractions by changing their methods. Krause suggested that instructors lean less heavily on lectures, "be more interesting," and decenter themselves as classroom focal points (2014).

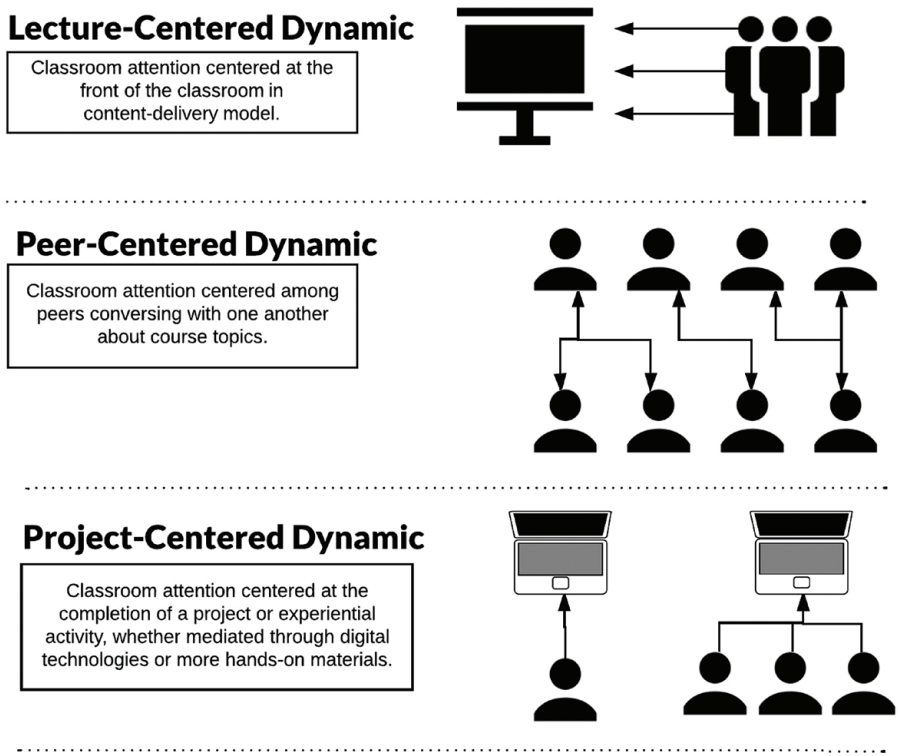

Figure 5.1. Simplified models of classroom attention orientations.

This public discussion and debate has shaped how many educators understand the intersections of attention, literacy, and mobile devices and offers a useful jumping-off point for any teacher examining the range of possibilities for how well informed, technologically savvy educators are addressing the attention economy in university classrooms. Within the debate and from the position of a market framework, researchers and instructors generally disagree about whether decentering the focus from a central teacher and students toward the wealth of resources (related and unrelated to course content) contained across the physical classroom and the digital reserve affords positive opportunities for learning. My perspective on the debate is somewhat different. For me, the "device debates" illuminate how educators have focused on the dynamics of classroom settings to the detriment of caring about attention outside them.

Behind common stances in classroom device debates often lie assumptions about what kinds of materials should be central in students' perceptions when they participate in classroom learning. For example, as Krause suggests, mobile devices are often framed as problems in classrooms because they interrupt centralized focal objects of the classroom, such as a teacher's body or course lecture slides. Mobile devices in other cases are constructed as moving student focus away from peers in a classroom setting or from shared course texts (i.e., textbooks or reading printouts). By contrast, educators who applaud integrating mobile devices during class time tend to position them as supporting a dynamic of attention that is central to their pedagogical stance, such as the social learning dynamics I discussed in Chapter 4 that ask students to draw on networked mobile devices to connect online while practicing online research or design. Emerging pedagogies (e.g., active learning pedagogies, makerspace pedagogies, or pedagogies of play) often purposefully attempt to distribute and maintain classroom attention in ways that differ from traditional "sage on the stage" models. Across these possibilities, instructors design pedagogies that cultivate particular kinds of attention and, quite naturally, plan and carry out activities that regulate students' attention: moving them toward particular attentional dynamics that they understand to foster learning.

Classroom guidelines and technologies participate in this regulation of attention by enforcing and incentivizing forms of attention that instructors (or programs, or universities) understand as ideal. Syllabi statements banning laptops or mobile phones or calling for restraint in personal device use during classroom moments are just one kind of guideline that acts in this way: participation grades, content quizzes, peer-learning projects and other daily classroom practices function at least in part to orient students toward embodying and living the forms of attention that instructors or programs believe will best lead to their learning. The growing number of educational technologies that enforce attention dynamics in classrooms through surveillance also play a role in

maintaining normative models of attention. For example, I have received email advertisements that promised to "reduce distractions" during class by providing a way to keep students from "texting, playing and going into Facebook." The computer application, the email continued, is helpful because it "automatically tracks those using their phones during class (especially the sneaky ones you can't see or don't notice)" (email communication, Flipdapp.co, 2016). While this is a rather extreme measure of maintenance, all course experiences urge students toward particular ways of attending: as if there are imaginary targets toward which instructors aim students through classroom values, standards, people, and technologies. Generally, this is a positive way for instructors to think through the objectives of their classroom presence and goal setting.

In reality, we know that the actual practices of attention inside classrooms never meet instructors' ideals. Students have always stared out windows, passed notes to friends, and daydreamed about lunchtime or what will happen after class. Students are active agents who in Michel De Certeau's (1984) terms tactically react against the strategic norms of official spaces such as classrooms, and often for the better. For example, writing instructors have long recognized that students create their own lively "underlife" that exists parallel to teacher-initiated conversations (Brooke, 1999; Mueller, 2009). This underlife not only connects students socially but can also extend and enrich learning. Attention ideals are at best useful myths that inform the practices, standards, and values of classrooms; however, they are never completely realized in practice.

Attention and Literacy Beyond the Classroom

Although "perfect attention" by the standards of pedagogies will never be achieved in practice, literacy instructors are well served to take attention dynamics seriously in classrooms that are shaped by mobile networked devices, whether this means banning laptops or taking measures such as teaching meditation or other focusing techniques while integrating mobile devices (Rheingold, 2012). The recent changes that mobile devices bring to attention in classroom spaces may be more pervasive, disruptive, and subject to control by profit-motivated marketeers and interface designers than "distractions" of staring out the window or daydreaming. However, even the most "decentered" or "student-centered" classrooms are distinctive environments for attention, where attention is explicitly regulated through guidelines that sanction particular norms. Curricula, educational technologies, and classroom expectations act in Lanham's (2006) terms as situated and local "attention structures": *designed* texts, interfaces, technologies, and other mediators that actively shape how attention is garnered and received in a particular context.

Normative models of attention associated with classrooms, however, are limited in predicting or supporting how attention is performed outside them. Classroom rules, standards, and incentives do not automatically travel with students to regulate their attention in all the other meaningful places of students' lives, particularly in commons spaces. For example, even if a student consistently performs attention to the slides of a course lecture in ways that align with a teacher's expectations, she may not pay attention in the same way when working alone on her laptop computer in the shared space of a coffee shop. The attention produced through the practice of composing with networked mobile devices, then, may differ substantially across environments. In particular, places that lack explicit guidelines for attention or surveillance technologies such as distraction reduction software may lead students to assemble different kinds of materials. Distraction-reducing technologies, of course, are not unique to academic contexts. In 2007, Stone suggested that this issue was already leading to the development of a number of tools and technologies designed to mediate the cognitive overload associated with burgeoning information and the need to continually check for new opportunities. Many of these software packages create incentives for ongoing focus or eliminate the possibility to orient away from a given online task or writing window. To use Paul Prior and Jody Shipka's (2003) terms, students writing outside classrooms work with their own "external aids and actors" and continually make mundane decisions that "shape, stabilize, and direct consciousness in service of the task at hand" (p. 44). Tools that mediate attention are important external aids for contemporary students writing outside of classroom spaces.

Alex Reid (2014) made a related point in response to Shirky's post about laptops in the classroom, arguing that modes of attention assumed in traditional classrooms differ dramatically from those expected in many contemporary workplaces, where employees are less frequently expected to perform in stable hierarchical trajectories. By contrast, Reid argued, today's employees are expected to chart their own course toward advancement through collaboration, risk-taking, and lateral movements. In other words, the importance of carefully constructing attention does not end at the borders of classroom walls; it only begins there. Attention is composed across the range of environments students inhabit temporarily, including on- and off-campus locations (Delcore et al., 2014). While popular discourse and instructors' own attention often focuses on students' multitasking within classrooms (Flanagan, 2014; Weimer, 201;), educators have been less concerned with how students construct attention across the other places that line learning pathways, from hallways to park benches to freeways to libraries to dorm rooms. Ironically, given our constant focus on mobile devices in classrooms, it may be that formal educational spaces are students' least challenging environments for maintaining

attention because instructors put so many technologies, standards, and social expectations in place to guide them. If attention is significant to learning and connected to materials across different situated environments, it is important to think beyond classrooms to survey the impact of shifting technologies and information access on how students assign focus. Understanding transient literacies requires educators and researchers to think more carefully about how attention is constructed during hours outside those that instructors observe (and to some degree control). Rather than focusing exclusively on intervening to alleviate distraction in classrooms, educators also must help students understand how attention is intertwined with literacy across environments with different materials, resources, and expectations.

Literacy educators enacting mobile pedagogies, unfortunately, have traditionally applied assumptions about attention that emerge from classrooms to understand composing practices beyond them. Amy Kimme Hea (2009) illustrated that pedagogies that integrate mobile devices often rest on assumptions that students will possess values, responsibilities, and skills that will lead them to use devices in ways that align with university classroom expectations. Students were often expected to take charge of the process of their learning as well as their ability to use devices in the right ways, to stay on task and/or avoid risky or criminal behavior (Kimme Hea, 2009). Although we often directly observe students struggling with information saturation in our presence, as Kimme Hea describes, instructors also often tacitly proceed as if students will use technologies outside classrooms according to our assumptions about how they are most ideally suited to shape their learning. Students are thus "expected to control their own learning through the internalization of standards" but also to "police themselves in relationship to sanctioned laptop use" (Kimme Hea, 2009, p. 210). It is not realistic to expect that students' practices of attention outside the classroom will derive from norms expected within them. By learning from how students manage attention when composing in contexts of ambient sociability, we can begin to understand the habits and values of individuals using networked mobile devices and how these practices have impacts beyond personal literacy development.

Composing Attention in Two Case Examples

With a few exceptions, little research on composing has extended beyond theorizing composing to trace how attention is practiced in collaboration with the materials in writers' environments. Literacy educators have offered several terms to describe forms of attention that impact reading practices, however. N. Katherine Hayles' (2008, 2012) well-known concept of "hyperreading," for instance, positioned skimming and scanning as potentially useful emergent

practices that contrast with close reading techniques. Daniel Keller's (2013) concept of "foraging" also described a common reading practice in which students appear to stake a haphazard movement through a text but actually read in a non-linear, "gathering" fashion that identifies relevant and useful bits of text more efficiently. Practices such as culture jamming and meme circulation described by new literacy scholars Lankshear and Knobel (2003), remind us that composing practices are also developing from attention dynamics students practice outside traditional classrooms. At the same time, composition scholar Richard Miller has blogged about how ways of thinking aligned with wandering (that appears distracted) may actually be welcome manifestations of a humanistic, creative mind (qtd. in Keller, 2013). In Miller's estimation, some reading, writing, and thinking practices easily elided with non-attention could be central to the open-minded thinking trajectories that many composition scholars hope to encourage.

Examples like these are useful for understanding attention as a dynamic that affects composing practices in information-saturated contexts. However, we need more examples that focus on the detailed processes through which attention is composed. To elaborate, I now present two examples from the Technology Commons. In each case, I first introduce participants' stories along with basic time-use interaction sequences, which reveal preliminary information about the kinds of materials that become participants in composing attention during two different instances of composing with a laptop. I then analyze what these sequences of interaction suggest about how materials moved in and out of students' focus during the time observed. After presenting these interactive series, I turn toward a more detailed discussion of how attention is invented in collaboration with the mobile surround in each case.

Ann's Story

The first example I discuss is a criminal justice student named Ann, who often used the Technology Commons between classes to socialize with her boyfriend and friends. Ann was a white female student who grew up in a small town on Florida's east coast, about an hour's drive away from UCF's campus. She had completed her introductory general education courses at a community college less than thirty minutes away from her home and transferred to UCF after finishing there. During moments between other scheduled campus activities, Ann looked for comfortable places on campus to sit and interact socially for a few moments while also getting short homework assignments completed when possible. When I first approached Ann, she was reclining with sneakers propped on a coffee table in a secluded area of the Technology Commons: a small nook outside the PC lab that included a large round table and seating for five or six

students. As she explained when we chatted later, she didn't understand her time in the Technology Commons that afternoon to be a study or homework session *per se*. She positioned it as mainly for socializing, where she would "go on the internet and talk to people" to relieve stress between classes.

In spite of this "downtime," Ann had made the decision to keep one particularly challenging course, Archeological Sciences, in the back of her mind even while killing time. As we discussed that current course which was a requirement for her criminal justice degree, Ann explained, "So I have completely different habits just for that class. My other classes I can usually like study for a few days and I'm okay. That class I have to study constantly." While Ann was waiting on her boyfriend and friends to arrive, she accessed a course assignment, read an assigned article, checked her course management system for assignment information, all while checking her social media feeds. She described her activity this way: "we had a test maybe in a week and I was checking to see if anybody had posted questions about what they didn't understand. Because I wasn't understanding." Since interacting with friends and maintaining some focus on Archeological Sciences were both important goals, she moved across social media sites where she monitored peers' activity but also positioned Archeological Sciences as a constant presence. As Figure 5.2 suggests, Ann was interacting among many different kinds of materials during the 50 minutes that she agreed to participate in an observation. The darkest black areas represent the time that she spent looking at Facebook, the medium gray shows time that she was reading a PDF document that her instructor had uploaded to the course management system. There are also substantial chunks of time devoted to Reddit, which are visualized in white. When her boyfriend entered the scene of the observation thirty-five minutes in, her attention also changed quite dramatically as she spent more time talking with him and less time with her laptop.

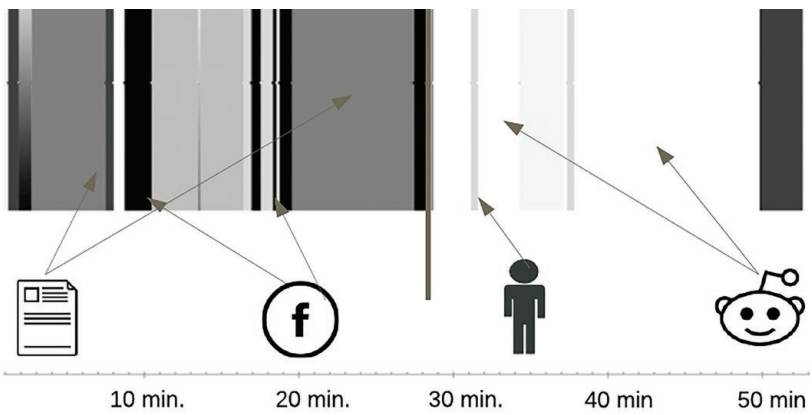

Figure 5.2. Ann's informal study session as a sequence of interactions.

Dean and Carly's Stories

The second case example involves Dean and Carly, who were enrolled in three courses together during the spring 2013 semester. During my observation, they studied and completed homework together in the Technology Commons for a digital imaging course. Dean explained that when they worked together that day they were still "getting a feel for the class and how to study for it." To speed this process along and have some fun in the process, the two had decided to combine their respective strengths and energies toward completing a tutorial together before each taking a required quiz for the course. As Dean explained, "She has a graphic design background and I have a web design background. So between the two, it helped a lot."

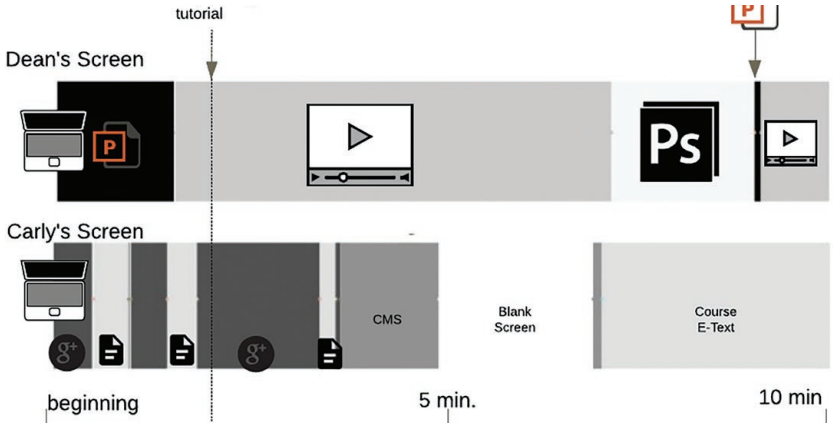

Figure 5.3. Ten minutes of Dean and Carly's study session as a series of interactions.

As Figure 5.3 illustrates, Dean and Carly's sequence had as many twists and turns as Ann's, though the two students largely remained "on task," working together toward a series of more or less shared tasks required for their course. Notably, working together at the same time and side-by-side created an atmosphere in which they shared access to personal technologies. During their study session, they read a class PowerPoint presentation for information and watched related tutorial videos about Photoshop on which they would later be tested. Initially Dean displayed the course PowerPoint presentation on his laptop screen while Carly searched the web to find out whether there were existing notes online that identified key concepts related to the particular functionalities of Photoshop they were studying. When they turned toward the laptop screen to begin watching the tutorial, Carly and Dean shared one set of earbuds. However, Carly simultaneously scrolled through Google search results looking for relevant corresponding information, later pulling

up the course management system and e-textbook to cross-reference concepts explained in the video tutorial.

Unlike a textbook, video tutorials did not provide a surface-level method for "skimming" or easily transporting key concepts into notes nor open word processing documents. As they watched a video, then, Dean describes that he and Carly took advantage of the ebook's "extensive search function," to read the chapter at the same time they watched—not linearly, but by skipping to and around key concepts covered in the video. As he put it, "The ebook has a very nice search function. So, we'd try to find it very quickly. So, we'll find a keyword or a key phrase, and then we'll read around it to get context." While watching the video, searching the web, and scanning their course e-textbook for relevant and related material, they also chatted with one another to identify important concepts or to discuss when something was confusing.

The Thick Sequencing of Transient Literacies

What do these two stories suggest about the attention/distraction of students once they leave the normative expectations of classrooms? To answer this question, let's start with a basic description of what materials appear to be in focus for students during their study sessions. In both cases, these sequences are not linear in the sense that neither Ann or Dean and Carly practiced a planned, ordered, series of events designed to accomplish one narrow purpose. Instead of narrowly focused, these sequences could be described as thick or expansive: they wind together threads of interaction from across domains while making forward progress toward a study goal. To further explain, I will now explore the kinds of materials these sequenced literacy interactions bind together. As I argue below, both of these students practice attention in ways that depart from normative models of practiced attention assumed in classrooms in at least two ways.

Thick Sequencing that Combines Multiple Goals

Ann's case involved a student during a relatively "relaxed" time in her schedule that enabled her to multiply the number of goals that she could work toward at the same time. This session was "thick" because it was loaded with interactions and materials that served multiple—and potentially conflicting—personal motivations. This way of distributing attention made sense from Ann's perspective in the moment because she was not working toward any particular time constraint that pushed her to finish a given task imminently. By contrast, her goal with regards to coursework was simply to keep her mind continually engaged with the class that was most challenging to her. Recall that

she felt she needed to study constantly for Archaeological Sciences, rather than simply completing her homework and moving along. The more relaxed schedule associated with killing time enabled her to distribute her attention among purposes, so that she could keep in the course in her immediate realm of thought as often as possible. She thus capitalized on what she understood to be down-time in her schedule to bring in materials from the course that she felt required her constant engagement. From her point of view, any time that was "free" in her schedule warranted at least a brief nod to materials from this course, which she felt that she should be studying for constantly.

Clearly, Ann was as devoted to keeping an eye on her friends through social media as she was to keeping her course in her mind. She also spent a great deal of time in perusing Reddit, reading several threads that she said she tends to check daily. Together, then, Ann made use of the variable intensity of moments of time in her schedule in order to thickly organize attention across personal and academic interests. Similar attitudes toward time use were described by many participants in the Gone Wired Café and the Technology Commons, who discussed experiencing literacy- and learning-directed time in varying degrees of intensity, where factors ranging from their current affective state to the nearness of academic deadlines affected their likelihood to intertwine materials associated with multiple literacy goals in short proximity.

Thick Sequencing That Expands the Scene

Dean and Carly's case, like Ann's, involved students working using attention tactics to increase the efficiency of their use of time. However, the "thickness" of their sequences worked differently. They too appeared to be enjoying one another's company, but their conversations and direct social interactions were limited to the topic of completing the one literacy task that they were working on together: learning content delivered via a course instructional video and preparing to be quizzed on the content to meet an online course deadline. Their study session was thick with interactions not because they were trying to accomplish different goals but instead because they combined individual attention capacities (and associated materials) in order to expand the scene of their learning. Instead of layering attention toward their goals in personal and professional domains, they layered a range of technologies and interactions into the space of the study session in order to increase the number of resources present to help them absorb and grasp course material. They understood this to be a reasonable and effective way of distributing attention in order to efficiently and effectively meet the demands of the assignment—passing a content quiz—that had been assigned to them.

Dean and Carly's side-by-side laptop screens enabled a way of paying attention that fell outside the norms of what instructors might expect from students working with digital content provided to them in online or hybrid/blended courses. Dean described how mediating attention through the dual laptop setup changed their study practices:

> Two people can search for the same topic in both screens as opposed to being dependent on one screen. Um, what we did for that time is we kinda split up the things. Because obviously everything in the video isn't important—just key concepts. So we watch the video and then tell each other what the key things were. To save a little bit of time there.

When they divided videos, one of them watched the tutorial and "t[ook] pictures of it," and then he or she described the content of the video to the other so that both could read relevant sections from their course text to better understand the highlighted functions. As Dean put it, "I was watching a video; she was watching another video. So, I would pull up all the key concepts of, say, video A and she would have video B. And we would take out all the stuff that wasn't really that important. And then we'd just tell each other the main points." Whether Dean and Carly watched videos together or took screenshots from them to share with one another separately, Dean preferred analyzing the video to simply reading a chapter alone or watching a video linearly because it helped him understand how to prioritize information and highlight key concepts. It was also, from their perspective, possible to do more in a shorter amount of time by working together to expand the scene.

Dean stressed, of course, that the pair did not work together every time a video was assigned because the coordination of schedules required them to figure out how to be in the same place at the same time. That level of coordinated work was not always worth the payoff for a particular video and the effort required to mediating their attention together. Dean admitted, "Normally I just watch the video by myself—it's easier." However, time was of the essence for both students, at least in how they perceived their situation, and working together enabled them to make their time denser without losing individual focus.

Ambient Sociability and Attention

Ann and Dean and Carly's cases have interesting implications regarding the relationship among literacy, mobile devices, and attention outside classrooms. The sequences of interaction that comprise these selections of their practice suggest that students outside the classroom are, indeed, paying attention in ways that many educators would understand to fall outside classroom norms.

When they fail to "police themselves" in Kimme Hea's terms by using mobile devices in ways that do not align with normative expectations, instructors may read students' behaviors as motivated by "sneakiness," laziness, or a desire to avoid deep thinking (2009). However, these two stories suggest something different. Both Ann and Dean and Carly purposefully make use of distributed interaction patterns, in ways that are not simply multitasking. As Keller details, neuroscientific studies suggest that multitasking typically leads to worse performance on tasks than would be experienced when working only on one task at a time. Although moments in these sequences of interaction align with descriptions of multitasking identified by researchers such as Gloria Mark and Melissa Niiya (2014), Keller has argued that applying the concept of multitasking to literacy practices requires us to account for the ways in which "not every task" associated with literacy "carries the same cognitive load" (2013, p. 103). That is, complex composing tasks almost always require braiding together many different practices and text types, so that drafting an academic assignment often requires something like constant switching across multiple activities and texts (see e.g., Blythe & Gonzales, 2016). In these examples, although we might think of the students switching among multiple tasks, it is also possible to instead interpret their activity as attempts to make the time available to them more densely filled with useful interactions. Their ultimate purpose was to fill more interactions into a given time in order to accomplish a study goal: Ann was using her laptop to keep a tab devoted to materials from her tough course even when "killing time," and Dean and Carly drew on one another's existing knowledge and technologies to expand their learning scene with more materials designed to help them learn content.

I am purposefully withholding judgment about whether Ann, Dean, or Carly would have been more or less successful if they had performed attention in more "expected" or "sanctioned" ways. That is, I am not suggesting that Ann is more successful in her difficult course because she has found a way to continually attend to it rather than devoting, for example, an uninterrupted hour each day to reading course materials. Neither am I suggesting that Dean and Carly know more about graphic design because they found a way to bring resources from the internet and their course etextbook into immediate proximity with the experience of watching course tutorial videos. Instead, I want to emphasize that students have formed purposeful assemblies from materials around them as ways to navigate the constraints of learning outside the classroom. Rather than working among a flood information that they struggle to control or which threatens to overtake them, these three participants describe themselves as working in purposeful ways to integrate complex materials toward the ends of their goals. Indeed, it may be that these students are still novices in constructing attention structures in collaboration with their

surroundings. However, they do not appear overwhelmed by expectations of reciprocity associated with being "always on" and available. In fact, as I will discuss later, Ann appears a bit bored by the available information from her social connections. Although their environments are infused with a great deal of potential incoming information, the thick sequences of attention in these two cases read as more self-imposed and strategic than reactive.

Notably, across both cases these students are driven primarily by the desire to squeeze every available possibility out of time (Wajcman, 2015). Ann, Dean, Carly, and other participants in this research did not want to waste time—when completing coursework, when socializing, nor when learning new material. The ability to manipulate time by making it thick and dense with interaction is partly what these students understand to be the unusual constraints that mobile technologies afford them with respect to composing attention related to academic coursework. Another participant named Max stated it outright while discussing how he attempted to condense study sessions for his calculus class by working with a peer who understood the materials better than he did: "I hate wasting time thinking about like, all right, why can't I figure this out?" Rather than "spinning his wheels" on his own, Max wanted to get to a point of understanding faster and thus partnered with his friend Luna who had more experience with Calculus. Like Max, many of the students I encountered during this research were increasingly (and perhaps counterintuitively) driven to expand the materiality of scenes around them because of an intense desire for temporal efficiency, even in moments that might appear unproductive. That is, their networks of proximal materials tended to spiral outward as they attempted to fit more into available moments of time. Within this task fragmentation, students described making active choices about literacy tasks that required high individual concentration and those that could be completed in the presence of others with whom they are socializing. For example, Luna worked in particular campus locations when her work is not pressing: "it's time of day and like, whether I actually like really need to get things done . . . or if I can socialize." The Technology Commons, for her, was a place that invited a social element that separated it from more spartan locations on campus that invited more quiet study. As a result, students across the situated case examples in the Technology Commons and the Gone Wired Café staged personal settings for transient literacies to bring maximum potential and flexibility.

How Proximities Shape Attention

To take a step back now from these sequences of interaction, we can ask questions about *why* these sequences developed in the ways that they did. In

scenarios where large amounts of information are available through mobile devices and networks, why do given students orient toward certain materials and not others? What makes Ann likely to use her laptop to integrate her coursework into her downtime? Why do Dean and Carly combine technologies together in order to come up with a new way of moving through assigned course material? The attention that is constructed during composing has roots in its participating materials. Much in the same way that students' traditional written products such as essays are informed by their histories, student's attentional performances take shape as a result of how they have previously interacted with worlds around them, including by the ways in which repeated locational movements have become sedimented into familiar ways of moving. These ways of moving shape the materials likely to surround them when they travel through places that matter to them.

Ways of paying attention outside classroom spaces follow from and continually reconstruct experiences: those bodily habits, boundaries, and pathways that become repertoires. To understand how attention is composed in information-saturated landscapes, educators need to know more about how people build proximities to environments and materials. For an example relevant to the current discussion, Ann emphasized that she habitually found herself traveling across the same social media feeds in the same way, even as they became increasingly boring and therefore annoying to her. Much in the same way that she plotted familiar pathways through social media landmarks, she also used the Technology Commons frequently as a "regular" because of comfort and convenience. Ann even began spending her less scheduled time in the Technology Commons because it was located on a pathway that she frequently took across campus. Recalling her first time stopping into the center, Ann recalled that she noticed the workspace shortly after it opened when walking along a usual route with her sister. Discussing the first time she entered, Ann said, "Me and her were walking by, and we said, 'Oh, what's this?' And we went inside and we were like, 'Wow, this is really cool.' So we just started sitting in there. And now I sit in there. Again and again." Across my research, I found that students used the Technology Commons as a result of one or two scenarios: either they were using it for the first time at the request of a friend, or they used it repeatedly as a result of creating a habit that put the center on the pathways that they usually took across campus. These students who used Technology Commons frequently understood it to be on their daily trajectories: it shared a perceived proximity to pathways, materials, values, and people on their horizons.

At the level of scope of their movements across campus, proximities shaped what places were likely to be salient to students participating in this research: their pathways across campus and across the cities in which they lived build-

ing a likelihood that a particular location would become meaningful to them. These locations, in turn, influenced what materials would become available and shape the interactions of transient literacies in action in a given space and time. However, individuals' proximities and pathways also functioned at smaller levels of scope: at the granular level of sequencing where we are more likely to discuss attention.

Proximities and Materials: A Detailed Example

Perhaps another example would be useful for returning to how proximities work hand-in-hand with attention, particularly as it intersects with networked technologies and digital reserves. To stick with Ann's study/social session that afternoon, it is possible to see how the university course management system and interfaces to which it was networked directly affected which materials rose to and fell from her focus. For example, when attempting to access the materials related to her difficult Archeological Sciences course, Ann accessed the university's central web portal, which offered access to the university course management system, along with other online resources. She waited for the relatively (and typically) long load time for the portal to open. However, this site was a temporary stop, a place accessed in order to go somewhere else. From the front portal, she clicked on the link that opened the university-supported course management system (running the Canvas platform) where many instructors host online courses or the online components of mediated or face-to-face courses. The front page of this second portal listed recent activity across courses in which she was enrolled, including updates made by instructors or contributions made by other students. Ann glanced at this page briefly and ran her cursor over the link to a discussion board that was displayed there, clicking on the "Assignments" tab at the top of the page. "Assignments" was where she would find links to the online course material from across classes—but most importantly today for Archeological Sciences.

When the "Assignments" page opened, Ann then clicked on the first assignment at the top of her page. Opening it took her to a case study assignment from archeological sciences called "Case 4: Detection & Recovery of Children." She paused on this screen, which contained a prominent link to a PDF file and a set of bullet points describing the significance of the reading. She moved her cursor rather quickly to click the link to the PDF file that was in the center of the screen. And waited. Her cursor changed back and forth from the customary arrow to the brightly colored pinwheel that Mac users know means that the computer is processing (and often overprocessing). The gray progress bar on the URL line of her browser crept forward. Ann was

clearly annoyed by the wait. She took a drink of her smoothie and put the cap back on—still no PDF. She smoothed her hair and crossed her arms, staring ahead at the idle screen. Still no PDF. She looked to the table at her right and began reading her printed notes. She didn't notice when the PDF, a chapter from a book that had been scanned and loaded into the course management system, finally appeared on the screen. By then, she had become invested in her print course notes in a spiral notebook, and she flipped the page to continue reading. A few minutes later, she looked up and jumped a bit when she realized the PDF document had opened. Because it was a chapter scanned from a book and uploaded, the PDF file was a series of two side-by-side pages from the chapter, and the opened file displayed the first series of pages, which presented the title, authors, and a brief conceptual table of contents for the chapter.

These are insignificant minutiae of Ann's day, to which she did not likely give much thought and to which literacy researchers would often not pay much attention. However, these familiar and transparent pathways, in this case for accessing course material, not only shape attention in the moment but also inform how she is likely to move through the world in the future. Ann did not take time to think about why she clicked on certain links in order to access her PDF readings; these movements were merely operations. However, this short operation of accessing and beginning to read a PDF file from her course management system was meaningful, to echo the chapter epigraph, for illustrating how the mundane ways that "we face as well as move" can be understood as "organized rather than casual" (Ahmed, 2006; p. 15). In turn, even short temporal gaps—when the PDF was loading or the course management system failed to open quickly—were meaningful to the materials that entered the scene. During these lapses in time, Ann was driven to fill her moments with as many materials as possible and tended not to sit and wait just staring at the computer screen. She chose to engage in another activity rather than simply "wasting" time. These breakdowns in the flow of time opened the door for the "thick sequencing" of time that I have already described. Over time, Ann had become accustomed to turning toward particular materials over and over again. Mark Nunes (2006) has called this a "drift logic," in which movements in online space lead to wandering outside intended places rather than a logic of efficiency of movement. These actions seemed natural, so much so that she barely recognized that she was making them. However, her actions were also greatly impacted by the nearby materials that lined her pathways, making proximities an important facet of attention. Proceeding forward from this materially rich understanding of attention requires shifting toward ways of valuing attention as a construct that is not only affected by brains but also by bodies.

Building Proximities as an Extension of Mindfulness

I have emphasized Ann's example and the relationship of proximities to attention because this intersection represents a new issue for digital literacies instructors and researchers to consider. A common approach to supporting attention is to emphasize mindfulness. In *Net Smart*, for instance, Howard Rheingold (2012) discusses making students aware of attention by helping them become more conscious of their choices during moments in which they have the choice of whether or not to react to—or interact with—a given stimulus. To use his language: "I can suggest a simple, powerful idea: you can learn to be aware of how you shift your attention when your phone buzzes or your laptop screen beckons" (2012, p. 36). He continues by announcing that "introducing a little mindfulness where previously there had been none can be insidiously irrevocable" (2012, p. 36). Mindfulness, as positioned by Rheingold, brings conscious awareness to attention choices that have become tacit or transparent. This means not checking a cell phone or social media feed merely because it has become an automatic behavioral response but rather because it is a purposeful, desired action given one's purposes and circumstances.

Mindfulness provides a useful framework to issues of attention and mobile device use by teaching people who have grown up with smartphones and laptops to shift to more consciously monitoring their existing habits and personal repertoires during moments of use. However, if we think of mindfulness in dialogue with the examples presented thus far in this chapter, shifting to a more conscious and aware use of technologies would only shift so much about how attention was invented in each instance. Ann, Dean, and Carly were not "unaware" of their technology interactions. Instead, they were "oriented" in particular ways to their technologies, which affected the kinds of interactions they were likely to have. We might recall the example in Chapter 2, for instance, in which Kim is likely to check her email during a composing session because she has created a desktop notification alert that sends a small banner across her screen when she receives an incoming email. In these situations, the phenomenological experience of materials in one's surroundings matter to attention.

As I explained in Chapter 3, Sara Ahmed in *Queer Phenomenology* uses the term orientations to describe the tendencies, built over time and through experience, through which bodies relate to space, time, people, and materials (2006). Orientations influence what materials are in the immediate surroundings and describe one way that discursive (constructed through encounters with cultures, institutions, and designs) and material (constructed in matter) realms are experienced together in human movements. Mobile

composers experience complicated orientations that have been shaped by prior experiences. The rhythms, pacing, and intensities that emerge from institutions, experiences, communication technologies, patterns of consumption, participation in workplaces, and a range of other life experiences people encounter in everyday practice shape their pathways and expectations of how time should be conceptualized and managed (Glennie & Thrift, 1996; Sharma, 2014). Richard Ling (2004), for example, described how temporalities associated with using watches and clocks vary significantly from those associated with mobile devices. In turn, people oriented toward one or the other devices tend to organize their approach to time differently.

Orientations and proximities are useful lenses for thinking through the shape that attention takes, especially concerning the thick sequencing of interactions. By teaching students not only to practice mindfulness but also to read and potentially reconstruct proximities and orientations, digital literacy instructors have the opportunity to help students become more aware of the designed nature of materials that weigh on their perceptive capacities and to become purposeful about cultivating their nearness to or distance from them. This way of thinking about intention and purpose repositions the attention that matters to literacy as more than an internal phenomenon shaped by conscious control. Instead, our embodied movements matter, as they put us into particular positions with reference to the agential environments and materials through which we move. Understanding the constructedness of embodied movements is important, for instance, for addressing the very real concerns that Shirky and others have suggested are associated with how often social technologies are designed to capture and maintain attention for marketing purposes.

To compose and to live attention differently, students will need to organize new proximities, which in turn shape alternatives for how, what, and when materials enter salience. These alternative proximities and orientations may mean constructing new surroundings that reduce the need for the "constant checking" or the continuous partial attention (Stone, 2007) that keeps students glued to mobile phones. However, helping students construct alternative orientations will also mean helping students extend beyond the normative expectations of attention commonly habitualized through classrooms with lecturing teachers and/or PowerPoint slides at the front of the room. Ann, Dean, and Carly may suggest that many students are already pushing far beyond those norms of attention in their transient literacy practices. Ignoring the range of students' attempted attention innovations may leave educators out of touch with the realities of their lived experience, but it may also leave educators out of touch with the changing realities of attention outside the relatively unusual dynamics of classrooms.

Conclusion: Attention and Lived Composing Practices

Attention, from the perspective developed in this chapter, is active, embodied, performed, and mediated. It is composed. Its compositions are shaped by designs external to the brain and performed in dialogue with them, emerging in relationship to environments, materialities, and infrastructures. Because it is in part a product of how we orient to materials around us, attention is central to networked mobile composing. Because the number of potential materials to be taken up is always greater than what can be noticed, studying attention provides a means for understanding students' naturalized values as lived through their orientations to materials and the places that gather them. Ann, Dean, and Carly's cases emphasize thick sequencing, as students make use of many materials, and sometimes multiple goals, in order to expand the potential of their time. This thickness is characteristic of other students in the study as well, suggesting that a feeling of overwhelm at the amount to be accomplished is a central tension of life with mobile devices. Individuals are continually staging environments and allowing proximities that they establish to shape what comes into the action and what fades into the background.

In spite of this thickness, "distraction" does not quite capture the complexity of the staging and braiding that enables the sequences of interactions I observed through research. Rather than the result of a simple generational divide or changing hard wiring of the brain, these thick sequences exist at complex intersections of materials. People carry in some of these materials, and some of them exist as a part of the public commons that is available in the places they have decided to dwell. Importantly, when these materials are braided together into the thick sequences of transient literacies, the practices themselves are agentive in creating habits that affect future attention practices.

These constructed proximities over time become orientations that are individually unique, while still deeply culturally and ideologically inflected. How people move depends upon how they are situated but also to the meaning that they have assigned to situations. What we find in our focus is individualized, even while affected by social forces. That means that some regulars and sporadic visitors find the Technology Commons difficult for establishing deep focus and concentration, while others seek it out for respite. That also means that social media can be easily regulated for some students and overly burdensome for others.