Incessant motion through space: Mobile Learning Field Activities in the Humanities

Michael Sean Gallagher

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By Michael Sean Gallagher

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Dedication

I want to thank my wife Jen for encouraging me to write this book, humoring me as I labored through a few chapters, and generally being my favorite person in the entire world. I love her more every day and I can't wait to see what the future brings us. The last twelve years have been that good.

I want to thank my sister Jennifer Gallagher, whose illustrations make this book palatable and even inspiring at times. I knew from the moment I was going to write this book that I would ask her to illustrate it. We did this once in elementary school (I wrote a story about a turtle and she illustrated it) and I thought to try it again almost 30 years later would be good fun. Her work can be found on her site[1].

I want to thank my professors and colleagues at the University of Edinburgh, specifically Dr. Sian Bayne, Dr. Jen Ross, and Dr. Hamish Macleod. I wouldn't have been able to do this without their encouragement. I wish to thank Jeremy Knox and James Lamb, fellow colleagues at the University of Edinburgh, for all their mult- & malt-imodal support. I wish to thank my supervisors at the Institute of Education, University of London, Dr. John Potter and Dr. Niall Winters. I also want to thank my Finnish colleague and friend Pekka Ihanainen for his tireless enthusiasm, much of which spilled into this book and these field activities (conducted in person in Helsinki with the greatest bunch of teachers I have ever seen). Many thanks to my friends and colleagues in Seoul, Princeton, Helsinki, Nairobi, Seattle, and London. Here is hoping we get to work together again soon.

1 http://jgalstudio.org/

List of Illustrations

All the illustrations that appear in this book were designed by my sister, Jennifer Gallagher, based on conversations we had surrounding the subject of that particular chapter. We collaborated mostly through text on email or through image-based services like Pinterest or Flickr. We talked about the moods or themes we wanted the illustrations to encapsulate. This is a good reflection for your learners to undertake as well. Discussing what mood or theme or impression you want the composition to take and what a representative work might look like with this mood or theme or impression. This is another example of making design thinking visible to your learners. It also represents a real skill of translation from one mode to another and from the conceptual to the applied.

FRONT COVER. Yeonhwado (연화도), Korea. This illustration is a remixing of my original photograph from the island of Yeonhwado (연화도) off the southern coast of Korea. It is a small island with only a few residents. From the top of this mountain, I could see in any direction nothing but endless sea.

INTRODUCTION. Gathering on City Walls (1904), made available through the Willard Dickerman Straight and Early U.S.-Korea Diplomatic Relations, Cornell University Library. Retrieved May 10, 2013 from http://library24.library.cornell.edu:8280/luna/servlet/detail/CORNELL-Asia~2~2~4660~100086. This image is used primarily because of the gaze of the people towards the camera and for the way it allows the learner to engage with history. The learner and the subject are interacting.

CHAPTER 1: MOBILE LEARNING. Portrait of a young woman (1880), made available by The County Archives in Sogn og Fjordane (Fylkesarkivet i Sogn og Fjordane). Retrieved May 10, 2013 from https://secure.flickr.com/photos/fylkesarkiv/4731908937/. This image was found conducting a search for Creative Commons licensed materials on Flickr. The gaze of the woman was what drew me to this photograph. For the remixed version, we wanted to demonstrate that the transformation of the learner was at the center of mobile learning, that we are generating meaning and understanding is emerging constantly in this process.

The second image is a hand-drawn illustration from my sister Jennifer Gallagher demonstrating the transformation and progression of technology. Since the chapter emphasizes the transformation of habitus in mobile learning, this seemed a fitting illustration.

CHAPTER 2: MULTIMODALITY. The image was an original that my wife took in Seoul in 2008 and has been modified dramatically to demonstrate the types of modes and media being used in mobile learning to generate meaning. Ultimately, this leads to connections between others. The chapter outlines multimodality as a mechanism for making sense of mobile learning and this image is intended to demonstrate that we speak across all these modes and media.

The second image is Portrait of a Child (1860-1865) by R. Mead made available by the National Archives (US) through Series: Mathew Brady Photographs of Civil War-Era Personalities and Scenes, (Record Group 111). Retrieved May 10, 2013 from http://arcweb.archives.gov/arc/action/ExternalIdSearch?id=527785&jScript=true.

CHAPTER 3: MEANING MAKING. This image is based from an original photograph called Seoul Street Scene made available by Don O'Brien through a Creative Commons license. Retrieved May 20, 2013 from http://www.flickr.com/photos/dok1/123409294/in/set-72057594053303502.

The second image is Seoul (1904) made available through the Willard Dickerman Straight and Early U.S.-Korea Diplomatic Relations, Cornell University Library. Retrieved May 20, 2013 from http://library24.library.cornell.edu:8280/luna/servlet/detail/CORNELL-Asia~2~2~276~100046.

CHAPTER 4: DISCIPLINES AND INFORMAL/FORMAL SPACES. Korean Boatman (1904), made available through the Willard Dickerman Straight and Early U.S.-Korea Diplomatic Relations collection, Cornell University Library. Retrieved May 10, 2013 from http://hdl.handle.net/1813.001/5xm1. There are no known U.S. copyright restrictions on this image. The digital file is owned by the Cornell University Library which is making it freely available. The inspiration for using this image was partially to the immediacy of the stare of the man juxtaposed against his leisure. I thought that it was important to illustrate that mobile learning in history isn't always about capturing iconic or pivotal events, but rather how we as humans have navigated periods of change.

CHAPTER 5: COMMUNITY AND PLACE. Min Yong-hwan's state funeral procession (1905), made available through the Willard Dickerman Straight and Early U.S.-Korea Diplomatic Relations collection, Cornell University Library. Retrieved May 10, 2013 from http://hdl.handle.net/1813.001/5xmz. There are no known U.S. copyright restrictions on this image. The digital file is owned by the Cornell University Library, which is making it freely available. This illustration is attempting to demonstrate how mobile learning can make history immediate by placing the learner in the geographical context of the event or location under observation. In this instance, we see a funeral procession of a respected statesman.

CHAPTER 6: MFIELD ACTIVITIES. Paris Café. This is an original image that I took on Rue Vavin off the Luxembourg Gardens in Paris. It demonstrates how mobile learning helps the learner see the built environment as constantly emerging. The sketch figures and outlines are evidence of the learner's mental transformation as they are both constructing and deconstructing their geographical context.

CHAPTER 7: MFIELD COMPOSITIONS. Leicester Square, London. This is an original image that I took in Leicester Square, London. It continues the Paris café illustration concept of a built environment constantly emerging through mobile learning. Learners are constantly assembling and disassembling meaning in lived environments.

CHAPTER 8: EXAMPLES AND MODELS. Cairo University, Egypt. This illustration was built from my photograph of the Cairo University campus in 2008. It demonstrates how meaning can be made through mobile technology, how it can be seen as emerging from the existing structure.

CHAPTER 9: MLEARNING DESIGN. Robot Sketch. This is a hand-drawn sketch from my sister in the early stages of our discussion of what the illustrations should look like for this book. It also emphasizes the usefulness of analogue technology in making meaning in this larger process of coming to know. There are additional images in this chapter supporting the individual examples, all of which were taken by me in Seoul, London, and Tokyo, respectively.

CHAPTER 10: TOOLS AND RESOURCES. Cheapside, London England (1890-1900). Made available through the Library of Congress, Prints and Photographs Division. Retrieved May 20, 2013 from http://www.loc.gov/pictures/resource/ppmsc.08576/. This image takes the same concepts from the Leciester Square, London and Paris café illustrations and inverts it to demonstrate that history as seen through mobile learning is in constant assembly and not residing in some static hinterland. It is immediate and urgent.

CHAPTER 11: DATA OWNERSHIP, PRIVACY, AND COPYRIGHT. Adam Diston: Cutting a Sunbeam (1886). Retrieved May 10, 2013 from http://www.retronaut.com/2013/02/cutting-a-sunbeam/. For me, much of the inspiration for the illustrations found in this book comes from Adam Diston and his photograph titled "Cutting a Sunbeam" (1886). It is a good example of the transformative effects of learning and how manipulating the environment around you can generate that learning.

It is also an example of a work that I felt skittish about including as an actual image as I wasn't sure what copyright restrictions existed (Diston being long since deceased). As Diston created these works in the United Kingdom then it stands to reason that this work would be encapsulated under the National Copyright Laws of the United Kingdom.[22] These laws state that the duration of the copyright exists at least 25 years after its creation, and general 70 years after the creator's death. Just to be sure, I contacted Guy Diston, Adam Diston's grandson who graciously provided me with permission to use this photo in this book. This description wasn't designed to introduce this inspirational and incredibly rich photograph (although it is), but rather demonstrate that having your learners engage in this process of copyright and permission is a healthy one as it makes observable to them creation and reuse and the responsibilities of the artist and the curator in this creative process.

CONCLUSION. Latin Quarter, Paris. This is an illustration taken from my original photograph of Paris. It continues the theme advanced in the Leicester Square and Paris Café illustrations of transforming habitus and space.

BACK COVER. Cheapside, London England (1890-1900). Made available through the Library of Congress, Prints and Photographs Division. Retrieved May 20, 2013 from http://www.loc.gov/pictures/resource/ppmsc.08576/. I loved this illustration so much I used it for the back cover as well.

2 Retrieved from the UK Copyright Office May 10, 2013 from http://www.copyrightservice.co.uk/copyright/p10_duration.

Introduction

Time has been transformed, and we have changed; it has advanced and set us in motion; it has unveiled its face, inspiring us with bewilderment and exhilaration- Khalil Gibran

As I write this, I am highly cognizant of the fact that I rarely read introductions, prefaces, epilogues and the lot. They have always seemed like filler or a forced addendum, a footnote on a table of contents. I open a book and jump right to the beginning of the first chapter. Yet here I am writing this introduction as I realize that not everyone reads like I do.

I suspect many of you have already jumped to the first chapter. For those that have lingered, I want to take you to a place where all this mobile learning makes sense. A place that I feel has been lacking in our description of what it means to learn with mobile technology. Beyond the specifications, the scoping definitions, the applications, the epistemology and so on, there is a place where learning of this sort makes sense. Out in the field, out in the world, recording the rhythms of our natural environments. The only way make full use of this potential is to reposition ourselves. Not as learners, but as artists. We are the creators of our ephemeral, fragile, serendipitous and intentional worlds.

This repositioning has been happening for quite some time in the emerging media cultures found

in social media and the collaboration on and construction of digital artifacts ranging from video to imagery to mosaics to sound projects. We are documenting and sequestering and constructing our known universe, our spaces of community and sanctuary. Mobile technology and mobile learning merely accelerates this process. Mobile technology provides us capacity for constructing knowledge in and of space, out 'there', in the world. We use mobile technology to shed light on meaning. We use it to align our inquisitive gaze with the 'stuff' of learning.

The rigid lines between formal and informal learning, between here and there, between discrete and overlapping fields of discourse have blurred and are being redrawn. This blurring generates complexity and we actively seek to make sense of the complexity through language and composition. This language is not strictly textual; it is inherently a multimodal exercise. It is mediated by technology. It is mediated by community, by dialogue and review. It is perpetually emerging from the shadows of assembly, revealing itself in intention and accident. This is mobile learning to me. It is a reimagining of learning holistically, moving beyond a fascination with the technology towards an understanding of how it allows us to reinvent our learning spaces. We learn in this chaotic storm of activity, constantly and unfailingly generating meaning. Meaning. Meaning. I can't repeat it enough.

This book is about this type of mobile learning. It is not about a method so much as a mindset. It is based in the sequences and ontologies of the humanities, but it is not exclusive to them. It is an alignment of ourselves and our sense of what is possible with our tools and technologies. It is about applied action to generate meaning. It is the positioning of mobile technology in a larger ecosystem of coming to know.

Further, this book is about the reclamation of space and context. How we use mobile technology 'out there' to define our understanding of what is 'in here' (and to ultimately understand that those distinctions matter very little). This book attempts to demonstrate that local constructions of knowledge, like the kind outlined in this book, have cascading, profound effects on learning. They are transformative; the learner becomes an active creator of their world, engaging and negotiating meaning at every turn. Every space and place becomes a construction site on which to build, however ephemeral the structures and meaning generated there.

PURPOSE

This book, however, does have pragmatic purpose. It explicitly intends to do the following:

1. Provide a background on mobile learning
2. Outline the role of media and multimodality in the process of meaning making
3. Provide an outline of how meaning is made in this process and the structure for that meaning (montage, mosaics, assembly)
4. Discuss the disciplines of the humanities (the subjects) and the (somewhat forced) dichotomies of inside and outside, of informal & formal, of here and there
5. Provide a clear understanding of the glue that binds all this activity together and creates cohesion, namely community and social interaction
6. Outline, pragmatically, how learning can be enacted with mobile technology through field activities
7. Discuss, briefly, how learning can be designed with mobile technology
8. Review, engagingly, what compositions might look like in these spaces and to provide examples to that effect
9. Provide a list of resources and tools that you can use to get started.

One of the goals of this book is to introduce you to some of the theory behind mobile learning and how mobile technology can be used for learning in the humanities. Much of this book is dedicated to 'containers' for this learning, i.e. structures that provide meaning much as essays did (and still do) in text-based environments.

Much of this book relates to the 'things' that go into the containers, the media and meaning constructed by the learner. Some of this book is dedicated to that adhesive of constructivist learning, community and social interaction. Some of this book outlines practical examples and guidance on how to set up your own field activities using mobile technology, with discussion on tools and workflow. Additional chapters provide some contexts on how this mobile learning can be used and examples of their use. . Hopefully, it all aggregates to something cohesive.

All of it is meant to be a holistic approach to mobile learning using all the available tools of the humanities to make meaning. So expect some Shakespeare, Dante, Joyce, and other artists and creators who saw something as it was and made it into what they wanted it to be. Our goal is to do much the same with mobile technology. We aim to make all our learners creators of their worlds, composers of their own meaning. I would spare you the poetics, but you will find that when dealing with something with such scope and transformative capacity, it is best to rely on the metaphors of awe and wonder.

This book is not written as an academic work; references consulted in this book are listed as footnotes and a bibliography is compiled at the end of the book. Those referenced works should be consulted for a more academic approach to these subjects. This book is for teachers and learners.

Yet if anyone believes that the earth rotates, surely he will hold that its motion is natural, not violent -Nicolaus Copernicus

AUDIENCE

This book is designed for teachers, learners, and anyone interested in reclaiming some of the in-between moments provided by everyday life for creativity and reflection. It is designed for teachers of any age range as it assumes only the presence of mobile technology. All of the ideas presented here can be simplified as needed depending on the age range of the target group. They all involve a basic cycle of observation, analysis, synthesis, and reflection, much as all learning does.

This book also assumes a general adherence to or appreciation of social constructivist approaches to learning. These state, quite simply, that we learn best by sharing and interacting with others. This book assumes that the greatest kinds of learning take place in social scenarios, where ideas are exchanged and circulated and meaning is negotiated consistently. This can happen at an elementary school as well as a university or through an informal learning scenario, such as at a park, on the job, or on the daily commute. The location is up to you, but location is important as will be discussed later on in this book. The community is important, but that community is defined by your discipline, subject of study, or purpose. It will vary depending on your goal.

The type of learning we are describing in this book is the kind mediated by mobile technology, which is defined broadly in this book to include tablets, phones, MP3 players, and even laptops. The mobile in mobile technology is about what you do and not necessarily what you do it with. We are in the business of making meaning, reflecting on that meaning, and circulating that meaning to our respective communities. What tools we use to do that with is entirely up to us. This book is merely assuming the presence of mobile technology in that process.

This book will oscillate between theory, analogy, applied examples, and practical know-how and will do so consistently (even abruptly). We need to remember that learning in mobile spaces, spaces mediated by mobile technology, requires agility, some inspiration and creativity, and perseverance. The applications are limitless and the complexity can be overwhelming, but never forget that the learning will be profound as it is of the learner, by the learner, and for the learner.

In short, this book is for teachers and learners.

INSPIRATION AND POSITIONING THIS WORK

Aside from the individuals I mentioned in my dedication, I wanted to point out a few other individuals and works that have inspired me to write this book. The first work is Jason Farman's Mobile Interface Theory.[3] It is an excellent step forward for mobile learning as it begins to position it in accessible terms, focusing more on what is being done with the technology (the media practices, the locative elements, etc.) than the technology itself. If you are new to the field or want to explore it in more depth, I couldn't recommend a book with more enthusiasm than this one. An excellent read.

I am also influenced by the work of Mike Sharples, John Traxler, Niall Winters and others working in the field of mobile learning, those who are testing its limits, its ethical dimensions, pushing it away from the technologically deterministic spaces it used to reside in. Gunther Kress and Norbert Pachler's work on mobile learning and multimodality is highly influential as it demonstrates what learning looks like when speaking through media and composition. I have outlined many of the works

3 Farman, J. (2012). Mobile interface theory. Routledge.

in the references section that have inspired me to think critically about how learners make meaning through technology and with media.

Dr. Sian Bayne and Dr. Jen Ross at the University of Edinburgh and their work on eLearning, presence, and place inspired some of this book as did the work of Dr. Larissa Hjorth and her work on documenting mobile media practices in an Asian context. Dr. John Potter's work on media practices (media curation and composition) was quite influential as well. Inspired by these researchers, I thought I might be able to offer something for teachers looking to use mobile technology in their work. But know that these individuals have influenced my thinking on how mobile technology can be used for teachers and learners in the field.

NOTE ABOUT STRUCTURE: ADDENDA AND NON-LINEARITY

The chapters in this book fluctuate between pragmatic and theoretical and should be read as such. If you are most interested in the pragmatic details of creating your own mobile learning field activities, consider a brief read of Chapter 1 (defining mobile learning) and then feel free to jump to later chapters, which outline the actual activities and compositions. If you like theory or prefer a more conceptual introduction to these activities, consider Chapters 2 and 3 on multimodality and meaning making, respectively. Whatever you decide to do, whether reading this book in linear fashion or jumping back and forth between chapters, know that this is perfectly acceptable and even recommended. It all depends on your purpose and time constraints.

Also note that many of the chapters contain the basic text followed by a lengthy addendum. Please know that these addendum are designed for those interested in exploring the topics in the chapter a bit further. They exist to support your exploration of the mobile learning field activities so feel free to engage them (or not) as you see fit.

Chapter 1: Mobile Learning

It is in the admission of ignorance and the admission of uncertainty that there is a hope for the continuous motion of human beings in some direction that doesn't get confined, permanently blocked, as it has so many times before in various periods in the history of man- Richard P. Feynman

This first chapter will begin to establish a working definition of mobile learning and introduce a few (one, in particular) of the relevant learning theories that can and are frequently associated with it. Following that brief introduction, we will begin to explore how meaning is made in these environments. This will be followed by a discussion on informal and formal learning and how those boundaries can be blurred when dealing with mobile learning.

More than anything, this chapter is designed to help you begin thinking broadly about what it means to learn in mobile environments and what mobile itself might mean for your own teaching and learning. If you are looking for ideas and structure for a potential field learning activity, please feel free to jump to Chapter 6 on Mobile Learning Field Activities. If you do, please revisit these earlier chapters as they are designed to begin thinking about mobile learning outside the confines of a formal learning activity (classroom or school-based) and outside the confines of technological determinism. Mobile, more than anything, is presented as both a state of mind and a freedom, a freedom to connect whatever artifacts the learner deems prudent, a freedom to imagine new spaces bound by ephemeral relevance, a freedom to learn in broad, chaotic spaces. Mobile learning, as presented here, becomes learning through the transformation of space and time, a highly constructive, highly compositional way to make meaning. First, we need to set our scene.

To begin, mobility and motion have been and always will be a part of learning. Mobile learning as such is not a new thing. We are designed physiologically as creatures of motion. Within that motion, within that sensory interaction with our environment, we enact that intersection of the physiological and the cognitive. We comprehend our world through our motion. This mobility has always been with us and has always been enacted on scales both large and small. It is a personal and collective mobility. We move and our societies move. We are focused inwards and outwards simultaneously. The humanities, the disciplines of anthropology, geography, sociology, history, and others, have taken notice; a mobilities paradigm[4] has been enacted in these disciplines to understand how we, as humans, enact mobility, what that affords, and what that means for our understanding. In short, we have always engaged in mobile learning, but only recently have we developed the capacity for articulating and designing learning that makes explicit use of that mobility.

The technology has followed right along. Most people when confronted with the idea of mobile learning turn to mobile technology as their source of understanding. How we learn through smartphones, tablets, laptops, and MP3 players. Indeed that is part of the equation. This technology is an agent in a larger process of coming to know. [5] It is through the use of tools that we begin to understand our worlds. A monkey with a stick foraging for food. An intrepid explorer with a compass. Galileo with his oscillating pendulums. A scientist with a map of our DNA. These are tools in our complex, persistent process of coming to know.

We enact learning in this mobility through these tools and within a complex system of artifacts, people, intent, and perspective. The same is true for what we have coined as mobile learning, the

4 Sheller, M. & Urry, J. (2006). The new mobilities paradigm. Environment and Planning A, 38: p. 207-226.

5 Saljo, R. (1999), chapter: Learning as the use of tools. Littleton, K., & Light, P. (Eds.). (1999). Learning with computers: Analysing productive interaction. London: Psychology Press.

kind we think of as rooted in technology. The technological dependencies are evident throughout the earlier definitions of mobile learning. But the focus is, and always should be, on coming to know, on making sense of complex environments. The mobile learning described in this book adheres to this.

Mobile learning is the process of using "tools such as computers and mobile phones function as interactive agents in the process of coming to know, creating a human-technology system to communicate, to mediate agreements between learners and to aid recall and reflection".[6] This definition establishes the larger context of tools and interactions towards understanding. Mobile learning is "the ability to bring things into conjunction which might have previously have been relatively difficult to join."[7] This is a useful definition that establishes the creativity that will be discussed in detail later in this book. Ultimately, though, we are discussing novel combinations of 'things' towards new forms of meaning.

Mobile learning takes place across a million different permutations, a million different combinations of context, all centered on the individual and their process of making meaning when faced with complexity. It shifts depending on the needs and perception of the individual; "the nature of learning mobility can be viewed differently by different learners. For some people it may be associated with reading from a laptop computer on a train while commuting to school; for others it may be hands-free listening to audiobooks or podcasts while exercising, etc."[8] This speaks to our current understanding of mobile learning. Examples gravitate towards geography and how meaning is enacted in this space. We transform the commute on the train, the wait at the airport, even the morning walk, into learning spaces. Spaces of reflection and understanding. This transformation speaks to the definition of mobile learning that I am most interested in. A transformation of habitus.

Habitus refers to the "the life world of the individual framed both as challenge and as an environment and a potential resource for learning".[9] In viewing learning through habitus, every space has the potential to be a learning space. Within this transformation of space to learning space, we witness the mobility in mobile learning. In other words, "that which is mobile is not knowledge or information, but the learner's habitus".[10] I would qualify this statement by stating that which is mobile is not exclusively information or knowledge, but also the learner's habitus, context, and modes of engagement, technologically or otherwise.

Habitus is being transformed persistently and therefore has left the learner:

> *"constantly mobile, which does not refer, necessarily, to a physical mobility at all but to a constant expectancy, a state of contingency, of incompletion, of moving toward completion, of waiting to be met and 'made full'. The answer to 'who is mobile?' is therefore 'everyone who inhabits the new habitus".*[11]

Mobile learning, when defined as a state of expectation, contingency, and approaching (but never reaching) completion, is a useful perspective for our exploration of mobile learning. We are constantly

6 Sharples, M.; Taylor, J. & Vavoula, G. (2005). Towards a Theory of Mobile Learning. In Proceedings of mLearn 2005 Conference, Cape Town, South Africa, 2005.

7 Kress, G. & Pachler, N. (Ed.) (2007). Mobile Learning: Towards a Research Agenda (2007). WLE Centre, Occasional Papers in Work-based Learning 1

8 Traxler, J. (2009). Learning in a mobile age. International Journal of Mobile and Blended Learning (IJMBL), 1(1): p. 1-12.

9 Kress, G. & Pachler, N. (Eds) (2007). Mobile Learning: Towards a Research Agenda (2007). WLE Centre, Occasional Papers in Work-based Learning 1.

10 Ibid.

11 Ibid.

striving for completion, constantly emerging, restlessly seeking new combinations of meaning, new perspectives. We are perpetually and naturally incomplete. This is mobile learning. The tools we use to enact this mobility matter, but as an agent in this process of coming to know. A pencil is as important as a smartphone, a sandbox as great as a tablet.

So mobile learning as defined in this book is as follows:

1. Learning that occurs across multiple contexts, amongst people and interactive technologies.[12] We move and we learn and this learning doesn't care what boundaries exist to delineate a definition. It goes where it wants to go.
2. Learning that encapsulates public and private processes and high and low states of transactional distance.[13] Activity will fluctuate between individualized and socialized states of activity with oscillations towards and away from the university or school as 'center' of learning (transactional distance). In other words, we move and simultaneously participate in individual and group activities, in activities associated with an organization and those distanced from it. All of this is happening simultaneously. All of it fluctuates between conscious and subconscious states of awareness.
3. Learning that is mobile in both material (physical) and cognitive ways; the transformation of habitus makes visible the mobility of cognitive activity.[14] If there is no transformation of your understanding or your capacity for perception, there is no mobile learning.
4. Learners that "artfully engage with their surroundings to create impromptu sites of learning"; artfully can be understood as creativity here.[15] We are all artists, co-creators of meaning in our own worlds. We fashion something out of everything that exists around us. We creatively build, destroy, combine, conform, contort, and make meaning endlessly. Restlessly. The creativity is what we are trying to enact in this book.

TECHNOLOGY

Technology is a tool in the larger process of coming to know. We use these tools to mediate our environments, to make sense of them. For this book, mobile technology is defined as any tool used to make meaning in this transformation of habitus. As such, it includes the standard inclusions of smartphones, tablets, MP3 players, and laptops, and couples them with tools like pencils, notepads, and paints. It includes anything that allows the learner to make meaning and represent that meaning. It is important to position learning with technology this way. Technology is a tool. Ultimately, a pencil is as good as a tablet, if used to make meaning.

HUMANITIES AND THE LIBERAL ARTS

Why the focus on the humanities and field activities? This is partly due to the fact that mobile learning has traditionally targeted the sciences and mathematics. These disciplines enjoy the enviable characteristic of having defined processes and workflows (the scientific method or the mathematical

12 Sharples, M., Milrad, M., Sánchez, I. A., & Vavoula, G. (2007). Mobile learning: Small devices, big issues, in 'Technology Enhanced Learning: Principles and Products'.

13 Park, Y. (2011). A pedagogical framework for mobile learning: Categorizing educational applications of mobile technologies into four types. The International Review of Research in Open and Distance Learning, 12(2): p. 78-102.

14 Kress, G. & Pachler, N. (Eds) (2007). Mobile Learning: Towards a Research Agenda (2007). WLE Centre, Occasional Papers in Work-based Learning 1.

15 Sharples, M., Milrad, M., Sánchez, I. A., & Vavoula, G. (2007). Mobile learning: Small devices, big issues, in 'Technology Enhanced Learning: Principles and Products'.

proof). There is a sort of linearity to their enactment. Mobile technology appropriates those processes well.

The humanities have less predefined workflows and processes, but are just as taxing in their methods and knowledge claims. The humanities are engaged in debate over the nature of the phenomena under investigation (whether history, literature, art, archaeology, etc.) and over the nature of knowledge itself. What constitutes knowledge and how is that constructed? What evidence is presented and how that is communally negotiated? All the artifacts of meaning making are up for discussion and debate. This is a heady mix for learners to navigate. It is also a medium of creativity, of using multiple modes of meaning and media. It is an embrace of the importance of content, presentation, and design. It is the total package, the aggregation of a thousand parts ideally working in unison to create a larger understanding.

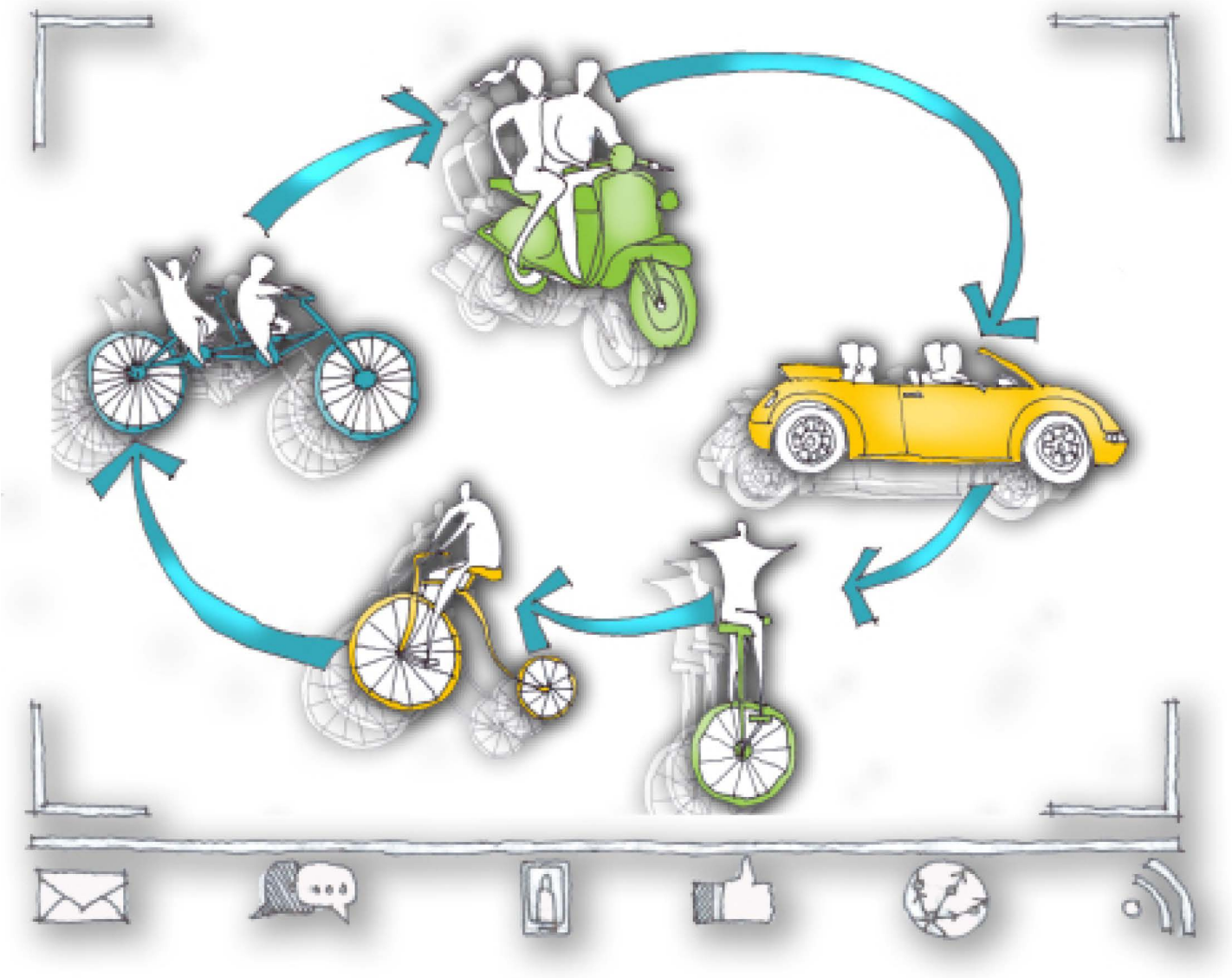
So I turn to the humanities as they tackle the spaces of great volatility, but with great potential for meaning. They are not 'stable' spaces for extracting truth; they are ovens of activity where meaning is forged and fleeting, shifting with the intersections of time, space, and perception. I also focus on the humanities in this book as meaning can be contained in text or through other modes and media. It can be presented sequentially or through a foregrounded composition in a non-linear fashion. The overriding constant in both the humanities and mobile learning is an emphasis on creation and curation.

We make meaning and express that meaning through observation, analysis, composition, and presentation of knowledge. The shapes of that presentation can differ dramatically, but knowledge produced in both mobile technology and the humanities is based, to some degree, on relational and ephemeral constructs. Distinctions between the humanities and the traditional sciences differ most starkly on the assumptions of the existence of a fixed self, a stable worldview, and a determined set of values. Knowledge pursued and produced in the humanities is highly contextual and relational, harkening to the traditional Aristotelian idea of 'productive knowledge', i.e. knowledge produced in intervention and invention.[16] Without a fixed self or stable worldview, everything is relational. Everything is an analogy to another known 'thing'. We use metaphors to make sense out of that potential chaos by creatively comparing these 'things.' Mobile learning generates meaning and analysis in much the same way.

So when we talk about mobile learning and the humanities, we are talking about crafting meaning from volatile spaces using all the tools at our disposal. The tools of technology, the tools of language, the tools of relation and metaphor and meaning. I have included a few examples in the following pages of how that mobility is enacted in learning, in our personal habitus, and how the humanities provides metaphors and models for making sense of these spaces. Several include figures that navigated periods of great discovery and change, not unlike our own times. All draw on the 'stuff' of the humanities, the figures, the passages, and the tools of sensemaking. If you prefer, please feel free to jump to Chapter 2, which discusses multimodality, a useful tool in making meaning in mobile learning that draws on how meaning is made through different modes and media.

16 Smith, M. K. (1999). 'Aristotle on knowledge', the encyclopedia of informal education. Retrieved April 10, 2013 from http://infed.org/mobi/aristotle-on-knowledge/.

Chapter 1: Addendum



EXAMPLE 1: NEED FOR GUIDES IN MOBILE LEARNING, VIRGIL AND FITZGERALD AS INSTRUCTIONAL FACILITATION. THE NEED FOR TEACHERS.

I think it is important to think holistically about the field of mobile learning as it matures. I am not talking specifically about the market forces, the economic realities, and the affordances of these shifts and how they effect education in general; there are certainly smarter and more capable people doing that already. I think there is room in this discussion for thinking of how we, as learners, imagine these spaces, imagine the learning taking place within them, and imagine how learning can be best facilitated. We know there is potential, but we need models for realizing that potential. Much work has been done here, but I am looking more for conceptual and metaphorical models; we need something linking our past with our present and providing some mechanism for proceeding into the future. So, I turn to art, writing, and science and how individuals in the past navigated periods of great change.

I was reading a wonderful book recently on the intersection between romanticism and science and how the two conspired in the 18th-19th centuries to produce some impressive breakthroughs in our understanding of the world. The book is worth a look, particularly the chapter on the young Joseph Banks.[17]

Banks is an impressive figure. He was a young, impressively wealthy, highly motivated naturalist of the time without any specific university training in the sciences; much of what he learned, he found outside the formal educational system. He accompanied Captain Cook on his famous expeditions in the 1770s aboard the HMS Endeavor charting, among other places, the coasts of Australia. He possessed a voracious curiosity and managed to pen his name throughout the annals of naturalism. He traveled with Daniel Solander, a disciple of the great Swedish taxonomist Carl Linnaeus. But the naturalism isn't why I included this here. It was the way that Holmes described Banks and his effect on the scientific community and the burgeoning scientific process of the 18th and 19th centuries. Banks acts as a guide through the morass, a compass of sorts. I thought this is another in a long line of potential models for the role of instructional influence in mobile learning and open learning.

VIRGIL AS MODEL FOR INSTRUCTIONAL PRESENCE

Back to the book. There are some impressive passages on what Banks meant to the age, an age of dramatic change. Within a decade or so, we see the publication of Darwin's On the Origin of the Species (1859), Marx's Das Kapital (1867), accompanied by other revolutionary achievements in science, medicine, and engineering. The world grew smaller and equally more terrifying as the pillars of society looked a little less sturdy. Throughout all of that, there is this figure of Banks navigating the landscape with vision and curiosity, providing a guide for those in his community.

> *It is also held together by, as a kind of chorus figure or guide, a scientific Virgil. It is no coincidence that he began his career a young and naive scientific traveller, an adventurer and secret journal-keeper. However, he ended it as the longest-serving, most experienced and most domineering President of the Royal Society: the botanist, diplomat and eminence grise Sir Joseph Banks. As a young man Banks sailed with Captain Cook round the world, setting out in 1768 on that perilous three-year voyage into the unknown. This voyage may count as one of the earliest distinctive exploits of Romantic science, not least because it involved a long stay in a beautiful but ambiguous version of Paradise-Otaheite, or the South Pacific island of Tahiti.*[18]

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17 Holmes, Richard (2009-10-15). The Age of Wonder: How the Romantic Generation Discovered the Beauty and Terror of Science. Harper Perennial.

18 Ibid.

So, a nice model is presented in this chorus figure or scientific guide. Leading by example and pronouncement, leading by leading others. I thought this represents a particularly good model for the chaotic, yet fruitful landscape of mobile learning. We look for guides through this morass not just in the big picture (thought leaders, best practices, charismatic opponents and proponents), but also in the smaller one as well (instructional models). So what role do teachers play in this landscape of mobile learning, this intersection of romanticism and science, of emotion and intellect? I think a fairly significant one, if they embrace it.

For the time being (a process repeated throughout history), the landscapes of learning communities have been reorganized or loosened a bit by technology. Technology mediates and is mediated by the learning community. It floods into the cracks and crevices looking to reorganize the structure for maximum effect. There is nothing inherently wrong with this process; indeed, it is the fact that organizations (more so than individuals) work towards their own best interests that makes the process somewhat predictable. However, along with the technology comes the rise of the efficiency mantra, the inevitable march towards automation and redundancy, the red herrings of accessibility. Technology becomes an end in itself. History repeats itself. The human element is cast aside (at least temporarily) as people fiddle with the outer edges of the environment. Teaching is forgotten or neglected.

We eventually begin imagining this technological space as we wan it to be. We are no longer content with what we have been given. Not just as limitless possibility or as sequestered slices, but as imagined spaces embedded with emotional substance. These human elements always flood into the spaces afforded by technology. If there are humans interacting there, there is human substance. It is the glue of collaborative interaction. But we need markers and models, guides to act as interlopers in these spaces, to walk us through the more impassable bits. So teachers can provide (among other things) the following to make learners reflect on the spaces that technology helped create, to begin the process of making these spaces their own:

- The development and execution of a learning activity
- The linkage of that learning activity to theory
- The understanding of disciplinary practice
- The presentation of a challenging juxtaposition

As individual learners, some of these learning activities we can perform ourselves (and often do); the process, however, is enriched with instructional presence. Heightened and augmented. Dante had two models in his wondrous and terrifying journey.[19] He had the conceptual Beatrice supporting his emotional quest and Virgil supporting his intellectual one. These two are the instructional presence; they are the guide engaging both the heart and the head. Not a bad model for mobile learning.

EXAMPLE 2: FITZGERALD AND OLD CURRENTS; OLD MODEL FOR NEW ENVIRONMENTS. WHAT THE GREAT GATSBY MEANS FOR MOBILE LEARNING.

We take our need for an instructional presence further by looking to a model from nearer our own time. I always return to Fitzgerald, as the ending of the Great Gatsby is particularly relevant to these times. Beautiful prose and immense application to the modern moment.

> *Most of the big shore places were closed now and there were hardly any lights except the shadowy, moving glow of a ferryboat across the Sound. And as the moon rose higher the inessential houses began to melt away until gradually I became aware of the old island here that flowered once for Dutch sailors' eyes a fresh, green breast of the new world. Its vanished trees, the trees that had made way for Gatsby's house, had once pandered in whispers to the last and greatest of all human*

19 Aligheri, D. (2002). The Divine Comedy: Volume 1 Inferno. New York: Penguin Classics.

dreams; for a transitory enchanted moment man must have held his breath in the presence of this continent, compelled into an aesthetic contemplation he neither understood nor desired, face to face for the last time in history with something commensurate to his capacity for wonder.

And as I sat there, brooding on the old unknown world, I thought of Gatsby's wonder when he first picked out the green light at the end of Daisy's dock. He had come a long way to this blue lawn and his dream must have seemed so close that he could hardly fail to grasp it. He did not know that it was already behind him, somewhere back in that vast obscurity beyond the city, where the dark fields of the republic rolled on under the night. Gatsby believed in the green light, the orgastic future that year by year recedes before us. It eluded us then, but that's no matter- tomorrow we will run faster, stretch out our arms farther. And one fine morning…

So we beat on, boats against the current, borne back ceaselessly into the past. [20]

I don't believe in that line "face to face for the last time in history with something commensurate to his capacity for wonder", although it is a stunning phrase. I suspect we continue to find this wonder in each and every thing we take in and emotionally appropriate. Whether we turn this gaze on art or science, on outer space or our own inner worlds, this capacity for human wonder will roll on and on. It is certainly present in mobile learning, in these novel constructions of space and understanding. We beat on in these spaces of endless meaning and it is in this process of perpetually coming to know that we transform our habitus.

For teachers, it becomes a matter of adding emotional content to these spaces to prime them for intellectual discovery. The guide helps us here. We can remix Fitzgerald for this current phenomena of mobile learning and the role that teachers play in it by saying we are borne ceaselessly into the future by our past, using these old currents to catapult us into a space of comprehension and perception for the future.

EXAMPLE 3: MOBILE LEARNING, NON-LINEARITY, MEANING-MAKING. GETTING BACK TO THAT MOBILITY OF HABITUS.

It is well worth a look if you are interested on the theory beginning to emerge around mobile learning. Over the last few years, I have felt rather than been able to articulate that mobile learning has a theoretical foundation that is askew from elearning or traditional classroom learning. It is not just about the technology, but the technology cannot be removed from the equation. It is not about the location per se, but it is highly contextualized learning. It is not even necessarily about motion, but mobility. They are different. Positioning mobile learning as this transformation of habitus has helped me articulate much of the "uniqueness" of mobile learning and allowed me to begin to define mobile learning in the positive (as opposed to saying it isn't this or that). It has helped me to identify certain variables that might distinguish it from other modes of learning.[21]

MOBILE AS TRANSFORMATION OF SPACE TO LEARNING SPACE

The development of devices for mobile learning relies on the existence of a habitus of mobility, provisionality, and fluidity. That which is mobile is not knowledge or information, but is the individual's habitus: whether I am out in the countryside, in my bed, or in a classroom is, relatively speaking, beside the point. What is not beside the point is the ability to bring things into conjunction which might previously have been relatively difficult to join. An instance of this might be data-logging. I take

20 Fitzgerald, F. S. (1995). The Great Gatsby. 1925. Ed. Matthew J. Bruccoli. New York: Scribner's.

21 Mobile Learning: Towards a Research Agenda (2007). Editor: Norbert Pachler. WLE Centre, Occasional Papers in Work-based Learning 1.

a device with me somewhere. On the device forms of information can be recorded (or it may be (pre-) specialised to the recording /coding of information).

I record the information in the manner enabled by the device. The site where I have gone has been turned from a field or a meadow into a science classroom. I have taken my (budding) habitus as scientist into the field together with a device that conveniently enables me to log information. When I left the school to go to the meadow or when I return to school, say, I have in fact not left a site of learning: I have turned the environment in which I am, whatever it may be and wherever I may be, into a site of learning.[22]

I like this notion of 'bringing things into conjunction which might have previously have been relatively difficult to join'; it speaks to the technological intervention, but it doesn't dictate the learning entirely. Data is collected, recorded, transmitted through the mobile technology; these processes are certainly influenced by the technology itself. However, it is the process of transformation that encapsulates the learning. The meaning is transformed and repositioned across different modes. I record the audio, transform that into text, reconstruct or supplement it as a representative image. I present meaning through these variables simultaneously, thus emphasizing composition over linearity. This is the stuff of multimodality, which we will discuss in the second chapter. Transforming meaning across different modes, engaging with design, with composition.

Yet it wasn't the only transformation that Kress and Pachler were referring to. They refer to the "habitus", the situated locale of the individual. The locale doesn't define the learning as the process of mobile learning transforms the habitus into a learning space. Tools, content, and community are reconstructed to allow for meaning making. Turning whatever environment we happen to find ourselves into an environment for learning. Mobile technology helps us bring these elements into conjunction. It acts as an organizing agent in this process. But it is really about the transformation. From space to learning space. From noise to meaning. And with a sharp eye for composition, for presenting variables to demonstrate meaning. For removing linearity as the yardstick of all meaning. Mobile learning, in this view, is learning across all modes and all spaces and through all types of compositions.

LEARNER AS CREATOR AND NON-LINEARITY

In this understanding of mobile learning, the learner is a creator, which is a view that has gained popularity in response to the participatory culture of the Internet. Learners create and curate both their meanings and themselves. They often do so simultaneously and non-linearly. Mobile stresses this non-linearity, this simultaneous rather linear presentation of meaning. Kress and Pachler provide a nice definition that speaks to the learning potential of non-linearity.

nonlinearity: hyperlinking, i.e. the ability to break up sequential ordering of information / pages / screens and allow lateral connections intra- and intertextually, between related as well as unrelated documents /artefacts, allows for unprecedented levels of interconnectedness and possible synergies.23

My emphasis is on this capacity to "allow lateral connections" and "interconnectedness and possible synergies" as that represents an expanded view of what learning looks like in these spaces. If mobile affords non-linearity, lateral connections, and synergies, then it stands to reason that meaning making in this environment would be multimodal (images, video, audio, even text). It is representation afforded by the technology and it is representation that isn't inherently linear. We can choose to make linear this meaning, but it isn't the only option for your learners. So all we need now is a theory for making sense of this process of making sense. Or to put it another way, a theory of understanding

22 Ibid.
23 Ibid

what we mean when we use audio as opposed to text as opposed to video.

So we turn to multimodality and the second chapter.

Chapter 2: Multimodality

I am interested in ideas, not merely in visual products- Marcel Duchamp

Since this is a book about mobile learning in the field and since we are focused on the humanities instead of science or mathematics, we need to begin thinking about what learning and creativity look like in these spaces. We need to consider what forms mobile learning and creativity take, what tools they use to make meaning and how that meaning is composed. To do so, we need to consider multimodality as a means of deciphering all of that. Please note that there are many, many other theories we could use to make sense of meaning in mobile learning. This not being an academic work per se, I decided to focus my energies on one particular theory that will hopefully help teachers and learners position their thinking and kickstart these field activities. I am ignoring the rest and I do so at my own peril, but know they exist. Several are referenced in the bibliography if you wish to read further. For now, we focus on multimodality.

Multimodality is a theory that "studies how and to what social and cultural effects people use and transform resources for communication including speech, image, gesture, gaze, and others".[24] It is a theory that embraces all the different resources (or tools) for communication that we employ to make meaning. It is especially important for mobile learning in the humanities as it allows the learner to represent knowledge in non-textual mediums, if they so wish. It increases the pool of 'acceptable' resources the learner can access to make and present meaning. For our purposes and for the types of field activities we are referring to, multimodality is a theoretical vehicle for making and understanding meaning. It is not the only theory that we could use to position these field activities, but it is the one that best encapsulates the different modes and media we will be using along the way.

Multimodality is a challenging and dynamic academic theory, but for the purposes of this book it will be used to demonstrate that meaning has been and always will be made through a combination of multiple modes of communication. This is especially prevalent in mobile learning. Further resources for understanding the theory in greater depth are presented in the Tools & Resources chapter; applications of multimodality in mobile learning are evident in the chapter on mField Compositions. But when we talk about multimodality, we are talking about modes (and within those modes, we are talking about media). So what is a mode?

A mode is a set of socially and culturally shaped resources for making meaning, a "channel of representation or communication".[25] Modes are not fixed or autonomous but fluidly created through social interaction. A mode, by way of example, might be text or how meaning is presented and communicated through text like books, articles, and newspapers. Other modes might include verbal communication or the type of communication we are exploring in this book, namely media-based communication. Multimodality assumes that meaning is negotiated between creator/composer and recipient/audience; both parties are needed to make meaning. So when you read a novel, you are actively interpreting what the author has written; you are negotiating that meaning. Traditionally, we have relied on the authority of text as a mode for communicating knowledge. Text is linear, sequential, and authoritative. Multimodality challenges that supremacy of text by saying that there are many other modes we rely on, often simultaneously, to make meaning. Mobile technology emphasizes the usefulness of multimodality by incorporating different types of media quite readily.

So within these modes, we have media. The differences between media and modes are the subject of debate in academic circles, but it is important to remember that modes and media aren't always

24 Jewitt, C. (Ed.). Multimodality. Glossary of Multimodal Terms: A MODE Initiative. Retrieved May 1, 2013 from http://multimodalityglossary.wordpress.com/multimodality/.

25 Ibid. Retrieved May 10, 2013 from http://multimodalityglossary.wordpress.com/mode-2/.

the same thing. A spoken dialogue is not the same as recorded audio even though both are aural channels of communication. One channel (dialogue) is being actively negotiated; the other can be used as evidence in a future negotiation. So we have media collected in mobile technology (audio, video, image, etc.) and some of this media is used to make meaning through modes (dialogue, written text, multimedia compositions, collages, montages, etc.). As learners in mobile worlds, we collect media as evidence, or as a means to demonstrate or illustrate something. When doing field activities, we are demonstrating a transformation of habitus, a construction or acquisition of knowledge, a spatial or geographical observation, or even an artistic impression (how we see that space). All are knowledge constructs; all are meaning making in fluid environments.

But the media alone is not the 'thing.' We need to artfully and purposefully render or assemble it as a 'thing'. A stand-alone image can be as powerful as pages of text; a video clip can overwhelm where audio alone would prove more delicate. Combining media into 'multimodal ensembles' is a powerful statement; it is taking all the strengths and weaknesses of each of the channels and combining it into one construct. If it is done right, we have something larger than the sum of its parts. If it isn't, we have discord and distortion.

Multimodality often refers to layout, that "arrangement of entities in two and three-dimensional spaces"; I generally refer to assembly or ensemble here to mean much the same thing.[26] What layout makes clear, though, is that the arrangement of media has social significance. In the following image, a simple montage I made of a Korean patriotic figure (who happens to be my wife's great great-grandfather), the images are presented in a particular sequence, with a particular color scheme, in a particular type of column. All of that relates to what I am trying to project. All of that signals my intent in this representation of knowledge. The other part of this equation is how my audience interprets it. Does it resonate as a composition? Does the layout reinforce the knowledge presented? Does it feel complete?

26 Ibid. Retrieved May 10, 2013 from http://multimodalityglossary.wordpress.com/layout-2/.

So assembling this media (or even selecting the appropriate media or mode) is part of the learning itself. It is coherence. In multimodality, coherence is the "effect of arrangements such that everything in the arrangement gives the appearance of 'naturally' belonging together. It characterizes what appears as an unproblematic state of affairs whether in a social arrangement, or a multimodal sign, text or object".[27] Coherence is, for mobile learning as for art, the feeling that everything belongs and the overall composition is complete. It is the product of an astute selection process and assembly.

By way of example, you stand in a museum and are drawn to one painting. You stand there for longer than you can remember, staring, wandering amidst the colors and the composition. You are engaged. You walk away. Later you carry with you the feeling of the painting, its emotional and intellectual resonance. When this happens to me, I can rarely remember the details of the painting. Which object was placed where. Yet I always remember the colors, the mood, and emotional resonance. That is how I interpret cohesion. It feels complete and greater than a sum of its parts. It resonates both emotionally and intellectually.

For the purposes of mobile learning, it is important to consider cohesion when combining media or different modes into one composition. Each object requires reflection and consideration of what you are trying to represent and how that particular object adds to that representation. Mobile learning transforms us all into artists, creators, and composers. It puts the artist into the liberal arts. It is an intellectual, emotional, and aesthetic enterprise. It is a highly productive and relevant one for our worlds of chaotic intersections. We learn to manipulate our volatile surroundings, to make endless meaning in ephemeral spaces.

For teachers conducting mobile learning activities, we need to allow for the use of any mode, media or combination thereof to both present meaning and interpret it. Multimodality requires a fairly nimble mind, a strong sense of discretion and selection, and a general inclination to create. These are all attributes of great value in a time of such complexity.

Much of the discussion that we will explore on mobile learning field activities begins here, in this multimodality. We observe something, we want to capture it through media or text, and we want to present that as knowledge. We consider these questions:

1. What is being captured? What phenomena are we witnessing? We need always remember that the transformation, the observable phenomena, might be ourselves, our understanding of place in a particular context. This is the transformation of habitus referred to in the previous chapter.

2. What media will I collect to make that visible? If we are presenting a phenomena, how would particular media reveal that to an audience? If we are constructing an impression, how will that media impress?

3. What advantages does one media channel have over another? Writing has grammatical affordances and graphical resources such as font type, size, and punctuation; these are all resources that can be potentially assemble to make meaning. "Speech has intensity (loudness), pitch and pitch variation (intonation), tonal/vocal quality, length, silence. Image has resources such as position of elements in a framed space, size, color, shape, icons of various kinds—lines, circles—as well as resources such as spatial relation, and in the case of moving images, the temporal succession of images, movement".[28] Every mode or media has its own advantages; choosing among

27 Ibid. Retrieved May 10, 2013 from http://multimodalityglossary.wordpress.com/coherence/.
28 Bezemer, J. & Kress, G. (2008). Writing in Multimodal Texts: A Social Semiotic Account of

them is evidence of learning itself.

4. What media will resonate with a particular community? Know your audience. How would an artistic montage resonate with a purely scientific community? It might, but it is debatable whether that would be their preferred format. Choose the right mode for the context. For the humanities, this aptness of mode varies wildly. What makes meaning (or has traditionally done so) in history will vary from literature, art will vary from archaeology. Not as much as one might think, but the variations are there. Understand that each community has their own ways to make meaning. Either choose to challenge those or adhere to them or some combination of both, but by all means know what they are.

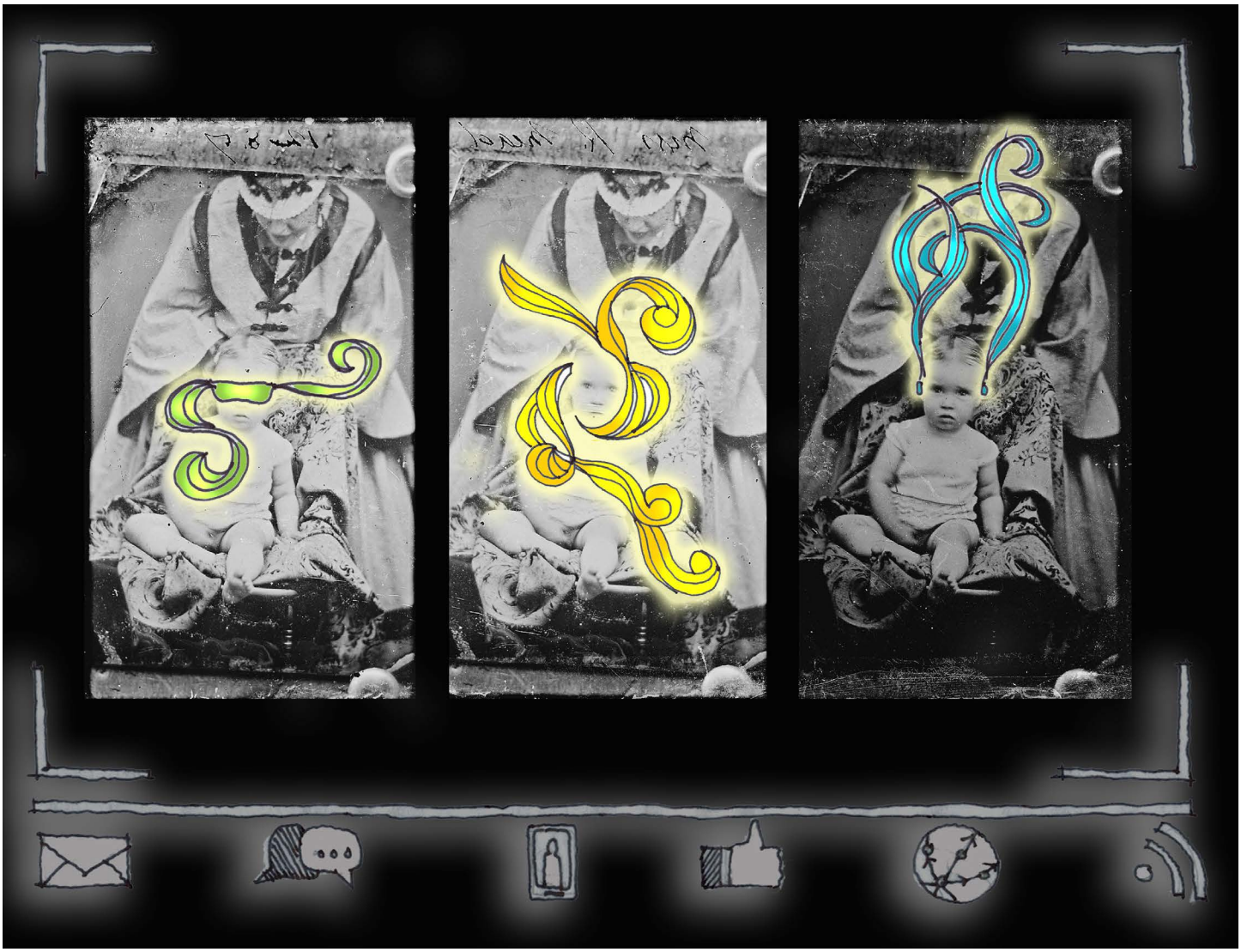
Now that we have defined multimodality and positioned it as a way of making meaning for mobile learning in the humanities, we can move on to 'containers' for that meaning in the next chapter. This next chapter will be particularly useful for those designing their own mobile learning field activities.

I am providing further reflection here on multimodality and how I have employed it in many different walks of life; once you begin looking for it, you notice it everywhere. These reflections are designed for those wishing to plunge a bit deeper into the subject. They are also designed to reinforce the idea (presented repeatedly in subsequent chapters) that consistent reflection is the key to mobile learning. We reflect on our perception, our tools, our sequences, our observations, and our collected data. We use all of it. All of it informs meaning and all of it needs to be reflected on, formally (as in writing like this) or informally (a few minutes of quiet time to take stock of what has been done and what I want to do). Embedding reflection in all that we do in mobile learning is important in such a fluid environment. If we wait to the end of a project to reflect, then we might lose sight of where we started, where we shifted, and what that shift led to. Reflection is the understanding of where you are going by marking where you have been. I suggest you all create a reflective space for yourselves. A blog, a journal, a sticky note. Meditate, brood, ponder, and probe the depths of your understanding. It is the scaffold of subsequent creativity.

What follows is the addendum for this chapter that presents some ideas on how multimodality can be positioned and reflected upon in the course of doing mobile learning field activities. They are evidence of my reflections on multimodality and mobile learning in my everyday life.

Designs for Learning. Written Communication, 25: p. 166.

Chapter 2: Addendum



TECHNOLOGY AS STABILIZING DYNAMIC: MOBILITY, MOTION, MUSIC, AND MY BIKE

I wanted to brielfly start with a few quotes that might help us understand mobility and motion.

> *"Mobility: an affordance. Learning that takes places when the learner is not in a fixed, predetermined location."29*

> *"Early definitions of [mobile learning], which focused predominantly on the attributes of mobile technology, have given way to more sophisticated conceptualisations suggesting that mobility is the central issue. This denotes not just physical mobility but the opportunity to overcome physical constraints by having access to people and digital learning resources, regardless of place and time."30*

> *Motion: an action. Exercising the affordance of mobility. The state of transitioning between locations.*

Mobility is an affordance and motion is one instance of implementing that affordance. Motion does not equal mobility but there is mobility, always, in motion. Yet I think there sits with the word motion itself a sort of general disapproval. That motion is not a state of knowing, or 'proper' being, but rather a means to an end, a transport to a more desired (learning) environment. This is what I disagree with.

MOTION AND STABILIZING DYNAMICS: THE ROLE OF TECHNOLOGY

> *A moving body whose motion was not retarded by any resisting force would continue to move to all eternity- Hermann von Helmholtz*

So with incessant motion, the type encapsulating the collective activity of the mind (thinking, learning, writing, speaking), the heart (emotion as a purposeful orientation of the being towards right action and thought, rather than the thought itself), and the body (walking, running, traveling, biking), we have perpetual motion without a fixed, predetermined location. The only fixed aspect of it is its perpetual reorganization. It doesn't matter if it is going anywhere; it is always going.

Within this storm of mind, heart, and body motion, we use tools to create a stabilizing dynamic, an environment of predictive calm. This is the role of technology. It not only augments or accelerates our impact (what we are able to do at any given moment), it also provides stabile environments in which to reflect and create. Stable does not exclude motion; stabile just implies that the pattern of the motion has been identified and relied upon. Research projects that I have worked on, especially the ones that deal with the role of music and motion have created this awareness in me of a governing stabilizing dynamic. That is, even perpetual motion produces predictability.

SOUND

I hear construction noises from outside my window. I hear my breathing. I hear footsteps in the hallway of my apartment building. I hear the thousand thoughts going through my head. I want to focus on my learning, but I cannot. I am in a state of motion through a sonic landscape. I reach for my iPhone or turn on iTunes. It doesn't drown out these competing noises. It just harmonizes them a bit into one predictable wall of sound.

It is a stabilizing dynamic. Without this dynamic, there is no pattern to make the sound predictable.

29 Sharples, M. (2006). Big issues in mobile learning.

30 Kukulska-Hulme, A. (2010) Mobile learning as a catalyst for change. Open Learning, 25 (3): p. 181-185.

Without predictability, it remains distracting as it demands my attention until I make it predictable. The way in which I cultivate my playlists for learning makes me realize that everyone has a profound, highly idiosyncratic way of interacting with audio. What distracts one provides calm for another. This is a kind of mobile learning, a kind of pattern language.[31] We can use audio to decode our environments and make them predictable. Or harness them for greater effect like a kite in a windy sky. It is about aligning sounds to generate meaning.

BICYCLE

To think of a bicycle as technology is accurate, but might seem a bit antiquated. Yet I feel it is the most harmonious of all technology as it fuses the motion of mind and body. It creates a particular stabilizing dynamic within a highly complex state of motion. Legs pedal, eyes observe (for danger, inspiration, and everywhere in between), heart races, ears record, the mind wanders along with the body. The bicycle provides a stabilizing dynamic by fusing extensive motion with predictive motion. The legs always pedal in the same manner. The hands are firmly on the handlebars. The body is oriented towards the front. The engagement with the fluid environment is not always predictable, but the bicycle introduces stability.

What the bicycle and the music do is provide a controlled landscape in which to scaffold understanding of a fluid environment. By making the environment somewhat more predictable, we introduce a controlled experiment, one that can be tested again and again with comparable results. We see audio manipulate noise into pattern, while a bike provides the same for motion and speed in the other senses.

This is not an earth-shattering conclusion of any sort, but one that I think is instructive when thinking of mobile learning going forward. What we need from technology isn't always augmentation, what we need (sometimes) is stability. Isolate and make predictable components of motion (like a leg movement on a bike, or audio input when studying) and you have achieved something. Technology doesn't need to augment the landscape, just our ability to reasonably function within it.

CURATING VS. CREATING: FLICKR AND LEARNING STRUCTURE

> *Imagination is the beginning of creation. You imagine what you desire, you will what you imagine, and at last, you create what you will- George Bernard Shaw*

Since learning in the age of unlimited content foregrounds the importance of curation, that process of selection and assembly, it might be prudent to take a moment to reflect on what is being revealed through this process. So let's consider for a moment the two stances of learning (not the only ones) of creation (composing, writing) vs. curation (selecting, cataloging, organizing). Often these two overlap (every act of creation is an act of curation, for example), but they are distinct enough to consider as discrete elements in a larger learning environment.

In creation, we have the process of construction, of generating artifacts that stand on their own or are for later use by the individual or the community. Think of a Monet painting generating the millions of academic essays that subsequently followed it. Presumably even Monet returned to his earlier works to inspire his later ones. We always return to our past to guide us into a future. Creation positions the learner as artist and composer, an active agent for generating meaning.

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31 Alexander, C. (1977). A Pattern Language: Towns, Buildings, Construction. Oxford: Oxford University Press.

In curation, we have selection, cataloging and organizing, all the hallmarks of analysis. We discern that something is indeed a thing (discrete); we then decide that it has value or relevance, and what that relevance is. We discern how it slots into our existing understanding and, if it doesn't, we discard it or let it evolve our understanding. These two processes of curation and creation are occurring simultaneously and repeatedly in any given moment. Both generate the other in some way.

That being said, what does curation and creation reveal about the individual learner? What does it reveal about the psychosocial processes the learner is wading through, about the motivations and emotional content the individual is projecting into an environment, about even what the individual finds beautiful or tragic or emotionally resonant? What does curation reveal that creation doesn't necessarily?

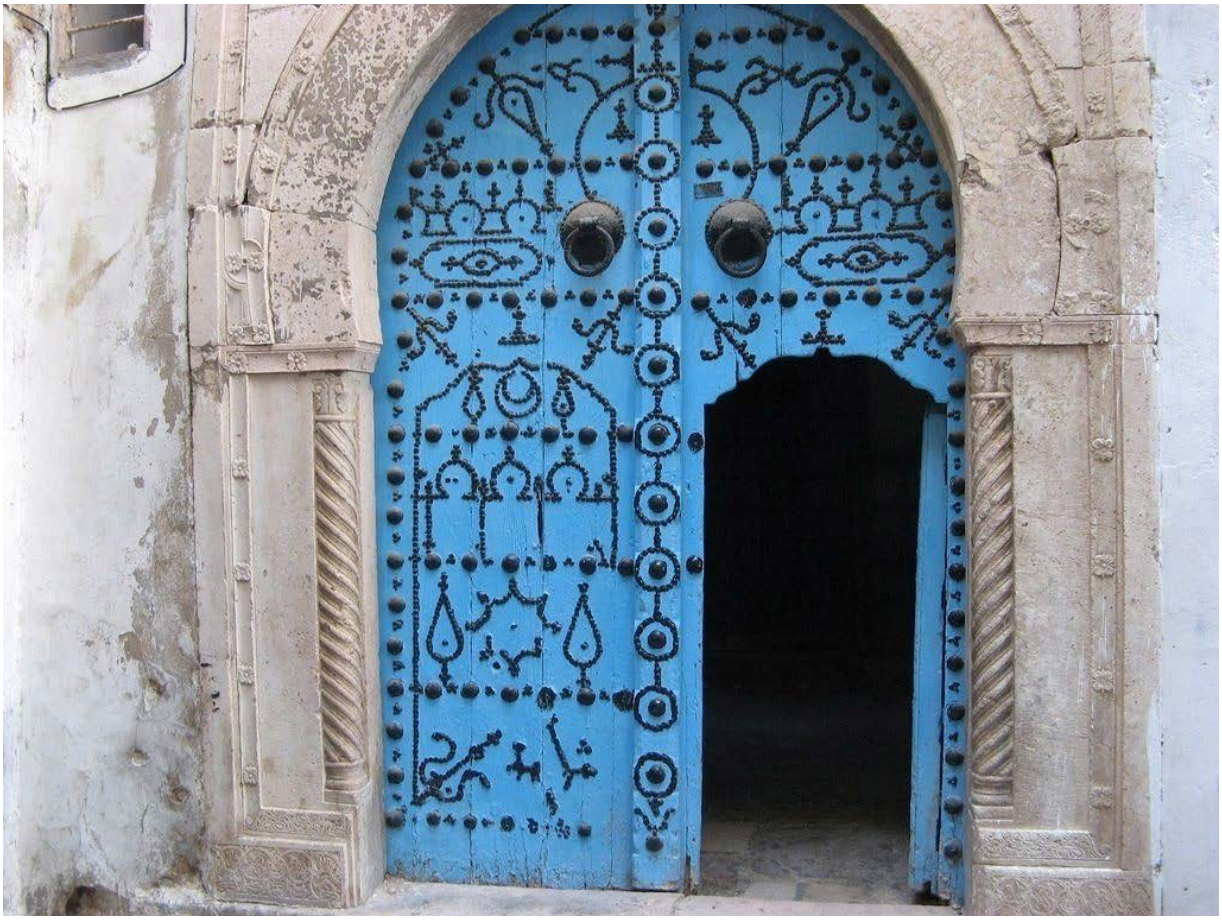
CURATION: EXPOSING THE LOGIC AND EMOTION OF MEANING

I turn to Flickr. It is where I store every image of any significance that I have created (creation) as well as those that I have tagged from others as meaningful (curation). I curate my own images, organize them into coherent sets and collections, and decide which ones are repetitive. Whether I am aware of it or not, I am advancing a narrative of myself, a projection of how I want to be seen and how I want others to see my work.

It is curating the images of others in which I reveal true psychological structure and motivation. I didn't create these images, but I have invested in them. I have been struck by their composition or their relevance or have been inspired by them (presumably to revisit the creation process once again on my own). So, there are Flickr photos that I have curated as Favorites. They are laden with Korea, skylines, juxtapositions, and architectural structure. More importantly, they reveal my constructs of beauty, the emotional content of my composition in visual domains. They illustrate what provides inspiration for my own work. They are like a scrapbooked set of Rorschach tests, tenaciously plotting my hopes, dreams, desires, and reflective pauses. They reveal more about me than my own creations, I suspect, as they are investments of my emotional content in something outside myself. I have made a deposit in them without owning them.

CURATION AS VANTAGE POINT, AS SIGNATURE

Yet curation is a two-way street. Others have created what I have curated, what I find relevant or generative to my own composition; my creations presumably provide this same inspiration to others. So I look at my own photos to see what others have curated and I realize that most do not hold much emotional resonance for me. Others generally ignore the ones that I have created that mean the most to me. Case in point, the following image. It is one of my most popular photos on Flickr. For me, it is a beautiful door in Tunisia and not that much else.



There is something about the process of creation that implies a lack of ownership. With curation, we own the process of evolving our learning structures; we are heavily invested in their efficiency and versatility. We have to be. We evolve our sense of meaning making with the introduction of new stimuli.

With creation, it is different. We create and then deposit this creation into the aggregate of artifacts for community reuse. We lose ownership the instant this creation is “completed”. If we revisit our own creations at later stages, we do so as curators, mining some meaning from the creation just as others might in a museum. With curation, we are doggedly independent and entirely unique. We share ontological attributes with others, certainly, but our curatorial structures are like learning DNA; they are beholden only unto us.

I think this process is most authentic when it is most easily enacted. An example of this is Pinterest. A simple button, a simple click, and boards of meaning are constructed and visible to all. The reflective and analytical process made transparent. Pinterest naturally blurs the boundaries of curation and creation, as the boards of curated images are creations of larger meaning. Yet its explicit function is that of a curatorial tool. The images I have chosen, the boards I put them in, the names I apply to them, all reveal the underlying logical and emotional structure I have applied to them presumably for later use. I am curating my way to meaning.

Curation is the act of creating meaning itself and the act of creating environments of meaning. We construct these worlds through our curation process and we build within these worlds. It is a highly symbiotic, reflexive activity. I believe that in curation we are less concerned with our constructed self, less concerned about the visage we are projecting. When we create, we are hyper-aware of this process. In some instances of creation, it is the reason for the creation itself.

To look at how we construct meaning, how we make sense of our worlds, perhaps it is best to look to curation to illustrate those processes. And to think how social media has made that process relatively transparent. This balance between curation and creation is especially evident in the compositions created from these mobile learning field activities. We are representing a place (or enacting meaning from a space) that others might know in intimate ways. Their creation and curation of that same place will differ. That is perfectly reasonable and a healthy process of social negotiation. For now, let's look at an example of a few particular media forms, audio and imagery.

THE BRUTE POWER OF VISUAL REPRESENTATION

I am revisiting my ambient audio recordings and listening to the sounds of the various places I have been in the last year and am now realizing that I have enough of a backlog to present a more meaningful illustration of the uniqueness of sound. Each place I have lived in or visited has had unique sensory elements. As perpetual tourists, we are often first struck by the visual, the landscapes, the architecture, and the contrast of colors in the sky. This same visual engagement with a new place is what we use as a symbol to represent the set of experiences that constitute our engagement with that place. A representative image is what we draw on when we remember, and sigh, thinking about some amazing trip in some far-off place so many years ago. This representative image is the cover to a photo album, an avatar, a profile image. They are iconic attempts to aggregate the experience into a whole. Visual representation is incredibly powerful that way, but it can be a brute force.

SOUND: THE SUBTLE SENSE OF SUGGESTION

The most subtle sense, in my estimation, is sound. Sound reveals the pulse of a place in incredibly complicated ways. It rarely overpowers the other senses, but lives there in this complicated context as influence. It influences the perception of place, it suggests a like or dislike for the emerging environment, it introduces doubt or forgiveness for a bad first impression, and it whispers a warming revelation of experiencing something profound. It proclaims nothing. With all these permutations of influence being enacted consciously and subconsciously, sound reveals the unique complexity of that particular place. It is the pattern in the white noise revealing a unique underlying structure. The ambient sound of cities is the persistent hum behind the scenes. Every place has it. It is a signature. And to understand a place, we need to understand this ambient signature.[32]

Sound in isolation, though, can be unnerving and predatory. Our minds will often reject its foreignness like bacteria. It doesn't sit with our current context or conception of space. But once having seen the place (even in images or postcards or video) and then layering that visual with the rich structure of sound, we have representation. Something is revealed in that process. We will revisit this notion of ambient audio in subsequent chapters on mobile learning field activities and their compositions; a sound survey is an incredibly powerful example of this.

AMBIENT SIGNATURES: FOUR COUNTRIES, THREE CONTINENTS, FOUR AUDITORY ENVIRONMENTS

I thought it would be best to choose four places I have been in the last few years, places with enough contrast to warrant an investigation of ambient signature. Two are from Asia (Taiwan, Korea), one from North America (Newark, New Jersey), and one from Europe (London). All four are urban and all four were recorded in places of congregation (train stations, meeting hall, public transportation).

32 Very few audio projects are better at capturing this than the excellent London Sound Survey. You begin to understand London from a completely different perspective. Retrieved May 10, 2013 from http://www.soundsurvey.org.uk/

All four return me to that place and all four attempt to align that place with my current place. I am confronted by these older places, not as a whimsical flight into nostalgia but rather as an immediate, emerging environment. The patterns, the bustle, the ambient noise, the pulse. It is a rich environment for observation. For me, it is personal and highly interwoven with my memories of what I was doing in these places (always in transit). However, I do not believe for a moment that one would had to have been there to appreciate the unique aural signature of these places.

NOTE: this is an example of where the confines of text and this publication process are at odds with the media we are presenting and exploring. I am including the audio recordings described as links from my hosting service. There is the possibility that by the time you read this, these recordings will have moved again (depending on the longevity of my hosting service).

NEWARK PENN STATION: Newark, New Jersey- Note: listen carefully for the old signboard changes. Available May 10, 2013 from http://bit.ly/11ffluE.

LONDON BUS NUMBER 25 near Bank Station: London, UK- Note: the woman is talking to her baby, in case you were wondering why no one is responding. Available May 10, 2013 from http://bit.ly/11kiv3q.

TAIPEI BOOK CONVENTION: Taipei, Taiwan- Note: notice the very subtle contrast between the din of Taipei and Seoul, which is why I strung them together here. Available May 10, 2013 from http://bit.ly/15sRGL7.

SEOUL STATION: Seoul, Korea- Note: the rhythms of Seoul's train stations now relax me, as does the voice announcing the stops. Familiarity, perhaps. Available May 10, 2013 from http://bit.ly/10Rq3HW.

A BUS RIDE, A STREAM, AND A BUDDHIST TEMPLE: HOW AUDIO WITHOUT IMAGERY CAN BE DISQUIETING/DISORIENTING

This next example is all about the contrast of audio, how it can disorient and render tranquil all within a few blocks, city streets, or square miles. I come to you again from Seoul, again from areas and activities within a bus or subway stop or two from my home. Listening to this audio again surprises and jars me a bit. I don't hear what my mind's eye seems to remember of the event. I hear disorientation, an assault of audio. I hear comforting songs in the distance. Then I hear the random tumbling of bells at the Buddhist temple and I am relieved. My context had shifted and needed to align itself.

What is interesting is that these three events I recorded are all activities that I would consider encompassing of life here in Seoul. They are as close as I get to being in harmony with my surroundings. Nothing sounds out of place with what I see; nothing seems out of place with what I hear. They are my special places, little pieces of sanctuary, and, at times, I am completely alone when I experience them. Not an easy feat in a city of 15 million.

Teachers, have your learners create sound maps (sound surveys) of where they live, their neighborhoods, their routines and rituals. Place them on a map, listen and reflect on the power of sensory combinations to produce knowledge, to know a place. This is rich material for learning as it engages the other senses and makes multimodal composition a more viable option for your learners.

So, the events are as common as can be in Korea:

A BUS RIDE FROM MAPO TO YEOUIDO across the Han River, Seoul. This is my most common vantage point for seeing the contours of the city, through the windows of a bus. Available May 10, 2013 from http://bit.ly/19z3uym.

THE SOUNDS OF A PROTEST in my neighborhood in Seoul. This is my favorite sound recording as it encapsulates Korea as an impression for me. Mass demonstrations, public protest, togetherness, song. Available May 10, 2013 from http://bit.ly/11aTXpu.

THE SOUNDS OF BONGWONSA TEMPLE near Yonsei University, Seoul. My favorite Buddhist temple and my favorite mountain hike. Available May 10, 2013 from http://bit.ly/14kST4b.

Chapter 3: Meaning Making: Metaphor, Mosaic, Montage

Everything is in motion. Everything flows. Everything is vibrating- William Hazlitt

So we have defined mobile learning and we have positioned multimodality as a potential vehicle for exploring the type of learning being generated there. Now we turn our attention to what the presentation of meaning might look like for mobile learning. Those teachers and instructional designers will, more than likely, want to take note of this chapter as it is the closest approximation this book has to demonstrating what might be considered 'appropriate' in terms of composition. I write that somewhat flippantly as I would suggest that anything that answers the purpose of the activity and demonstrates learning is appropriate. However we are all bound, to some degree or another, by practical considerations (like formal curricula) so this chapter aims to identify how teachers and learners can make their learning in these field activities visible for composition or, if need be, assessment.

We discussed briefly in the previous section on multimodality how text has traditionally been considered the authoritative record, or the most appropriate 'container' for presenting meaning. But how does one effectively present meaning in fluid environments such as those generated by these field activities? Do we rely solely on text? This is certainly an option; one can represent through text the purpose, the process, and the composition of learning generated from these field activities. Text can present meaning extracted from media-based environments. I would simply argue that it does so with less cohesion, less alignment of form and function. We are engaging with locations to generate meaning and the artifacts generated from these locales will include modes and media other than text. Translating that activity, the recorded sounds, sights, video, and impressions, back to text is an activity that has learning potential, but it provides little by way of representation of the learning being presented.

So in this chapter we want to explore alternatives to text-based essays as containers for presenting knowledge. We don't intend to ignore text; it is and always will be a powerful mode for presenting meaning. We will evaluate, select, and use text as we would other modes and media. By cohesively matching what we are trying to present with our modes of presentation. This is design literacy, a disciplined approach to developing methods of selection. We are trying to develop a more versatile toolkit for presenting that meaning. We have data collected through mobile devices, we have text to decipher it, we have locative elements (GPS), and we have endless media content; all of this must be evaluated, composed, and presented. Later, we will walk through one possible workflow for teachers and learners alike. How do we go from selection to data collection to composition to presentation with any degree of intellectual rigor? All of this we explore in this chapter.

Please note that this chapter is presented as taking place either before or after data has been collected with mobile technology. One can approach data collection as either an exercise of careful consideration or emergence. With consideration, we reflect on what we are trying to learn, what questions we are asking, and what media or data could be collected to support answering those questions. With emergence, we go to a place (even if the place isn't the object under investigation), collect all the media we can, document it as much as possible, review the collected data and look for patterns or themes to discuss. What is important here is that either approach, either a considered or emergent approach, is a valid way of learning and presenting meaning. It just depends on which learning process one wants to stimulate.

LITERACY

Also of interest to those teachers and learners out there is the occasional reference in this book to literacy. There are as many types of literacy out, many of which are wrapped under the umbrella of

new literacies, media literacy, or transliteracy.[33] These literacies essentially refer to any literacy made possible through the use of digital technologies. As teachers, we can think of literacy as a capacity for understanding and use. Essentially, they all deal with being able to navigate and communicate around different modes, media types, technologies, and environments.

Most importantly, know that these literacies aggregate to a larger capacity for meaning making in highly complex environments. Know that many are foregrounded by technology but aren't exclusive to technology. We can think of multimodal literacy as an example of this, or even on a more granular level, a visual literacy. This is about the ability to communicate through a visual medium. Many of these literacies will come through use and experimentation or through serendipity (we just stumble upon them), and others need to be designed and stimulated. As mentioned repeatedly in this book, consistent reflective activity stimulates this development of literacy as it forces the learner into a consistent process of assessment of where they are and where they want to be from a learning standpoint.

This book is designed to stimulate as much literacy as possible through mobile technology. But as you proceed through this book, please note that these are rarely named directly, but rather embedded in the activities, the compositions, the examples and models (all subsequent chapters), and, even here, in the containers for presenting meaning. Reflection allows the learner to understand what literacy is being stimulated through which activity by forcing them to remain conscious of (or present in) that activity. We are making them aware of their ability to navigate that activity. Literacy is stimulated by meditative exercises such as reflection. So almost everything about this process can represent an individual literacy, including the following:

SELECTION-how we choose what media to use, what questions to ask, and what containers to present all of this in. This is a literacy of discernment and the beginnings of design literacy.

MEDIA AND SPACE- what data to collect, how a particular media object will answer a particular question, why audio might be better than video in a particular scenario. Learners need to become comfortable with collecting and using different types of media. What location to choose, what is the signature of that location, what media would represent or impress that.

MULTIMODALITY- knowing the advantages and disadvantages of linearity vs. ensemble vs. other modes. Knowing what is lost or gained in using one over the other. This literacy is about understanding the affordances of the mode and how it relates to our purpose.

DESIGN- knowing how meaning is presented in aggregates, how combining this image with that video or audio will generate an effect, and how that effect advances my purpose. There is an understanding here that design authors perception. What is foregrounded and backgrounded? How it is arranged? In a media-driven world, where media itself is an object of great power, this literacy is especially important.

EMOTION-there is an emotional literacy, although some might refer to this as more of a social literacy. We can call it an emotional intelligence, if that is more palatable. There is a literacy in knowing how emotion can complement the intellect, how emotion infuses into a presentation of meaning, and how understanding is a social negotiation. This type of literacy has great importance in these field activities as they attempt to establish a flow of activity from informal to formal spaces straight through conventional dichotomies. We need this more than ever in a modern world, an

33 A useful text for transliteracy in particular is Thomas, S., Joseph, C., Laccetti, J., Mason, B., Mills, S., Perril, S., & Pullinger, K. (2007). Transliteracy: crossing divides. First Monday, 12(12), 3

understanding that emotion is not to be cleaved from the intellect, but rather used to support it, or even guide it to appropriate observations. The types of mobile learning taking place in this book assume an intellectual and emotional balance. They assume that all technology is decidedly social, that multimedia as a presentation medium is highly emotional, and that there is literacy in understanding this.

As teachers, you can trigger the development of these literacies by asking questions posed as reflective activities. If a learner presents a composition as a collage, ask what video or audio could have provided an alternative? If one image is foregrounded over the others, ask what the background images would have conveyed as foregrounded ones? If red is used to frame the container, ask about blue. If a composition 'feels' angry or ecstatic, ask if that was the intent. These questions go a long way in fostering in the learner a consistent, cyclical state of creation and critique, a never-ending cycle of coming to know. So in the following we consider a few steps in this process of conducting these mobile learning field activities, all of which are 'appropriate' containers for presenting meaning. They all speak to the purpose of the activity and the learning generated by the learner. So these all can be created into discrete modules of activity; this is in keeping with the field activities themselves as we consistently stress process and purpose over output.

METHODS OF SELECTION

So we start where all things start, at the selection. Selection occurs across a wide range of activities, from location, to media, to mode, to purpose, and process. All of these selections assume that this is a learning exercise and we are in the business of generating meaning. This does not exclude activities that assume emergence (the ones were the collected data at the location generates the purpose) or learning generated from wandering and observing. These are often the best kinds of learning and the ones most readily accessible through mobile technology. But once that wandering has been enacted, once we see something that might mean something, we are still left with the process of selecting a mechanism for presenting that meaning. So we begin to select and in that selection process we are demonstrating literacy. We are beginning the process of matching message to medium.

The following is presented as a sort of chronological timeline, but teachers and learners can jump all around this sequence depending on their needs. Some of these are conscious and some aren't, but I suggest that it is advantageous for the teacher to make these selections visible by engaging learners with reflective questions, forcing that subconscious selection to the surface. Why that location? Why this media? Why that research question or purpose? Why this process to support that purpose?

PLACE/SPACE/ENVIRONMENT

First we select our place, space, or environment. This all depends on the nature of our investigation. If we want to document and narrate the history of an area, the place is both the location and the subject of investigation. If we want to document and narrate the life of a famous person, the place is a vehicle for telling that narrative. It is the place of activity, activity that leads to ideas or action. So the place is the backdrop, an influential agent, but not the object of observation.

Another example might be my revisiting my hometown to engage with familiar places to try and make visible my intellectual and emotional development, a sort of mobile autobiography. I don't remember being particularly fond of my hometown so would that emotion resonate in the data I captured or the media I created? Would that impression push through the composition? In this instance, the place becomes a container for benchmarking my own progress. Having your learners document their hometowns, their streets, and their houses is a productive field activity; it forces them to consciously

reflect on the impact of their environments on their development. They benchmark their progress and identify gaps in their development. They also create a narrative history of a location in the process.

We could choose a place that represents an idea, such as parks with monuments, the design of a city (grids, street maps, and public transportation), a school district, or even an architectural model. In this example, the place is important as a visible manifestation of an idea. It is not the object of analysis, but the object of evidence. How are the ideas of democracy of democracy infused into the design of Central Park in New York City? How are the lanes of the East End in London designed for the flow of goods from the docks to the city? How does the design of a school campus reflect the purpose of education and promote contemplation and analysis?

So this first selection is both of a place and a vantage point from which to tell this story. Are we interested in ideas, people, emotional and social content, perception, or the places themselves? Much of this selection would be governed by disciplinary practice; the questions (purpose) would be quite different for each subject. For example, presenting evidence or meaning in history wouldn't be the same as doing the same in art or archaeology. So if you are designing learning activities, you could mitigate the broadness and sheer complexity of this first selection by dictating a discipline to frame the exploration. Choosing history, literature, art or archaeology will make the selection of place and vantage point easier. For learners, outside the boundaries of a curriculum, this is a daunting first step. But it is absolute freedom. A freedom of selection, of message, medium, a freedom of presenting meaning without restrictive convention. It is a broad canvas on which to paint meaning.

MEDIA

Next we choose media to collect or curate to answer a particular question. What do we want to know and how will this media get us there? For learners, this probes the domain of multimedia literacy, knowing how to narrate understanding using an image, a sound, a video, or some combination of different media. Some would consider this ability to compose with media an inherent skill or talent. There is some truth to this. In my case, I can't draw at all, but I can write relatively well and I take a decent photograph. So I tend to gravitate towards mediums that play to my strengths.

This tendency is also my weakness, as I never develop those other channels, channels that could allow me to represent meaning with a much greater degree of complexity and cohesion. So, talent (or the perceived lack of it) can be a crutch, an excuse for never engaging in those channels that we are unfamiliar with. As we engage with a world that has increasingly become multimodal, this is a serious deficit in our capacity to make meaning. This is easily overcome by broadening how we challenge learners to present meaning.

By way of example, suppose we have learners collect data at a local park. Images, video, and audio. We then challenge them to create discrete presentations of meaning in each of those channels, respectively. One for audio, one for video, and one for imagery. We then ask them to create one combining all the channels cohesively. This is followed by reflection on which channels conveyed what meaning, and how meaning was clarified or muddled depending on the medium. We map the group's presentations and present that as a social record of our park through different channels. This stimulates capacity for dealing with media; it also removes the crutch of perceived talent we have been relying on for so long. Our learners learn how to create with media by creating with media.

COMPOSITION, LAYOUT, COHESION

We then take that media, location, and meaning and assemble it into something cohesive. I present

examples further in this chapter of how I think that might look, but it is certainly open to interpretation. What is critical in this step is that learners reflect on what layouts will present what meaning and what emotional content pervades what container. Some basic questions for learners to consider at this stage include:

WILL YOUR COMPOSITION BE LINEAR OR NON-LINEAR? Remember that some media tend to favor non-linearity (everything presented at the same time-a map, a collage, mosaic, mashup) while some favor linearity (video, text, some audio recordings). With linearity, you are creating the meaning and the structure for understanding meaning. You are the architect of understanding, not unlike a film director. You control quite a bit. With non-linearity, you are presenting a frame for understanding, but you aren't necessarily dictating how that meaning is being understood. A mosaic will mean two different things to two different people depending on their historical, social, emotional and intellectual understanding of what is being presented. With a linear presentation, the sequence of making meaning is given to me. I might interpret it differently than the next person, but the chronology of understanding is built right into it.

WHAT WILL BE FOREGROUNDED OR BACKGROUNDED? First you choose what media to include and then you choose which media has greater emphasis. Media can be larger or smaller in size, centered or askew, backgrounded or foregrounded visually. What are you emphasizing in your composition? What is up front and what is in the back? What is the left and to the right? These might seem like trivial considerations, but they are wonderful reflections on design literacy.

What is the medium or the container for this composition? Mosaic, montage, collage, mashup, remix, map. All are unique narrative containers and all emphasize different things. If you are presenting something through imagery, then a montage or collage can represent that quite effectively. An audio collection can be effectively presented through a sound survey, or a map of audio collected in specific locations. A mosaic is useful for presenting an aggregation of media creating a larger whole. Containers are discussed in greater depth in the examples in the addendum for this chapter.

WHO IS YOUR AUDIENCE? This is a social negotiation of you presenting meaning and then an audience perceiving and interpreting it. Intent and perception don't always intersect so it is important to consider how your audience will receive this composition. What will resonate intellectually and emotionally? What colors and layouts are appropriate? Would you understand your own meaning if you were in the audience? Reflection helps stimulate a social and cultural literacy here by asking learners to consider the audience; it forces them to reflect on both the creation and curation sides of learning.

DISSEMINATION

I will mention this very briefly but it is important to consider how you will put your composition out there. Through your blog and through a third party service or even through a site you created? Will it be analogue or digital? Will it be stable or dynamic? Consider the dissemination as both an intellectual and structural exercise and a good chance for further reflection. Ask learners to reflect on the following:

- Do I own the composition and the underlying data? Am I using a service that allows me to download this composition?
- Do I want this composition to be public or private?
- Will I include this composition in a larger learning portfolio? A collection of my representative learning to date? This is another layer of selection and reflection.
- Can other learners easily interact with my composition? Can they share it and comment on it?

- Does it generate interaction in this way?

Once you start reflecting on selection and presentation like this, it becomes a reflexive, almost instinctual process of evaluation and review. It is conditioning for the analytical self. The addendum presented in the following outlines some different ways that meaning can be presented through mobile technology. You should feel free to jump to a selection that interests you and come back to others as needed (not unlike the Choose Your Own Adventure idea as outlined in the following). Otherwise, please feel free to continue to the next chapter on disciplines and informal and formal spaces.

Chapter 3: Addendum

mLearning analogy: flaneur is to bricoleur as scientist is to engineer?

For the life of me I can't remember how this term entered my consciousness, but it did. The term is bricoleur and it refers to a tinkerer, someone who uses a large variety of tools, materials, or constructs to "make" something. It is a term with an anthropological root introduced by the sociologist Levi-Strauss:

> *A term describing a type of thinking and symbolization; the opposite of engineer. The engineer creates specialized tools for specialized purposes. The bricoleur is a "jack of all trades", who uses few, non-specialized tools for a wide variety of purposes. There is a loose connection between, on the one hand, the bricoleur and "primitive" societies, and, on the other, the engineer and modern societies. For Levi-Strauss, the two concepts are the point of departure for a complex theoretical discussion of the science of the concrete in premodern, "primitive" cultures.* [34]

From a sociological perspective, it presents a distinction between primitive and modern cultures. For the purposes of this book it represents a learning stance or mindset to be adopted when confronted with new environments. I think it complements quite nicely the notion of the flâneur as learner, that meandering, wandering type sifting through the artifacts of a potential learning landscape. The bricoleur extends that wandering of the flâneur with tinkering, assembling and disassembling materials for general, not specified effect. The wanderer finds something interesting, tinkers with it, and occasionally something is learned through production. There are a thousand, articulated educational and linguistic uses of this bricoleur or bricolage (Deleuze, Guattari, Turkle). As always, our focus here is on the field activities and the tinkerer is a learning model that works quite well to enact these activities.

This approach doesn't negate or diminish in the slightest the notion of the scientist and engineer, the process of observation> hypothesizing> experimentation> deduction. It just provides a counterpoint for this approach, one that is valuable in times of flux or change and one quite suitable for our discussion of the humanities in this book. I might suggest that with technology and the new media landscape being what it is we are experiencing such a moment of flux. The variables aren't concrete enough, not defined enough, their assemblies, frames, and genres are not clearly articulated enough to systematically approach them in this deductive sense. So the bricoleur is a good learning approach for these mobile learning field activities. So perhaps the analogy is scientist is to engineer as flaneur is to bricoleur; it is what they do to enact their learning process. Consider positioning your learning activities with these types in mind.

APPLICATION TO MLEARNING: SYSTEMATIC WANDERING AND ENDLESS TINKERING: DEFINING THE VARIABLES

So the application I see here for mobile learning is the positioning of the learner in the new media landscape made possible not only through the shifts of discourse and disciplinary activity, but also made possible through the technology itself.

> *The development of devices for mobile learning relies on the existence of a habitus of mobility, provisionality, fluidity, etc. That which is mobile is not knowledge or information, but is the individual's habitus: whether I am out in the countryside, in my bed, or in a classroom is, relatively speaking, beside the point. What is not beside the point is the ability to bring things into conjunction which might previously have been relatively difficult to join. An instance of this might be data-logging. I take a device with me somewhere. On the device forms of information can be recorded (or it may be (pre-) specialised to the*

34 Lévi-Strauss, C. (1962). 1966The Savage Mind. London: Weidenfeld and Nicholas.

recording / coding of information).[35]

The flaneur and bricoleur sit perfectly within this scenario as mobile technology brings things into conjunction that might have been relatively difficult to join. We can peruse and assemble diverse modes of media, diverse situated perspectives, diverse and often incongruous themes. We can juxtapose time (past) against itself (current), all simultaneously and non-linearly. We need wanderers and tinkerers at this stage of the knowledge cycle as the environment itself, the boundaries of activity, have yet to be clearly identified or defined. It is difficult to hypothesize or engineer when the variables of interaction and construction aren't clearly identified. So bring in the wanderers and the tinkerers and let them tinker their way through to structure; frame this tinkering through the humanities as it is already concerned with these messy, emerging spaces. Mobile learning is at that stage of development where this type of activity is necessary.

What compositions are possible in this scenario? What will compositions look like when produced in mobile environments? Framing the conversation around the materiality of what is being tinkered with and assembled and the social practices that create meaning around these assemblies is important and so I turn to the ever-handy Glossary of Multimodal Terms for a definition of materiality:

> *In multimodal theorizing, materiality refers to the fact that modes are taken to be the product of the work of social agents shaping material, physical stuff into meaningful stuff, that is, into cultural / semiotic resources. This materiality has important semiotic potentials in itself: sound has different affordances to graphic inscription; gesture offers different potentials to colour; and so on.*[36]

It is this materiality that encapsulates the wandering and the tinkering and accounts for it as a social product of negotiated meaning. In other words, we (collectively) tinker and toy and assemble meaning from these scraps of materiality and through these tools (mobile) and then negotiate our meanings with one another. Then and only then is meaning and knowledge produced.

Like any brainstorming or creative process (tinkering most certainly is), much of it won't stick to the wall. Much of it will be discarded. A lot of it will seem absurd or trite or infantile or just plain wrong. But we don't always know what meaning these compositions will take before they are constructed (we aren't the engineers in this scenario); only in their constructed form does meaning present itself. Mobile learning provides this opportunity for an extended wander, an extended tinker, an assembly of the farthest reaches of materiality itself. An opportunity to collide worlds of meaning that have yet to be collided. Our compositions in these mobile learning field activities can take advantage of these opportunities.

ICONIC IMAGES, COLLAGES, ASSEMBLY: MULTIMODAL STORYTELLING PRESENTATION

I was reflecting on a presentation I gave recently at the University of Edinburgh (via Second Life) on multimodal composition in the humanities via mobile technology. As I was compiling the presentation conventionally enough in PowerPoint, I found myself removing all text and concentrating on clusters of images and icons to push along the narrative. I toyed with using icons on each slide as primers or keys, signaling to the viewer what they are seeing or in what context they might consider seeing it. Without text, design and cohesion become much more important. I see a general inching towards storytelling of this kind. Not merely images as the prime conveyer of meaning, but imagery as a com-

35 Mobile Learning: Towards a Research Agenda (2007). Editor: Norbert Pachler. WLE Centre, Occasional Papers in Work-based Learning 1

36 Jewitt, C. (Ed.). Multimodality. Glossary of Multimodal Terms: A MODE Initiative. Retrieved May 1, 2013 from http://multimodalityglossary.wordpress.com/multimodality/.

posite of text. It is a level of abstraction built over a complexity.

SOUNDS>LETTERS>WORDS>TEXTS>ICONS

We build one layer of complexity on another. We stop thinking about the underlying structures the minute we become comfortable with the more complex aggregation. Once you learn words, you rarely consider the letters that comprise them. The same will eventually be true of the visual literacy demonstrated in this book. Once accepted as important, it won't be considered as much as before. It will just be enacted in almost everything we do.

I think we are nearing that stage of cognitive evolution where our current meaning-making tools (writing, primarily) are insufficient to present such volume and such breadth of meaning. Or perhaps merely acknowledging that text isn't the most efficient vehicle for presenting that type of meaning. I say this to my own chagrin, as I love writing. I also say this fully aware of the irony involved in me presenting this to you as text. So we keep searching for appropriate containers and greater aggregations of complexity. Save me from my own contradictions.

MOBILE COMPOSITIONS, PALIMPESTS, AND HYPOMNEMATA

I wanted to present the salient points of mobile compositions and useful metaphors for presenting this meaning. I felt these were part of this discussion of creating with mobile technology, but they were variables I had yet to cohesively define. I see experimentation here and there, both inside and outside higher education and this is all exciting, but I wanted to get at actually defining what composing in mobile spaces might look like, what a good model for engaging in this composition might look like. These metaphors helped shed some light on this conundrum. My focus here is how these terms might organize memory, history, and its related disciplines. I am interested in how memory and history can be enacted and composed via mobile technology. How we learn through our past about our present (and future). As teachers, these might help bridge the gap from theorizing to executing mobile learning field activities.

For some of you, these will be quite obvious (as they were resurrected by Foucault); for others, like me, they were new. Either way, they are challenging concepts and might help organize thoughts around the role of technological mediated learning. More importantly for this book, they are in and of themselves potential containers for presenting meaning from mobile learning field activities. Learners could compose with these models, if so desired.[37]

PALIMPSEST

A palimpsest is a manuscript page from a scroll or book from which the text has been scraped off and which can be used again. It is something that can be rewritten on. I think there any number of parallels here with technology both rudimentary and advanced. Think rock art, a notebook, Etch a Sketch, a tablet. This is a fairly common metaphor. But I think it works remarkably well as a metaphor not for the technology itself, but rather the learning that takes place there. Palimpsests create environments of ephemerality, of experimentation with variables for learning effect. Once learned, they are discarded. I see this as a nice parallel to Vygotsky and related theorists and the nature of profound learning.[38] Once learned, this learned thing defines future thinking. It becomes the riverbed in

37 For a great exploration of these states of curation and composition see Potter, J. (2012) Digital media and learner identity: the new curatorship. New York: Palgrave Macmillan.

38 Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

which all subsequent water flows. So, it is easy and mature to discard the learning once it has been learned. It has served its purpose. It can't be unlearned. We compose something and then compose over it.

Mobile technology advances this even further by allowing for the experimentation of variables with immediate and situated effect, i.e. those right in front of us, at that moment and in this space. So it isn't a matter of experiencing, then distancing, then analyzing and learning, and then coming back to apply. It is an accelerated timeframe for learning. I layer past over present and combine variables with little contextual relation. I immediately discard those combinations that don't work. I collide worlds of meaning. And I do it in motion or in a transformed state of habitus.

I see my Notes (synced across my devices) as my bits of disaggregated palimpsests. They are unified by necessity (they have to be done or referred to), they are unified by color (yellow relates the digital with the material reference of actual material sticky notes), and they evolve constantly. Once an item is done, another takes its place building on what has just been accomplished. They are progressive and ephemeral and records of learning. I don't use Evernote in this way, although I easily could. I see mobile compositions like this. Playfully mixing and remixing discrete and occasionally incongruous variables for learning effect. I complete a task and then another task emerges from that completed one.

So a way to position our compositions are as palimpsests, a remix of what already exists. Teachers can engage this model if they want something truly collaborative. One group produces a mobile composition and then subsequent groups remix it. All groups engage all the compositions. New knowledge is written over the old. Learners reflect as they progress through their palimpsests.

HYPOMNEMATA

The second model is described by Foucault as the hypomnemata, and is derived from writings from ancient Greece about a system for recording life events as material memory or as an externalising process which gave the writer a repository of the "self" on which to draw in times of stress or change.[39] Giddens extends this with his conception of "ontological security".[40]

"Ontological security" is an impressive academic phrase. We should think of it more like benchmarking or reflecting through blogging. Learners can revisit their perceptions, motivations, and learning over a course of time to take comfort in their progression. This model juxtaposes itself against the palimpsest by looking more for security and stability than ephemerality. It makes for a nice balance between perpetual experimentation in learning and records to position oneself against.

For mobile compositions, I see blogging and the actual compositions to be wonderful hypomnemata in which to refer in moments of stress, great change, or shifts in perception and identity. We construct these things collectively (encyclopedias, histories, dictionaries, maps) and we construct them personally (diaries, scrapbooks, blogs) to record and presumably reflect upon at a later stage. They remind us where we have been.

So with mobile field activities, this recording and preserving can be used to record learning. We can use the hypomnemata as a benchmark. This benchmarking is built directly into these field activities through consistent reflection and then the mobile composition. But we do it daily in our social me-

39 Foucault, M. (1984). The Foucault Reader. London: Penguin

40 Giddens, A. (1991). Modernity and self-identity: Self and society in the late modern age. Palo Alto: Stanford University Press.

dia. Go back to your earliest post on Facebook or the first image you uploaded on Flickr or your first blog post and cringe. I literally cringe. In case anyone despairs about the lack of progress one has achieved in a recent timeframe, go back and look at these first entries and rest easy knowing that at least your capacity for expression has improved. Mine certainly has.

So these models help me position mobile composition in a particular light, as serving one or both of these ephemeral or stable masters, both necessary for learning.

MOBILE COMPOSITIONS: SALIENT POINTS AND PRIVILEGING

I write this under the assumption that mobile compositions are a *thing*, will become more of a *thing,* and will reposition academic writing to include a multitude of modes, a multitude of acceptable compositions and presentations, and as conflict between linear and non-linear exposition. All of this will have significant learning potential.

It should be noted that this assumption could be entirely wrong. Mobile compositions might never become an acceptable method of academic discourse, nor assessable work. And that would be a shame. However, it doesn't deter what we are trying to do here with mobile learning field activities. We are in the process of creating empowered learners by stressing purpose, process, and reflection. Whether or not that ever correlates to formal outputs or assessments is beside the point. I will push on thinking they will become a valuable contribution to the humanities as representations of knowledge (research and scholarship) as well as signals of engaged community participation. I am assuming if you have read this far, you might think the same as well.

WHAT ARE THE SALIENT BITS OF MOBILE COMPOSITIONS?

But what are they? Are they any sort of blog post or video or audio piece recorded and disseminated through mobile devices? Sure. Are they mashups of text, audio, video, and maps? Sure. Are they voice dictations? Sure. They are anything that engages the learner and the community in the content or question under observation. We are enacting these mobile compositions through our field activities in this book; these compositions merely look to speak to the purpose of the activities themselves. Did we answer what we set out to answer?

So, what are some attributes of these mobile compositions?

They are **reflective** or **analytical** pieces of research or scholarship (not unlike their paper or digital counterparts). This is for formal learning.

They are created, remixed, and/or disseminated via **mobile technology**. One can't avoid the inclusion of technology in this discussion nor should one try to. Clearly question what it enables and what it doesn't, but acknowledge it as a tool.

They **respect**, but do not bow to, **textual authority**. Mobile compositions are works created through toolkits, using whichever mode, media and composition that serves the purpose. They don't exclude text, nor do they bow to it.

They respect **mobility** (as a perceived attribute of society, or a desired attribute) and are often products of **motion** itself. Products of motion are spatially aware, even if that awareness is limited to an understanding of merely passing through space or even an impression influenced by a space. But space is a factor.

They are representations of a **transformed habitus**. In short, things that couldn't be connected before are connected, making for a potential learning environment.

WHAT DOES IT PRIVILEGE? WHAT DOES IT NEGATE?

Does mobile technology privilege a particular kind of construction, mode, or exploration? Absolutely. The technology itself, in its current manifestation, encourages multimedia. Research and scholarship can still be consumed via mobile technology in textual form. In fact, most of it is. Producing scholarship or reflection or engagement in the community discourse can be text as well, but a host of other modes are encouraged. Audio, image, and video are the most readily available and easiest to capture and remix. Textual transmission is made cumbersome due to technological and human restrictions. The shortest point from thought to representation to transmission is not always text. This is made more evident in mobile technology.

For me, this is due to the fact that I cannot type that fast with my thumbs. My long-form textual compositions are through my blog, formal academic papers, my thesis, and this book. And those are all constructed via the habitus of my bed, reclined, with my laptop on my chest. In that habitus, other modes are not as privileged as the keyboard is so prevalent on my laptop. It is the preferred method of input and transmission; it is intentionally designed as such. Not so with mobile technology. Input and output are different animals there.

So, mobile technology makes possible engagements with audio, video, and imagery. It also makes possible reflections of academic content in space. It is the meaningful conflict of seemingly disparate activities (reflecting on Sartre while taking the Tube, engaging with Proust while eating lunch in London, battling James Joyce for the endless structure of a single day). Because we are out "in the world" and because we are cognitively engaging with the practices of the humanities and because we are human, we are naturally looking for applications and mashups of these disparate elements. We are smashing Joyce, Proust, and Sartre all over our mundane daily activities. We are remixing our lives. That type of composition, that type of knowledge representation lends itself to non-textual compositions.

COMPLEXITY, LEARNER AS COBBLER, OR WHY I LOVE MASH-UPS

My confession here is that I am not an original thinker; I am a cobbler (or the aforementioned bricoleur). I pull together segments from smarter people in my own way and call it an abridged idea. I remix my way to understanding.

It is believed that human language emerged as a result of the use of complex tools in our earlier ancestors. We began with a stick to poke at a rock. We then attached a flint to a stick, a lever, a fulcrum. Complexity. This complexity triggered language, which by any account is one of the most significant events in all of humankind. My argument here is that we are faced with a complexity now that rivals this, a complexity that spurs a development not unlike the development of language.

In short, complexity requires a language to make sense out of it. Language is an expression of learning. Learning and complexity are natural partners. So learning is an exercise in complexity (networks, knowledge transfers and storage). We need to search for complexity, for novel appropriations of disparate bits towards knowledge construction and representation.

This complexity serves pragmatic ends. We live in a world where we cannot predict what the next

generation will need to thrive.[41] What I do know is that a desire to interact with complexity will be a part of that mix. We will need an ability to solve a problem or articulate an understanding not because we know the answer, but rather because we know that with enough time we can assemble the bits to make an answer.

So mash-ups make perfect sense to me. I am taking mounds of disparate data and mapping it onto a language, my own. I am layering complexity on complexity and constructing a layer on top of that. The sequence of learning might be the same, but the stress is different. Those middle bits of construction and reconstruction will shine. So get out there and start playing with complex tools. Stimulate a part of your brain now dormant. Build and build again. Assemble your networks and assemble them well; constantly cultivate them. Understand where knowledge is stored, contained, circulated and know that isn't always in you. Embrace this complexity.

Consider a remix or a mashup as a good container for these mobile learning field activities. They are highly complex, playful acts of designing meaning through composition. Consider pooling all the media and data collected by learners at a particular location and encouraging learners to remix what is available that best serves the purpose of the activity. Reflect on the selections and the eventual composition.

MOBILITY AND HOME: CENTERING ON PEOPLE

The following illustrates a vantage point for mobile learning field activities. The container is an impression, or how the learning being presented can be an impression influenced by a place. The place helped define the impression, but wasn't the object of investigation. It also demonstrates that we needn't shy away from introducing emotional content into our work. I wrote the following in September 2012, but I thought keeping the writing in the present tense served to contextualize this narrative a bit. So it is in the present tense despite it being written well over a year ago.

As I sit here in western Pennsylvania in the last few days of a visit to family ahead of a trip tomorrow to New York and New Jersey to visit friends and then to London and the Institute of Education, I am thinking a bit about mobile learning. I am starting to realize the effects of a general self-imposed "rootlessness" on all my thinking towards these questions of mobility.

I have lived in many places over the years and the only constant through this seemingly endless moving (and moving companies), apartment hunting, visa issues, and paperwork, has been my wife. I see her as *home,* as a stabilizing force in this world of perpetual motion. I see love as an enabling agent. When I am with her, I am enabled to turn my gaze outwards (for work, research, or exploration); when I am apart from her, my energies are expended in returning to her. I actively seek her. Love acts as a magnetic force.

So, unlike some perhaps, my idea of stability is rooted in a person, not a place or sedentary object or even a specific geography. Being rooted in a person, home becomes a fluid concept. As people we travel in orbits, however unpredictable, and those orbits collide occasionally. For my wife and I, our orbits generally run parallel, but at times we have been apart (much of my experience in London). Home becomes an intersection of time, orbit, and purpose. It becomes something that we actively seek. So that thinking about what constitutes home or even a center influences the way I perceive the world. It would certainly influence the way I would collect data in a mobile learning field activity to

41 Wheeler, S. (2011). The Future of Learning. Public Keynote presented at LearnTEC 2011 Tradefair and Learning Technologies Conference, Karlsruhe, Germany. February 2, 2011. Retrieved April 10, 2013 from http://www.slideshare.net/timbuckteeth/the-future-of-learning-6809148.

support presenting this impression.

RESEARCH QUESTIONS AND QUESTIONING

I view motion and mobility as the *norm*, not the exception. And some of this thinking seeps into my research and much of it is assumed in this book. I see a general reconstruction of learning (and supporting structures like universities) being reiterated as mobile states. Universities become 'rootless' constructs (not in a bad way) encompassing a network of individuals working generally towards a common purpose. Universities become mobile communities providing access to a reflective education at all times. Networks are fluid, self-sustained enterprises and robust communities of practice. They become greater than the sum of their parts. I am influenced in this thinking by some amazing colleagues from the University of Edinburgh who pursue the role of space and geography online.[42]

So how learning becomes enacted in these rootless structures, these 'homes' becomes a research question. For our purposes, framing a field activity through an impression, an emotional one even, is a good model for reflection and composition. In this instance, learners can reflect on what is home or how they might define their emotional center or emotional gaze. Mobile media can be generated to support this impression. I present another model next, one with some playfulness built in.

CHOOSE YOUR OWN ADVENTURE, LANDOW, AND CONSTRUCTIVE LEARNING

Landow refers to the potential for hypertext to allow a novice reader "to learn the habit of multi-sequential reading necessary for both student anthologies and scholarly apparatuses".[43] Multi-sequential reading can be taken a step further with multi-sequential composing. Hypertext is regarded as an efficient model for the kind of text presented in scholarly and scientific writing. Readers are forced to venture out of the narrative to consider footnotes, captions and statistics (as well as reference new vocabulary). I am reminded of the Choose Your Own Adventure or Time Machine books. I always saw them as evidence of a mathematical certainty that death awaits; I never managed to escape it.

Besides being absolutely engaging and good examples of analogue interactivity, these books allowed multiple paths through a story based on reader's choice; some of these actually made it possible (even probable) for failure. Failure in this context would be defined as choosing a path that did not lead to a satisfactory outcome. For example, the title character would die based on some decision. This added an additional emotive element often missing in most literature. The reader was emotionally and spatially invested in the story, a good attribute of an empowered learner.

With these stories, what invariably happened was that the reader, impatient with the persistent possibility of failure, would skip to the last page and reverse engineer a positive outcome. For all intents and purposes this is cheating, manipulating the structure outside of what was intended. However, it is evidence of a non-linear and conceptual thinking being developed. For our mobile learning, it is evidence of a playful approach to learning.

So how can we enact a Choose Your Own Adventure model for our mobile learning field activities? We can invest in a narrative, construct a presentation of space that is based in a sequence or through decision points (walk left if you choose answer A, etc.), we can sequence and present media to help with these decision points. We can present our purpose and process and simply rework it for

42 Edinspace: New Geographies of Learning (2012). University of Edinburgh. Retrieved May 10, 2013 from http://edinspace.weebly.com/

43 Landow, G. P. (2006). Hypertext 3.0: Critical theory and new media in an era of globalization. Baltimore: Johns Hopkins University Press.

the audience as a series of decisions. We can even put this composition in the location itself through QR codes, encouraging an interaction with the composition. Our compositions can be playfully linear, engaging the audience in our collective process of coming to know. We can even incorporate, or reflect on how we might incorporate, works from our cultural past into these decisions, an idea advanced in the next section.

SHAKESPEARE FOR IQ AND EQ IN THE WORLD: MAKING DECISIONS IN REAL-TIME VIA MOBILE

> *The aim of every artist is to arrest motion, which is life, by artificial means and hold it fixed so that a hundred years later, when a stranger looks at it, it moves again since it is life- William Faulkner*

To begin with I have always been a fan of Open Source Shakespeare.[44] It provides the full-text of all the Shakespeare works as well as some data analysis features like concordance of terms, keyword searches, statistics, and more. If there are secondary school teachers not using this when the moans of reading Hamlet echo through the halls of classrooms, they should consider it. Endless applications for learners to start seeing the evolution of the artist through the tackling of progressively more challenging (and lengthy) works.

Open Source Shakespeare does this in a very transparent way, which is exactly how they should do it. They have even gone so far as to provide a mobile version, which is useful for the purposes of our mobile learning field activities. I immediately see Shakespeare being couched in the contextual reality of the learner. Out in the world, on the streets, at decisions points (hopefully with less violent ends than Hamlet or Macbeth), observing beauty, despair, lust, greed. An emotional as well as a logical intelligence is needed to navigate this world with all its decision points. Shakespeare provides a model of an emotional intelligence (granted, exaggerated for the stage) and coupled with other writers, poets, philosophers, historians, all bound together in mobile form, can provide an interactive reference. When faced with a monumental decision in life, when struggling even to get a quote for a paper, why not poll your mobile device to see what the beacons of your culture had to say about it?

What we need to effectively realize this mobile IQ/EQ tool are a few things (besides an extraordinarily well-faceted taxonomy and retrieval mechanism), tools that allow for a sort of banter with the Bard. For the purposes of our mobile learning field activities, we can consider a smaller version of what is described here. Embedding Shakespeare in the collected data from a particular location. What follows is more of a requirements list for a possible mobile application, which can be a great activity in and of itself, especially after the mobile composition is complete. Learners reflect on how existing tools allowed them to do what they wanted to do and how that could have been improved or better designed. Some of this mobile design can be considered in the following categories:

Age: why not limit emotional and intellectual content to a particular age? The Shakespeare of King Lear is less pertinent (emotionally) to an 18 year old than Romeo and Juliet or even a Midsummer Night's Dream. But the themes of Lear might resonate with a 65 year old more broadly than the immature Verona duo (Romeo and Juliet) making a mess of everything with their reckless enthusiasms. Context is crucial.

Emotion: a good thematic analysis of Shakespeare and others would allow for a nice subsection of passages related to particular emotional contexts (fear, anxiety, love, despair). Categorizing Shakespearian content and collected media into emotional groupings is a productive reflection for your learners.

44 Open Source Shakespeare (2013). Retrieved April 2, 2013 from http://www.opensourceshakespeare.org/.

Context: even going further, why not an emotion coupled to a context? Love and distance, heartbreak and departure, joy and contentedness, and death and sadness. All could be coupled together based on group discussions after the field activities have been conducted.

Audio: Shakespeare is the vehicle of the voice. Ask learners to reflect on what audio would add to their explorations of Shakespeare in a particular space. Ask them to record select passages and embed those into their compositions.

Geolocated: why not (and this might exclude the Bard a bit) present a historical context for the mobile learner, one that stresses the evolution of place and our relationship as humans to that place? Imagine standing at the corner of 40th and Lexington in New York City and seeing the images as Holden Caulfield saw them with the words of Salinger in your ear? Or strolling the streets of Dublin as Leopold Bloom? We can match words to place and context. We can layer over images of the place in different points in time. This is already done in augmented reality applications, but we can do better for learning in mobile field activities. We can match context to the senses to representation. We can embed writers and artists in the areas they were speaking of or creating in. We can do this all with a mobile phone. Immersive learning at its finest.

So there is a lot of opportunity for Shakespeare et al to receive a fresh treatment in mobile learning. We can have our learners compose meaning by injecting Shakespeare into life itself, outside the book, off the stage, in life. To use our literary and philosophical masters not merely as beacons of syntax and structure, but rather as guides. Teaching us to teach ourselves.

For teachers, we could generate a quote, have it delivered to our learners via mobile technology, and have them reflect with text, media, or even an audio response. We can insert these micro-reflections into the field activities at intervals and have our learners reflect on Shakespeare or the effects of a particular idea or artwork in the context of the field activity itself. Out there, in the world, in motion.

BEATRICE, VIRGIL, AND GUIDES THROUGH MOBILE WORLDS

Building on the previous section, what follows is further consideration on how the humanities and mobile learning could help us create meaning in our worlds. I present this through a model from literature, that of Dante's Inferno. It is a model that reinforces the instructional presence in these mobile learning field activities, that of guide and mentor. Teachers, rest assured you have a place in these mobile learning field activities.

VIRGIL TO BEATRICE

Dante descends through the rings of Hell with Virgil by his side, his cultural antecedent. Virgil walks him through Hell, allows him to witness what it is, draw his own conclusions, and answers questions as needed. A guide. However, Virgil cannot complete the circuit, as he is a pagan; Dante's muse Beatrice walks him through Paradiso and bits of Purgatorio. He sheds one guide for the better match of another. We mirror this process routinely in our learning spaces. We shed one node of a network for another, one connection for another. Need and the ability to serve a need are ephemeral and highly specific to context. Some relationships nurture us throughout life (family); some are transient yet still critical to development. Imagine a relationship of learning and knowledge construction based on our shared history and culture, one that infuses our decisions now with a tested past.

Initially, at least, this wouldn't have to be too complicated. It could be an a composition that merely

draws quotes or passages based on the categorizations we described before with Shakespeare (age, emotion, location). With enough reflection and practice embedding these works into our compositions, we are left with digital apparitions informing our decisions, voices from the past. Bayne (2008) had referred to the uncanny in digital spaces, how there are ghosts in the machine so to speak, and I think the same will hold true for the fusion of this (mobile) technology on augmented realities.[45] There will be senses of phantoms, apparitions lurking. A perpetual deja vu. We will often feel like we have done this before, or that we have seen this before. There is emotional residue from our shared past (the Shakespeares and Dantes of our collective understanding) and our technological activity. There are teachers as guides there encouraging and mentoring. This is all made possible through reflection, reflecting on how our past (in literature, art, history) informs our future. Our learners advance these apparitions by embedding them into their mobile compositions. Teachers encourage both emotional and intellectual development through persistent reflection.

For learners in mobile scenarios, one could evoke Beatrice as a guide through unfamiliar terrain in a collage or composition. Layering over emotional or intellectual presence in a composition by layering one image over another and reducing the opacity in a montage. The goal is to draw these works to the conscious surface of our meaning making, to let them inform our compositions created from these mobile field activities. For teachers, Beatrice and Virgil are models for teaching; the following is a model for a learning activity based on these field activities.

DIGITAL MEDIA: SUBWAY MAPS AS TOOLS FOR TEACHING HISTORY

Recently, I have been exploring how media can be used as a supplemental tool for augmenting an existing learning experience. But what if this media were used to frame the learning experience rather than build upon it? What if the media itself acted as the catalyst for the conversation rather than as evidence of an answer?

I suppose we should frame this with specifics. I am envisioning a history course as told through a fluctuating media object that has consistent points of reference. I am thinking in this instance of a subway map. There are multiple iterations over segments of time. However, it has the same framework to reference progress. The subway expands, but it is recognizable and accessible at any iteration. Essentially, the subway map begins serving as a mosaic of all the activity in that space. It is a good canvas for composing in these mobile learning field activities. What are the advantages of investigating the history of a place this way? There are several that I illustrate below.

It is **conceptually sound.** It represents a physical construct, an obvious symbol of growth. It is the city, it is of the city, and it represents the growth of the city. It represents good mapping from a contextualization standpoint.

It is **interdisciplinary.** Learners will find advantages in thinking across the silos of academic disciplines. A subway map is an investigation of

1. **Economics**- the greatest driver of growth. We can embed economic content onto our subway maps and demonstrate some factors from history that drove the development of that line in that way. It basically charts the economic growth of the city.

2. **Sociology**- we can chart population migrations, class divides, and perceived and real segregations. All would be made visible following the contours of a subway's expansion.

45 Described in a few different works with this being my favorite: Bayne, S. (2010). Academetron, automaton, phantom: uncanny digital pedagogies. London Review of Education, 8(1): p. 5-13.

3. **History**- each stop tells a story. Each subway stop charts the fluctuating nature of the city's inhabitants and migrations.

4. **Culture, Literature, Art**- learners could make use of subway stops in popular culture as they appear in movies, posters, poems, songs, and literature. These stops are iconic and they represent a greater cultural tapestry, a symbolic underpinning that we all draw from whether consciously or not.

5. **Science and Engineering**- each iteration of the New York City subway (as an example), from the Beach Pneumatic Transit to its current manifestation tells a story of science and engineering prowess.

It is **scalable.** The subway map basically frames the human narrative in all its disciplines, in all its anecdotal evidence, in all its successes and failures. It is the hook that draws one into the story.

Maps are wonderful learning tools. They spur the imagination. They challenge learners to redefine their social realities, to inherently expand them, and to acknowledge a world outside their own immediacy. For cities, subway maps are windows into what was prioritized, where their future was headed, and how they projected themselves ten years out.

For our mobile learning field activities, subway or bus maps are wonderful vantage points into collecting data and composing that data in accessible ways. We all know these worlds through their maps. Flight patterns do much the same thing and are a useful model for composing the flow through space found in these mobile learning field activities.

FLIGHT PATTERNS AS TEACHING TOOLS: VISUALIZATIONS PAINTING A CONCEPTUAL PICTURE

I immediately and reflexively try to appropriate anything and everything under the sun for educational purposes. Unfortunately, I am not smart enough to create these materials myself. I rely on other smarter people to do it. In this case, I am relying on Aaron Koblin and Celestial Mechanics.[46]

With the advent of data visualizations and the sense of experimentation that surrounds them, appropriating things for learning became a whole lot easier. Although not designed specifically for learning purposes, visualizing data is what modern discovery and invention is all about. Craft a concept and let the community craft its own use.

In the previous section, we explored subway maps as tools for demonstrating the economic, political, and social growth of the city. Maps are learning constructs that can be employed to chart the growth of anything. We can adjust that view a bit to move away from stable points (subway stops) to motion or flow through space. One way to do that is use flight pattern visualizations as a model for mobile learning.

Imagine viewing the world with an economic imprint. It is a living, breathing key to deciphering the code of endless motion. That is where Aaron Koblin and other intelligent people step in. Koblin has visualized a twenty-four cycle of worldwide flight traffic. Besides being absolutely hypnotizing, it paints a stark picture of influence and resource consumption. Immediately, one sees the differences in the hemisphere, in the North and South divide, in the motions and movement. Why not use these

46 Koblin, A. (2013). Celestial Mechanics (Flight Patterns). Retrieved May 1, 2013, from http://www.aaronkoblin.com/work/flightpatterns/.

visualizations as organizing constructs for our mobile learning field activities?

As a teacher, one could do some preliminary questioning and discussion on perceptions of influence. What is the busiest route in the world? How long does it take to fly from A to B? One could even pose a hypothetical as a learning exercise. I want to start a business in country A and country B. I will need to travel to both countries a minimum of 6 times a year to check on the development of this business. What are the costs of this travel both in terms of money and time? Learners could use online resources to compare routes, prices, and availability.

Further learning could be established by studying the flight patterns within a specific country. I am using the US as an example as these were the visualizations that were most readily available. What areas are overrepresented or underrepresented? Judging by this visualization alone, where are the areas of heaviest economic growth or activity? This video is a time delay over a course of 24 hours. When we do we see the heaviest activity? When is the most activity entering and exiting a specific country? Where are they going or coming from? What does this represent economically?

They also act as a nice model for our mobile learning field activities. We can take these flight patterns and find a parallel structure for a smaller scale. Take the bus routes or car traffic through a neighborhood. We can collect data on how many cars pass a specific location over the course of a specific time, chart that activity and collect media to represent that flow. Learners can do the same at different spots around the location and pool their data. This data can be visualized through a mapping tool. Or it can be represented conceptually in a composition with lines, shapes, and colors with greater width equating to greater flows of traffic. Our learners can engage in visual design to generate meaning. They can visualize flow through a specific location. We can do this even in a house. Follow the motion of activity, from house to house, from kitchen to bedroom, from one corner to the next. Discuss it, reflect on it, visualize it, define and answer your purpose.

Chapter 4: Disciplines and Informal/Formal Spaces

It is because Humanity has never known where it was going that it has been able to find its way- Oscar Wilde

We have now discussed mobile learning, how media and multimodality can be used within it, and how meaning is made across all of this. We have done so superficially to some degree as exploring this in the detail it deserves would require a work well in excess of what this book is attempting to do. That doesn't mean that nothing else worthwhile exists outside the scope of these chapters; it's just a logistical consideration, a method of selection. It is my hope that teachers take ideas or inspiration from this book and build something useful for their learners and their disciplines. I say all of this to introduce this chapter on disciplines and informal and formal thinking.

This book is primarily concerned with how mobile learning field activities can be enacted in the humanities, that assortment of disciplines that sits outside the sciences and the maths and all those other 'applied' things. Those are my words yet I still felt the need to offset the 'applied' part, as all learning is an exercise in application, or an exercise in actually doing something. The humanities include the disciplines of history, literature, cultural heritage, philosophy, art, languages and so forth, all subjects that tend to emphasize an analytical and speculative approach to knowing as opposed to an empirical approach. We could erode the patience of this audience in short fashion with a full exposition of what the humanities are and what subjects they tend to focus on, questions they ask, and ways in which they might answer those questions, but we won't. We should emphasize, again, that coming to know in these disciplines, that process of positioning, identifying, analyzing, and articulating knowledge, doesn't assume a stable base of activity. These disciplines assume, and life tends to support this assumption, that learning takes place in spaces of great volatility, where artifacts and their constructed meanings shift in fluid fashion through constant intersections of time and space.

This is why, to some degree, the scientific method of observation, testing, and replicating doesn't always work in the humanities. It shifts too frequently and the learner shifts with it. Not only is the environment not stable, but neither is the learner. The humanities do not assume a fixed, stable self, but one that is constantly developing understanding through context and relations. Or mentioned earlier, everything is an analogy to another known 'thing'. This includes ourselves.

Yet here we are crafting sandcastles with mobile learning on some perpetually shifting beach. We are crafting knowledge about some fairly volatile environments and the knowledge produced there will undoubtedly have ephemeral qualities. So testing and replicating aren't always things in these fields. Process matters more than output. As many teachers already know, the learning and transformation of the learner takes place in process; the output is often merely the evidence of that process. So we should invest heavily in process in these mobile activities and less so with output, however potentially brilliant the compositions may be. However, we are getting ahead of ourselves a bit. First we need to discuss disciplines as bounded spaces.

DISCIPLINES AS BOUNDED SPACES

It might seem contradictory to have these ephemeral explorations in volatile spaces framed through accepted practices, processes, and tools, but that is indeed what we have in these mobile learning field activities. Most of us come to understand the humanities through our participation in formal education, through the somewhat artificial distinctions brought about by sequestering activity into formal spaces or disciplines. So from elementary school, most of us became exposed to history, literature, art, and culture, and came to understand these as bounded spaces that one needed to master (or at least mimic) in order to move forward (pass to the next grade). Many of us came to know literature by memorizing a passage from Macbeth (my case) or understand history through a

recitation of 'important' dates in the American Revolution (also me) or understand art through a two thousand word essay on the colors of Matisse (yes, me). And we responded to these formalities with predictable lethargy, somehow sequestering the art or history or culture from the world from which it was created, slicing the idea from the context.

We lost sight of the ultimate goal of any education, which is learning how to learn or to think. Many of us learned how to learn in spite of our formal education. These are the formal spaces in which we all are most familiar and the ones in which I have placed these mobile learning field activities. I won't lament this situation all too much as it is outside the scope of this book, but mobile learning in particular puts pressure on this model of separation of activity into formal spaces. It reminds us that there is a world outside formalized process and output, of grades, marks, and the slightly disconnected world of creation and analysis. It reminds us that learning can and often does take place with little to no regard for disciplinary boundaries, oscillating happily amongst formal and informal, socialized and individual spaces of activity.

So we have bounded spaces and we have bounded activities to support navigating those bounded spaces. Teachers in particular are bound by these spaces and their related compositions and assessments, but there is some potential here with mobile learning to alleviate that straightjacket. By reclaiming the learning spaces that exist outside the confines of the classroom, by taking back the other 90% of this life that sits outside formal education. Through this process, we begin to realize that informal learning, the kind of learning that exists outside these formal disciplinary spaces, is perfectly complementary to formal education and vice versa. They should work well with each other and they do when activity is allowed to flow between them. It becomes a matter of establishing the free flow from one space to the other. Mobile learning can help in this regard as it is already concerned with flow and association and that transformation of habitus. It assumes volatility and assembly and all those things that allow us to make meaning in challengingly chaotic spaces. To begin, one needs to merely frame a question or let the environment produce one for you. In this, the boundaries of disciplines can actually help.

FRAMING QUESTIONS: INTENTION OR EMERGENCE

So generally our first step is to frame a question or two about what we want to create through these mobile learning field activities. This could take one of two forms. First, we could try to analyze what is happening in something we have already observed and let the emerging themes dictate how we choose to make meaning from it. This is the emerging approach and this is how a good deal of learning takes place. We see something and then try to explain something using whatever tools we have at our disposal. This emerging approach relies on the awareness of the learner to engage with what they are seeing, to rely on serendipity in this process (much of this we stumble onto), and to be comfortable in employing a versatile mix of tools in generating meaning from what we observe. This emerging approach is used in all disciplines in certain cases, but especially so in the humanities. We stumble across Machu Picchu and then try to explain its significance, not the other way around. We generally don't hypothesize too often about things that we don't know exist. The same is true to some degree with mobile learning field activities. We know we want to understand a certain area, neighborhood, or street because we have already observed something there; the questions then emerge from our past experience.

On other hand, if these mobile learning field activities are designed to be a part of or supplement an existing curriculum, then they should reflect the norms of disciplinary activity. The questions should be concerned with the domain of the discipline itself and how that discipline chooses to make meaning. Each of the disciplines will have their own modes of meaning making, their own norms of

community activity and interaction, and their own domains and processes. That is part of the learning taking place in these activities, quite frankly, this ability to navigate different disciplinary spaces effectively. So we might want to create questions for our mobile learning field activities beforehand, without knowing the place, just believing that all places have a story to tell or something to analyze. We should frame the questions under the assumption that they can be answered. Both are perfectly good approaches. Teachers or learners just need to choose one or the other. The questions will then follow from this first choice.

So what questions are we asking from or for mobile learning field activities? At higher levels of education, these questions can be linked to epistemology and ontology, to theory and nuanced representation, but regardless of age or educational level, we all want to know the following:

1. What is it we are looking at?

2. What does it mean to us, to the community, to the world? This is a good question for stimulating disciplinary thinking, as the meaning we are choosing to capture will be bounded by the structure of the discipline.

3. What will my representation look like? All knowledge is a representation and we need to be open and forthright about how we are choosing to represent our understanding of the 'thing'. A little reflection here goes a long way. This representation can include what we think is meaningful, what media we might use, and what that assembly might look like.

4. How will this representation take shape? This includes tools and workflow. We need to be ever mindful of the process of making meaning and making it visible to the learner whenever possible. Having a learner construct a workflow is a valid, highly productive learning exercise. Make them aware of their learning and how they are aligning activity to making meaning. It is a good method for realizing what should be a goal of all education, helping learners become better learners and thinkers.

The age groups one is working with will dictate much of this exploration, but one shouldn't overplay the age differential. We all make meaning through interaction with our environments and this is as true with a ten year old as a sixty year old. The questions or presentations might take on different levels of sophistication or depth, but the process is much the same. Start with simple questions and expand in complexity with older groups. Through the process used to frame and answer the questions, a disciplinary structure will emerge for the learners to adhere to. So let's take a quick look at history (as a delineated discipline with established context and identity) and look at how a university student or even secondary school student might interact with the discipline.

HISTORY AS EXAMPLE: FRAMING PERSPECTIVE

Even though it might not seem so, history is a space of self-perception, identity and collaborative practice. Meaning is negotiated through social interaction precisely because there are no 'truths' to be had; each generation or demographic will interpret the evidence of history in remarkably different ways depending on the way they frame their perspectives. Ask a roomful of historians the same question and you are bound to get a roomful of different interpretations. This diversity is nothing to shy away from; I believe it is precisely where the humanities have such power. It is a system of knowing in highly uncertain spaces (the world in general). And it points to negotiating understanding as the way forward. Enwistle stresses the "rural" aspect of history in that "there is much more room for personal interpretation of evidence", a situation where "personal viewpoints are encouraged, as

long as they are well-supported".[47] So we have a balance between personal interpretation and social negotiation.

This diversity is reflected in the way it is taught. Constructivist frameworks of instruction, the kind generally supported by history, stress the role of context and social negotiation of knowledge in instruction.[48] History learners socially negotiate with each other, with their mentors (teachers or professors), and with their community. It is how evidence is translated into knowledge. It passes through this machine of negotiation. And it changes depending on the context. It is constantly assessed and appraised, applied or discarded. Certain generations come to revere or revile a particular historical figure and subsequent generations can choose to re-evaluate this same figure based on their needs and how it relates to their present circumstance. Knowledge in the humanities is relational. It shifts. It is in that shift, though, that it gains power. Mobile learning captures a bit of that motion and power.

Constructivism in history in higher education is also realized in the evolving nature of student participation in the historical process. According to Enwistle, "learners were being encouraged to express their own views in discussion and feel part of a joint enterprise that allowed them to believe that their views and interpretations had value as they began to think 'like a historian'." This self-perception of thinking "like a historian" has value pedagogically as an instrument that motivates participation and collaboration.[49] This is an important consideration in mobile learning, history and the humanities in general: there are no passive spectators. To learn and understand is to interact and build. This is precisely what we are trying to do here with these mobile learning field activities.

To make something, we need something and this something for history is evidence (materials or sources or artifacts). What this evidence is trying to do in history is validate a knowledge claim or a research question. For our purposes in these mobile learning field activities, we look for evidence from the space itself, from the audio of the environment or the imagery or the color scheme or the architecture or the idea of society that is folded throughout. We look for the key to unlocking the historical space in the space itself. So our evidence is any media we collected, any historical data we use to position that media against (a map, a street drawing, artwork, analysis from an article or a book), and our meaning presented through our composition.

This must be done coherently, this composition. Coherence is as important to history as it is to multimodality. Anderson and Day articulate the importance of making sure presented evidence is "consistent with what else is known historically about the issue under study. In other words, coherence of the available information is a critical aspect of historical explanation".[50] Coherence in the presentation of evidence becomes a pedagogical concern, how those practicing history learn to construct and represent knowledge. The ability to coherently present evidence falls to both the learner and the learning environments in which they conduct their work.

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47 Enwistle, N. (2005). Learning Outcomes and Ways of Thinking across Contrasting Disciplines and Settings in Higher Education: ETL Project (Enhancing Teaching-Learning Environments in Undergraduate Courses). Curriculum Journal, 16: p. 67-82.

48 Savery, J. & Duffy, T.M. (1995). Problem based learning: An instructional model and its constructivist framework. In B.G. Wilson (Ed.), Constructivist learning-environments: Case studies in instructional design. Englewood Cliffs, NJ: Educational Technology Publications

49 Savery, J. & Duffy, T.M. (1995). Problem based learning: An instructional model and its constructivist framework. In B.G. Wilson (Ed.), Constructivist learning-environments: Case studies in instructional design. Englewood Cliffs, NJ: Educational Technology Publications.

50 Anderson, C.; Day, K.; Michie, R.; & Rollason, D. (2006). Engaging with Historical Source Work: Practices, pedagogy, dialogue. Arts and Humanities in Higher Education, 5(3): p. 243-263.

When working with mobile learning field activities, learning environments should be viewed as a set of artifacts and processes, dynamic interactions between cultural and technical tools, disciplinary etiquette and practices, and prior experiences. These all, when paired with a research question, create a context for learning in the discipline of history.[51] Each of the disciplines in the humanities would frame this approach a little differently; each would require more adherence to creation (art), process and logic (philosophy), relevance and relational connections (literature), and so on. But all can be enacted through a mobile learning field activity, as all believe in the process of meaning making. If you are a teacher, it is important to make the process visible early and often through reflective activities (blog posts, media creation, discussion). Process is the key to our being able to flow naturally between informal and formal states of learning and through these disciplinary spaces.

INFORMAL & FORMAL FLOW

This book generally assumes that a flow between informal and formal learning in any learning activity is a healthy thing. Uninterrupted flow between formal and informal learning allows these learning activities to inform each other, making informal application of formal learning all the easier. Imagine the learner taking what they learned in class and immediately looking for applications for it outside of class. Mobile learning field activities, at least those presented in this book, assume that knowledge produced in these activities will be drawing from both informal and formal spaces. The way we create and share media will be more than likely highly informal and fairly idiosyncratic to the learner, while the actual compositions might take on a more formal mode in keeping with formal learning. In other words, the media I create will be bound my own informal practices, but the way I assemble it into meaning will be bound by more formal, disciplinary practices. Either way, a healthy flow of activity between informal and formal spaces ensures that both spaces are germinating each other.

If we want to make these mobile learning field activities as useful as possible, then consider making them as organic as possible. They should latch onto an existing practice or means of doing things. Remember, knowledge is relational and process is a big part of that relation. So if you want the learners to document the ambient sounds of a neighborhood, allow them to use whatever tools or practices they already use to record and disseminate media. Just ask them to make that process visible for you, the outside party. If they want to collaborate on a sound survey via social media, make that possible for them. Just have them document the process with a reflection and a visual representation of a workflow. What this documentation does is force them to consciously think about their collaboration (invariably leading to adjustments and more sophisticated iterations of that collaboration), how it is structured and managed, and how it provides reflective evidence for you the teacher.

Documenting process and visualizing workflows is just one way to enact a healthy informal/formal flow. Another is to insert reflective activities in any number of activities in this larger process of coming to know. These can take the shape of blog or field diary entries, a representative image, an audio post, or video. The teacher can trigger these reflections with a question or a prompt a statement requiring a response. These should be collected as part of the larger project of the mobile learning field activities, a portfolio of activity for the learner. These reflections can be inserted at any stage of the overall process, but are especially powerful at the following stages:

1. When choosing **location:** Why this space?

2. When choosing **media:** Why this and not this? What does this ‘tell’ me about the space that this other media cannot?

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51 Ibid.

3. When choosing **tools:** Why this tool? Do you own the data? Can you export it easily? What if the tool ceases to exist? Can you still use the data?

4. When **collaborating:** How do you interact with your peers? How do you share? How do you choose what and how broadly to share? What about privacy?

5. When choosing **presentation:** What medium to present this with? What does this medium restrict? How has your representation been restricted by what you are using as a presentation tool? How visible is this? Do you own all the data in your work? If not, how do you cite it?

Viewing the entire mobile learning field activity as one large workflow provides capacity for the teacher to insert reflection into the process at varying stages and for the learner to 'course correct' if the activities are veering from the original intent or adjust that intent if necessary. These prompts also stimulate an alignment of the formal and informal spheres of activity by meshing one with the other. They force the learner to consider how Informal media practices define formal presentations of knowledge. We capture and share our media on social media channels, then compose and submit the composition through formal channels.

What follows now is the addendum composed of examples of how this activity might be constructed. These represent some ideas on how mobile learning field activities might be enacted. Some ideas are large and some small, some highly accessible and some more theoretical, but they all adhere to what we have been talking in the last few chapters on the importance of process. It is important to think both large and small about what learning should be to prime our capacity for actually enacting it. It is a training of the mind. If you prefer to move on and return to this later, please feel free to do so. These examples will wait for you.

Chapter 4: Addendum

FRACTURING THE INEVITABLY OF THE PAST THROUGH AUGMENTED REALITY: MAPPING DECISIONS

I was reading through one of my favorite blogs Play the Past, which discusses the intersection between games and cultural history (or gaming cultural history).[52] One of the posts in particular about Playwatch was subtitled "Fracturing the Inevitably of the Past".[53] Besides being a great title, it is profound on many levels. We tend to view history in this prism of inevitability, where we are lurching, slouching towards some inevitable future. We tend to think that events have unfolded because they had to happen that way, or, worse yet, because they were supposed to happen that way. These are historical fallacies that most historians are keen to avoid. Inevitably is a tough rut to break out of in history precisely because it is taught in such a linear dimension. A happened then B happened thus imparting some causality of A on B to the average learner.

What this inevitability does ripples throughout society in cultural amnesia (repeating mistakes of the past precisely because we choose to ignore our profound responsibility in the outcomes of decisions) and arrested development on the personal level (same as brackets above)

We are keen as a society to bemoan younger generations and their lack of understanding of consequence. We, older, can appreciate mortality (at the very least) and morality (perhaps). We are able to see that decisions have consequences, both positive and negative. Attempts to embed this notion of consequence in our education are everywhere. We try and teach history in a linear fashion to show the A led to B, which led to C, and C was bad so we want to avoid A and B. What it does though is implicitly implies that A, B, C are outside individual control so there is little point worrying about them. This leads to a disinvestment in our shared practice of collaboration and decision-making. We disinvest because we feel powerless to affect anything.

So rather than bemoan the darkness, I come to you with an idea. I wrote about this a bit earlier in this book (on Dante and Shakespeare), in terms of harnessing mobile technology to serve as a cultural and philosophical guide . Those two ideas (found in the previous chapter) are dealing more with the upfront and reflective practice of deliberate decision-making. Weighing options and making an informed, philosophically and culturally sound decision based on past masters.

This is now more about learning from mistakes that spun consequences or good decisions that have bad consequences (i.e., regret). So why not use mobile technology a bit to retrace steps, actions, decisions points and consequences in the hope that patterns will emerge that will reveal future learning opportunities? It couldn't hurt the learner becoming a more discerning individual, to have them take more ownership in their decisions. In short, why not use mobile learning to reflect on our decisions, on our history of personal development? This might be best illustrated through a learning activity.

Learning activity: go back to the actual location of a decision point of some importance in your life. Map your choices (both taken and not taken) as physical directions. Reflect on the actual (what happened when I took path A?). Reflect on the theoretical (what would have happened with path B?). Reevaluate chosen path even if you choose the same one. Map this onto a geographical map and embed to a presentation tool as a learning geography. This can be done quite quickly and iteratively with mobile technology. Want to give your children a legacy? Expose them to your learning process recorded over the years and mapped. At the very least, give it to them and say 'do better than this.'

I know that we have an apples and oranges comparison here, that these decision points don't always

52 Play the Past (2013). Retrieved March 23, 2013 from http://www.playthepast.org/.

53 Retrieved May 10, 2013 from http://www.playthepast.org/?p=1752.

have a corresponding geography. However, when thinking back on how we capture those decision points in our mind, I am guessing we would be surprised how many of them have at least a corresponding contextual landscape. They exist in a place, even if that place is online or through mobile technology. For younger learners, this is a good step towards discernment and an understanding of consequence. And throw in a Shakespeare character or two. What would Hamlet do in this predicament? Answer: murder everyone. Just kidding, but you get the idea.

Certainly there is a larger cultural application here and some great learning potential for specific disciplines like architecture, urban planning, history, and sociology. Use the old and the new juxtaposed against one another to determine design consequence and how design choices affects the communal investment in a specific place. These activities make the learner invest emotionally and intellectually in their environments. If we make it their own, they will treat it as their own. It also fractures the inevitably of history, that we are inherently lurking towards a specific destiny. It is more than that. We are making it.

THE EMOTIONAL CONTENT OF DIGITAL MEDIA: JETLAG AND THE LARGER NARRATIVE OF TRAVEL

> *Do you imagine the universe is agitated? Go into the desert at night and look at the stars. This practice should answer the question- Lao Tzu*

Ideas of presence, connection, and community pervade our thinking on mobile spaces. How meaning is made, how community is generated to support that meaning making, and how that meaning is interpreted. I have always enjoyed reading how others pursue these research issues, as there are thousands of permutations and structures to support inquiry into what is really a limitless space. I find that when we discuss emotion in these digital spaces, however, we often zero in on the community and the interaction that takes place there. This is a valid approach as that is the observable phenomena, the connective tissue of online interaction. I wanted to pause and reflect briefly on how emotional content is filtered through mediated artifacts, the “things” we produce and the “things” we observe and ponder. In this case, I am just talking about digital media produced through mobile technology.

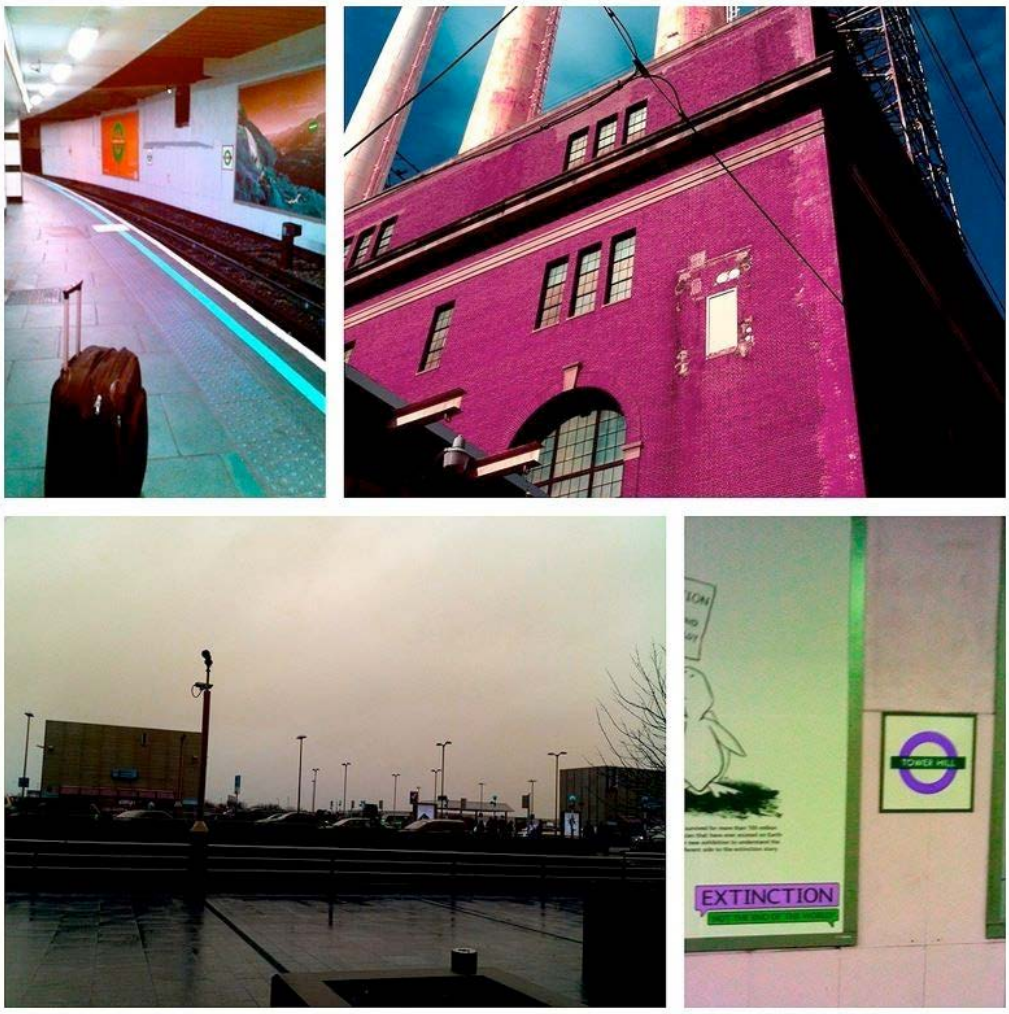
I have written a lot about multimodality, even spoken about it in public (a public sighting of Michael Gallagher is a rare event) so I won’t retread that here. What I wanted to focus on is how we can provide emotional content to support the intellectual inquiry and how this is a holistic process. Generally, we steer clear of emotional discussions in academia and that is fine. I won’t labor over that distancing. I just prefer to allow my intellectual purpose (my meaning making) to be influenced by or supported by the emotional context I provide. I think your learners will benefit by such an influence as well.

CASE STUDY: JETLAG AS EMOTIONAL FRAME AROUND LARGER NARRATIVE OF TRAVEL

Case in point. I fly from London to New York City to visit my wife and her family (brother and father in-law). I have a bit of jetlag and sit in the kitchen of an otherwise quiet house delicately typing so as not to wake anyone. I keep the lights low, drink the leftover cold coffee, and slowly watch the sun peak out over the grey, wintery Long Island sky. I reflect on my journey to get here. I peruse the pictures I took and audio I recorded along the way, but all of it is framed through the emotional lens I am wearing now, that subtle, convincing and productive melancholy of jetlag. I find it welcoming as it anticipates reflection and understanding. Yet it colors the context.

So I download the media and assemble it to make a composition of the journey. I then start toying

around with the hue, the contrasts, and the arrangement and realize I am projecting emotional content into the composition in an attempt to foreground specific elements. I want to highlight the red of the red brick industrial structure in Long Island, the gray of the gray sky at Heathrow, the loneliness of my luggage on the platform at 6:00 in the morning at Tower Hill, even the alluring beacon of the Tube icons. So I use that emotion to flood the composition with a larger emotional structure to present the meaning behind the selection of these particular images at this time, in this way.



ACADEMIC SPACES AND EMOTIONAL EFFECT

The difficulty, at least academically, in consciously inserting emotional content into digital work is the subjectivity of the whole thing. How does the emotion advance the observation and analysis? How does it get at the research questions? Does it effectively frame the discussion surrounding the composition? What theoretical stance is it taking or trying to explain? That is where the reflective process comes in, declaring the emotional 'stuff' being inserted to frame the discussion. I know that in this collage I was inserting emotional content related to the impression of travel but not of that time. It isn't logistically accurate as I am using the present to paint the past. It was inserted from a related, yet distinct, narrative, that of travel and the long tail of perpetual motion.

I think there is good work being done in this field, how digital spaces are perpetually being recreated as emotional, human spaces. Or how these digital spaces produce emotional affect.[54] Digital spaces

54 Particularly this work: Bayne, S. (2010). Academetron, automaton, phantom: uncanny digital

(however defined) are environments of great emotional structure and design influences the navigation and manipulation of this structure.

WHAT DOES THIS MEAN FOR MOBILE LEARNING?

I suspect the further we push on with mobile learning and this sort of instantaneous academic investigation *in situ* (these field activities), we will develop a capacity for perpetual observation, analysis, and reflection. We can make and present meaning as it happens or at later stages in a process as I did with this composition this morning. I am still bound by the larger process of travel, still bound by jetlag and acclimation to new environments, and I am still bound by the emotional precepts of that process. So this reflection, this writing and collage, reflects that. For mobile learning, I think we should come to expect that reflection as inseparable from the compositions produced from these field activities.

We will need other tools to construct and present meaning in environments mediated by mobile technology. Emotional content is one such tool, providing an emotional boundary to the framing of the media. If coupled with theory, observation, and analysis, I suspect it will prove a heady alternative to research without emotional content. The issue becomes interpretation of that emotional content. What it means to you will not be what it means to me. Nor should it. But it represents a useful tool for the mobile learner, a timeline of activity with discernible streams of emotional and intellectual content and their intersections to produce meaning. We are beginning to understand how emotion influences perception, which in turn influences intellect.

On the other end of the spectrum, we are beginning to understand how emotion can be embedded within compositions to produce a framing for the larger narrative or purpose. We need more tools to produce greater comprehension of greater and greater complexity. Emotion is a very powerful tool for that pursuit, one that mobile technology seems particularly well suited to employ. In the next section, I explore a bit how this can be enacted in urban spaces.

CITIES AS COMPOSITES

Designing cities as learning spaces requires mechanisms for communicating with them. People communicate with cities and vice versa. So, we need the ability to not just position media geographically media, but to embed our media in objects. I want to go to a place that is special to me, post an image, a video, and a short reflection and embed that in the site itself. In my favorite bench on my morning walk, my favorite corner of the library, my favorite secluded seat in Incheon International Airport (my favorite airport).

If hundreds of people do that over a course of time, we have a living space, one capturing the emotional content of that space. A massive bulletin board or endless love letter, writ collectively (I am retreating into metaphor here). How Pont Neuf in Paris reminds me of the exotic sensation of the approaching autumn, how the view of the Flatiron Building in New York from the adjacent park reminds me of ambition unrealized and F. Scott Fitzgerald. I literally want to embed the audio recording of Apollinaire reciting Le Pont Mirabeau 'in' Le Pont Mirabeau in Paris.[55]

We can have our learners enact such a learning activity, an embedded love letter to their favorite places or things. We can have them record memories of those things or locations and embed them

pedagogies. London Review of Education, 8(1): p. 5-13.

55 MP3 available as of May 23, 2013 from http://writing.upenn.edu/library/Apollinaire_Mirabeau.html

there. Their favorite park, their favorite bench, their favorite place the entire world. With mobile technology and geopositioning, those memories and suggestions 'live' in the object. Not just ergonomic data about temperature, emissions, electricity use, carbon footprints, and so on, but the emotional residue of generation after generation walking this spot, living their dreams, failures, and lives under the canopy of the city's proscribed space. The city is revealed as a cradle as opposed to a harsh taskmaster. We are doing exactly this in small measure with these mobile learning field activities.

EMOTIONAL RESIDUE

This is what I am interested in from a design perspective. Embedding memory in spaces, both macro (history of society) and micro (my history). This is where I asked my wife to marry me, this is where I got into my first fight, and this place informed all of that. Life becomes interactive, perpetually reflective, and a learning experience from the moment you walk out the door. So this emotional embedded residue is filtered for others. I go to a place and want to know what my circles of friends, colleagues, affinity groups, even the ambient noise of a distant community thought of this place, what they wanted it to be, how it moved them. I am informed by this and compelled to record my own thoughts, let the thoughts of others cascade over me, inform my sense of place and my place within the community. We can help construct a living atlas of our shared intellectual and emotional history. Learners in these mobile field activities are contributing to this atlas.

In these activities, we document and represent places and in doing so inform their future design.

Chapter 5: Community and Place

The community stagnates without the impulse of the individual. The impulse dies away without the sympathy of the community- William James

This chapter will be noticeably shorter than many of the other chapters as it is designed with one goal in mind, more or less. Namely this chapter sets out to situate the activity of mobile learning and the field activities we are attempting to conduct there as activities in a particular space mediated by a particular community. The previous chapter demonstrated that much of what we know as learning is bound by disciplines and informal/formal divides; mobile learning was presented as a means of cutting through all of that and establishing a natural flow of activity across several discrete spaces, using the best parts of one to germinate the other and vice versa. In this chapter we are speaking of something different, that of the community and spaces we are actually attempting to document. In short, this is about a respect for a community and a respect for a place and how in a mobile-driven world, these are things of great significance.[56]

When mobile technology, the kind we know as phones, tablets, laptops, and the like, begin to appear and take hold of our imaginations, when those long commutes, waits in airports and doctors offices were mediated by technology, we began hearing of the death or dwindling importance of geography. When the types of connections and media compositions made possible through mobile technology became more nuanced reflections of our understanding of place, when it was possible to immediately share those reflections with a world outside the confines of our physical self and our immediate geographical environments, we imagined geography in its death throes. This simply isn't true and we should avoid falling trap to this type of thinking. Place, space, and geography are incredibly important and simply different. They are perceived differently, navigated differently, represented and discussed differently, but they exist and they have profound impact on our perceptions of this world.

I say all of this as a nomad, a person who hasn't lived in the same place for more than five of his adult years, who has lived and traveled abroad, and who considers home anywhere his wife happens to be. I drift through most of these spaces, perceive and represent them, share and discuss them, and rarely root myself in them. But even I admit it would be foolish to pretend that space, place, and geography are dying. They are simply being redrawn. Mobile learning engages learners in that complex process of coming to know in space and time. We should see it as an advantage, an asset for developing resilient learners. We can start by acknowledging community and place are still, and always will be, of great importance.

COMMUNITY

There is much community driven theory that I could articulate and maybe expand upon here, but I will present resources only for those wishing to push a little further with this discussion. You can find those in Chapter 10 on Tools & Resources if you are interested. In this chapter, we will be less rooted in academic literature and more concerned with analogy, example, and pragmatic considerations. I will present why I believe community is so important through my own categorizations and a few examples, and then get into the pragmatics of what teachers can do to enact community in their work. I think it is easier to position mobile learning pragmatically with a focus on what teachers and learners will actually try to do. Just like any learning, we are bound by what we can do, observe, collect, and present. Those boundaries can actually provide a very accessible, stimulating starting point. First we

56 For a great analysis of embodiment and space in mobile technology, I refer you to the oft-mentioned Farman's book (particularly the second chapter on Mapping and Representation of Space). Farman, Jason (2012). Mobile Interface Theory. Taylor and Francis. Kindle Edition.

should briefly discuss the different types of communities we will be engaging in these field activities.

GEOGRAPHICAL COMMUNITY

Especially true for teachers running these mobile learning field activities with their learners, we are bound by geography. We go to a place, we transform that place into a learning place (the habitus we referred to earlier), we make connections through relevance and relation, and we present that. First and foremost, it is important to remember that geography needn't always be the subject of the meaning making, but it is always an artifact of the learning taking place there. Learning takes place in space and time intersections and rooting that geography in our mobile learning is productive. We can do so through reflection or by using geography as a method of selection (which street or neighborhood will you choose to document and why?).

The learning might not be explicitly of a place, but it emerges from that place. If we want to explore the architecture of our local neighborhood, the public transportation, the history of famous individuals living there, or even oral histories of its residents and their interpretations of that place, we begin with the place. A community is often a difficult thing to define outside of geographical parameters. It takes great care and effort for the learner to get from selecting a community to defining and representing it. But all of this begins with a selection of a place. That is the first step.

As teachers, we need to be sensitive to choosing that place. Ideally, the learners select the place themselves, whether their local neighborhood or street or bus stop or church or store. As learners, selecting the location is an investment in it for exploration and eventual composition. It is putting a virtual stake in the ground. We embolden it with our own emotional content.

This respect of place must carry into what the learners collect in this space and how that collected media is assembled to represent the space. Are they more concerned with novelty than representation, with creativity than accuracy? This isn't to say that one or the other is the correct choice; it is merely to say that it is critical to pay respect to the communities being represented. These are people's homes, schools, stores, and hospitals that many in that community have devoted themselves to making real and meaningful. They are their environments of meaning making; we are merely visiting with our mobile learning field activities. It is important to get learners engaged in this reflection of the sanctity of place earlier rather than later. Once they have chosen the place, it is important to have them reflect on what that place is and how they can honor it.

SOCIAL COMMUNITY

Learning is most meaningfully enacted in social spaces, the kind found in constructivist approaches to learning. As such, it is important to consider the social practices that already exist in the learner group, both informally and formally, and the community being investigated or appropriated. We are not necessarily enacting a new social community to go along with this relatively new approach to learning. These social practices and communities more than likely exist already and they overlap with one another considerably. Learners with some experience using mobile technology for their media creation will know how to take a picture, film a video, or record audio; they might be quite skilled when it comes to the social mediation of that media as well, being able to share it and receive feedback on it almost immediately through their social networks or other communication channels. These are all existing social communities.

As teachers, we need to respect how learners create their media and how they interact with it; we need to respect their media and social practices. We can encourage them to iterate and improve

upon these social practices by making them visible through reflection. By challenging learners to reflect on their practices, we raise process once again to the conscious level and with it corrections and improvements. So teachers can prompt reflection through questions (why that social media and not this one? why that media and not this?) or through outlining their existing media and social practices in workflows or other diagrams.

We also need to respect the social practices of the communities we are investigating, if that is indeed our subject. Learners need to be aware of the general aversion people have to being documented, how that might prove legally and ethically untenable as a learning activity, and how one might negotiate that. If people are involved, there are inherently ethical considerations that come along with that. Learners can be challenged to think this through with reflective prompts from their teachers (Would you agree to being filmed? How can you protect their privacy?).

MICRO/MACRO COMMUNITY

This is a challenging aspect of defining community as it suggests to learners that multiple layers of community exist simultaneously. So if we are documenting the 14th Arrondissement in Paris or the Lower East Side in New York or Brick Lane in London, we are exploring a very nuanced environment. A street is part of a neighborhood which is a part of a borough which is part of a city, state, country, etc. All of these provide opportunities for community engagement and all exact a tax on participation (metaphorically, in this case). So to understand what life is like through a mobile learning field activity on Clearmount Avenue in Youngstown, Ohio (my street in my hometown), one couldn't avoid discussing the plight of the city and the industrial Midwest. Or to discuss Brick Lane in London, one would need to identify or reflect upon how residents in those areas have constructed their space to represent their affiliation with ethnicity, religion, nationality, and London itself.

This type of micro/macro reflection needn't be that involved or even overt. It can be a simple diagram or a reflection demonstrating how numerous communities exist in one space at any given time. It can be a subway or street map, a census record, an image taken from the street and marked up. It is important, however, for enacting a learning transformation. Remember, we are emphasizing process over output here, so this part of the process is important as it keeps the multiplicity of these different realities present in the mind of the learner. It provides a deterrent for focusing too granularly on one aspect of existence. Reflection keeps the forest and the trees visible to the learner.

TECHNOLOGICAL COMMUNITY

This is not to stress technology, but rather a reminder to be aware of grouping learners based on their technology or their technological skills. One must make do with the technology they have on their person, barring any sort of systematic distribution of technology from the school. This is about bringing our informal worlds into our formal learning and vice versa. Using our own technology enacts that. So bring your own device (BYOD) should be less of an option and more of a mantra.

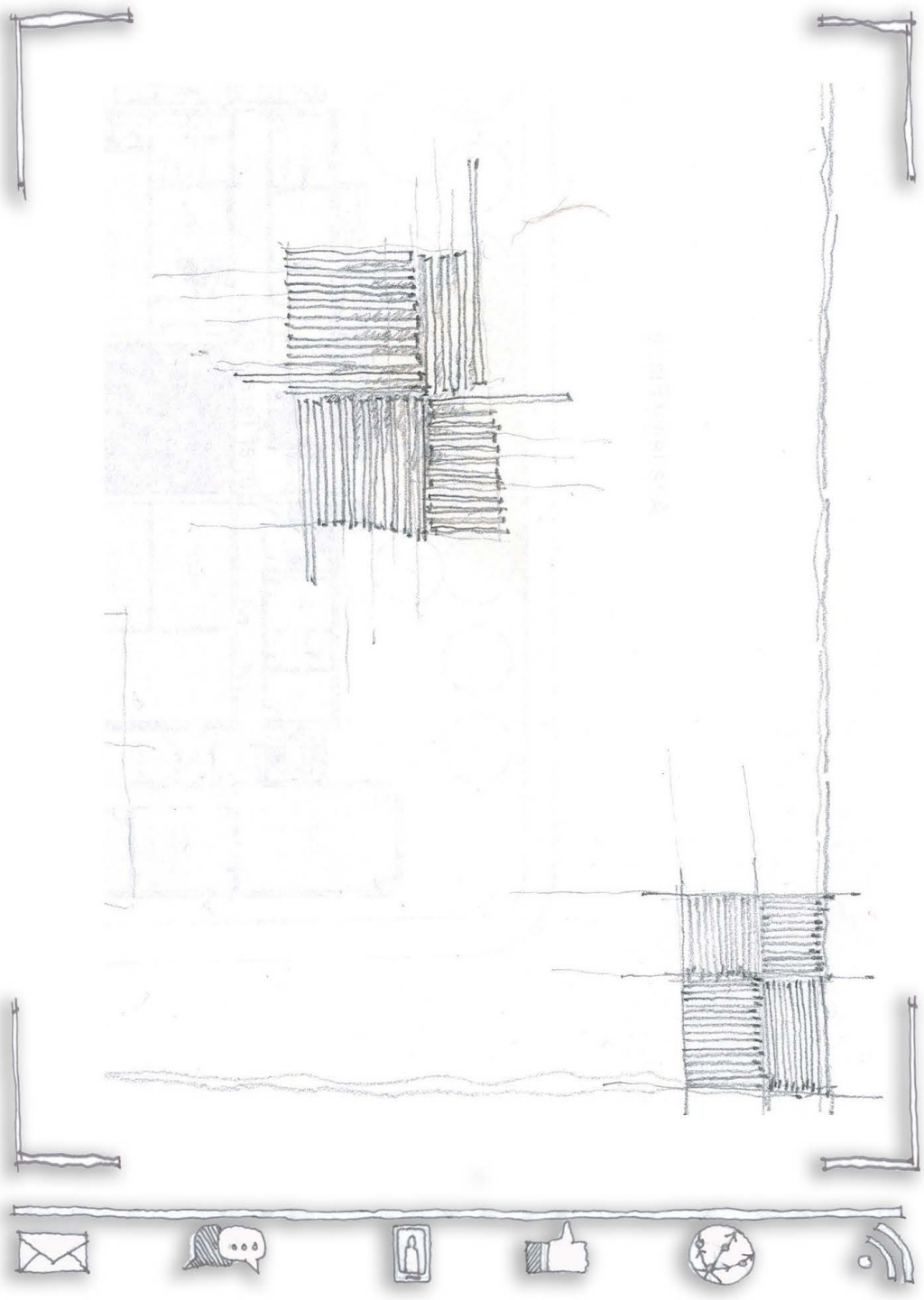
It also enacts, unfortunately, a hierarchy of haves and have-nots. Some will have smartphones and some won't. Some will have tablets and some won't. As teachers, some of this can be overcome by taking stock of what is available for your learners and making groups accordingly to ensure every group has a baseline of technology. For media manipulation and representation, laptops can be shared within groups as well. But there is a still a division here and this must be accounted for in the making of collaborative groups. One means of doing so is to rely as often as possible on either analogue technology (i.e., a notebook and a pen/pencil) or the most accessible forms of technology available with your learners. These field activities can be conducted without any digital technology of

any sort; learners could record impressions or observations with a notebook and a pencil. If you do commit to using digital technology in your field activities, be sure to take stock of what technology is available to your learners and how that might be best distributed across your groups.

Understand that through all of this have and have-not, all this digital and analogue technology, there are communities that interact around and through technology. There will be media smartphone types and tablet people, laptops learners, and so forth. There will be those who favor images over video, those who love audio above all other media. Being aware of these general predilections provides yet another opportunity for learner reflection. Have the learners take stock of their technological capacity and prowess (their technological literacy) and their comfort with different forms of media at the beginning of the exercise through a reflective activity. Have them assess what areas they would like to learn more about and which they feel comfortable with. Ask them about their preferred workflows with technology and then make groups accordingly. Challenge them outside their existing skill sets and watch them rise to the occasion.

As I said, this chapter was particularly short as it was intended to emphasize that community and place are important and they need to be respected and reflected upon. What follows in the addendum is more elaboration on this through my own writing, or how I make meaning in a particular space and in a particular time. I have written these in places I have visited or lived (Seoul, Princeton, London) and anywhere in between over the last few years. They are meant as discrete takes on particular aspects of mobile learning. If you prefer, please feel free to move on to Chapter 6: mField Activities which provides more of a pragmatic take on how one might actually conduct these activities.

Chapter 5: Addendum



ORIENTATION SEOUL: MOBILE AUGMENTS AND DISAGGREGATES SPACE; DOESN'T NEGATE IT (2011-2012)

Being a bit of a nomad, I have always ascribed to the belief that location matters less and less with each passing technological development, with each communication technology, with each apartment I find myself in. However, while technology can redefine the importance of location in a particular learning activity, it doesn't remove it altogether. We will always find ourselves in a place, heading towards a place, coming from a place. This is the nature of motion itself. I love mobile learning precisely because it embeds technology into that motion and augments our sense of self within place. I can be here and there simultaneously for the most part.

But orientation is a different matter altogether. We orient ourselves towards some place or from somewhere. When I lived in Korea the first time (1998-2006), my orientation was towards home (for family and for the locus of my academic activity at the time, a Masters degree from a US institution online). When I moved to Princeton, New Jersey, my orientation was towards New York (for work) and Edinburgh (for study) and Korea (for nostalgia). This was where my outward facing self was facing; it was the direction of my gaze. Despite being location independent in terms of where I was able to go, I was still bounded by place.

So, here I am in Seoul a second time around (circa 2011-2012) and I orient myself towards New York and Michigan for work; for London, Edinburgh, and Africa for my mobile and elearning community; to Ohio for family; to New Jersey and Tokyo and Seattle for friends; to Paris for the imagination. Orientation is multifaceted and waxes and wanes with affinity, but it exists and it is location driven. And yet I often speak in the abstract about location, almost as if my love of mobile learning is a contradiction of place itself. This is ridiculous; it is an amplification of place.

SIDDHARTHA AND MOBILE NETWORKS: HEADLESS FLOW

Here, I clumsily draw parallels to Siddhartha and our modern alignment with technological and communicative networks. I have written before about how mobile technology will expose bottlenecks in the flow in other aspects of life, namely in the transportation (roads) and power (electricity) grids. Advances in one reveal lags in the other. After thinking on it a bit more, I am convinced that these grids are parallels of the underlying structures of nature and life itself. Network grids are fairly human in their capacity for shuttling flow from one node to another. Life wants to flow freely. Mobile technology exposes that to some degree by allowing the individual and the communication itself to flow freely. I referred to Koblin's Flight Visualization earlier in this book and its presentation of the immersive beauty of human activity.

So, the underlying philosophical substance of networks, technological or otherwise, is in their revelation of the free flow of human activity. We are meant to be in motion and only in motion will truths moored to context reveal themselves. These truths can be development truths (access to education, water, food, shelter, health, information) or even philosophical truths (there is no context outside of perpetual motion and stillness), expressive truths (artistic representation) or logical truths (x works, but y doesn't in this situation). Siddhartha expressed this all quite well via Herman Hesse towards the end of the novel, especially in relation to the role of the observer and interpreter:

> *Siddhartha made an effort to listen better. The image of his father, his own image, the image of his son merged, Kamala's image also appeared and was dispersed, and the image of Govinda, and other images, and they merged with each other, turned all into the river, headed all, being the river, for the goal, longing, desiring, suffering, and the river's voice sounded full of yearning, full of burning woe, full of unsatisfiable desire. For the goal, the river was heading, Siddhartha saw it hurry-*

ing, the river, which consisted of him and his loved ones and of all people, he had ever seen, all of these waves and waters were hurrying, suffering, towards goals, many goals, the waterfall, the lake, the rapids, the sea, and all goals were reached, and every goal was followed by a new one, and the water turned into vapour and rose to the sky, turned into rain and poured down from the sky, turned into a source, a stream, a river, headed forward once again, flowed on once again. But the longing voice had changed. It still resounded, full of suffering, searching, but other voices joined it, voices of joy and of suffering, good and bad voices, laughing and sad ones, a hundred voices, a thousand voices.[57]

So the river works well as a metaphor for our networks. Ideas, aspirations, and dreams flow through the network; collective action pervades as packets distributed in bursts. Mobile networks become like water on pavement; they find every crack and crevice.

Relatively recent uprisings (2010) in Tunisia and Egypt both transpired (relatively) peacefully and both were essentially headless, less driven by figureheads, more driven by group sentiment, rallying around very tangible wants and needs (a better life, remove corruption, representation). The network drove sustained activity and mobile technology was a particularly rapid part of the riverbed. It stimulated activity, but didn't direct it. It assisted in promulgating the collective will without thrusting individual ego to the forefront. It let the will and the information flow.

Already, he could no longer tell the many voices apart, not the happy ones from the weeping ones, not the ones of children from those of men, they all belonged together, the lamentation of yearning and the laughter of the knowledgeable one, the scream of rage and the moaning of the dying ones, everything was one, everything was intertwined and connected, entangled a thousand times. And everything together, all voices, all goals, all yearning, all suffering, all pleasure, all that was good and evil, all of this together was the world. All of it together was the flow of events, was the music of life. And when Siddhartha was listening attentively to this river, this song of a thousand voices, when he neither listened to the suffering nor the laughter, when he did not tie his soul to any particular voice and submerged his self into it, but when he heard them all, perceived the whole, the oneness, then the great song of the thousand voices consisted of a single word, which was Om: the perfection.[58]

I am not going to passively await this perfection. I am going to do my best to stimulate conditions where this free flow can exist and I hope much mobile development is directed towards this aim. I think the network provides a great scaffold for learning, but also a fantastic example of a philosophical girder, one that can be used for learning as well. The network is defined not only by what it can do (learning tool), but also what it is (learning object). And thank you Siddhartha for reminding me that technology is essentially human, that it can augment the basic desires of human activity. For our purposes, it can make community visible. As the next writing demonstrates, our networks and technology can even stimulate nostalgia for places we have never seen.

GEOGRAPHY AND SENTIMENTALITY FOR PLACE I HAVE NEVER SEEN

Some of this writing was driven by a project I worked on in 2011-2012 at the University of Edinburgh on space and geography for online learners.[59] It was my experience that geography was indeed very important and that mobile learning or elearning is not a negation of space, but rather a repositioning of space in a broader canvas. I came to that understanding through my time on the Masters program in Elearning at the University of Edinburgh (2009-2011). I spent two years on the program and was quite curious about the physical space itself. The University of Edinburgh. The city. The train station. The walk to Moray House (the School of Education). All of it fascinated me. How intensely I felt a part

57 Hesse, H. (1951). Siddhartha (H. Rosner, Trans.). New York: New Directions.
58 Ibid.
59 Edinspace: New Geographies of Learning (2012). University of Edinburgh. Retrieved May 10, 2013 from http://edinspace.weebly.com/

of the university. How I felt a part of my course and my community. I had never been to Edinburgh, but it just all felt right.

Having completed the degree, I feel wistful for the learning and camaraderie I experienced there. I miss it. I am nostalgic for a 'place' I constructed, we constructed, entirely online. In feverish blog posts, discussion boards, Twitter threads, Skype tutorials, and more. I am (intellectually and communally) homesick. The first time I saw the physical city and the University of Edinburgh was for my graduation. It was a pilgrimage to a seat in my intellectual journey. It was closure.

I am sentimental for a place I have seen twice, well after the substance of the sentiment had been established. So, tell me where that emotive substance comes from online or in mobile learning? Tell me a place doesn't exist, and tell me these are what learning spaces will look like online or through mobile environments? If you are in them and participating, you will know you are 'at' a place. It is real. For your learners, it is important to remember that their community is real to them; it is an emotive place even without geographical proximity. Learners with networks of this sort tend to be less concerned with here/there dichotomies. We should allow them to express this in their mobile compositions.

EXPAT SIMULTANEITY OF PLACE: 2+ GEOGRAPHIES, 2 CONFLICTING EMOTIONS: HERE/THERE

I was having a nice email exchange with a fellow expat friend I know from Korea. He had recently visited London along with his wife. We met, talked, had a pint, and then they left. He was returning to Korea to head back to work and was muddling through the particular expat sensation of being in two places at once, two emotional, conflictive, states. I thought as we were discussing this simultaneity of place and emotion that this expat scenario holds a lot of meaningful application to mobile learning and our online networks.

Being in two places at once is easy enough to understand. Your mind lives in both and endlessly longs for both. If you travel and live in enough places, this is a natural enough phenomenon. If a place has made an impact on you in any way, you will pine for it even if you are better off now. So I can be perfectly happy in London and still think of Seoul and Princeton. I feel as though parts of me are still *there*, will always be there. This can be a fragmented existence or a perfectly sublime one, depending on how the mood strikes you that day.

The emotional bits are a little more complicated. Pining for a place is one thing, being in perpetual conflict is another. We are in a state of being content here, yet restless there. The same holds true for my online and mobile learning communities. Renewed or increased interaction with one has me pine for the other. Yet these here/there emotional attachments are, in some sense, possession masquerading as nostalgia. We are trying to possess these memories and these worlds in which these memories inhabit and adjust them to the particular contours of our mental maps. We lament the ones we aren't participating in or have disengaged from. But this is possession. There are times when we just have to let go. These mobile learning field activities stress ephemerality and the relevance of these activities and these compositions to the context in which they were created. They stress the development of the learner. They are not and should not be frozen in time. This is learning about memory and emotion, about being comfortable with dichotomies that seem to interfere with one another.

DEPARTURES AS SIGNPOSTS

The waypoints on this perpetual here/there tug of war are arrivals and departures. We arrive somewhere and we depart from somewhere. They mark passages from one orbit to the other, from one

state of being to another. We are here physically, but there mentally or intellectually or emotionally. A perpetual shift from one state to the other made visible by a departure. We all mark the departures vividly: the last look back at the apartment that you called home for so long, the journey to the airport, the flight. I said it to my friend this way:

> *Our lives are dynamic, exotic, and the price of that admission ticket is just this endless departure or being departed from. A perpetual goodbye.*

So all of these departures are triggers for conscious reflection on which state one is experiencing. Inserting reflective activities that prompt learners to consider their own here/there dichotomies, what they are being drawn towards, and what they are slowly disengaging from. These could be geographical places, emotional spaces, networks, and individuals. They contribute to these mobile learning field activities by making visible to the learner their emotional environment for engaging with a place. Do we pine for it or some other space? Will this longing influence our composition?

These reflections lead me to believe that it is about simultaneity, of existing in multiple states of being and consciousness (some conflicting) simultaneously. It is this simultaneity that represents the foundation on which we are reconstructing our societies. Well beyond the discussions on whether the iPad is shortening our attention span or if Facebook is making us less social lies the truth that many of us live in an exaggerated consciousness where singularity in thought and action seems anachronistic. We are *expected* to be here/there at all times. All our advancements, progress, and success will be measured against this fluid backdrop. But there is an emotional component there, one I am only starting to consciously realize. We are *everywhere* and *somewhere* at all times. Suddenly it seems to me, we are alright with that conflict. Reflecting on this with your learners is productive as it will demonstrate to them the expectations of society for them and how that compares to their own processes, community interactions, media and social practices. It will force them to think about how comfortable they are with being *everywhere* and *somewhere* simultaneously.

I end this section with my final thoughts to my friend. It is unfair in its assertion that only expats can understand this emotional conflict, but I wanted to be true to what I originally wrote. I would qualify that statement by saying expats are acutely understanding of this phenomena, but not exclusively so. Nor do I now believe that this feeling is a sort of an emotional schizophrenia; it might involve distinct ‘identities’ existing simultaneously. I don’t think it is destructive. Like all things, it is highly productive in context.

> *It is hard to be in two places at once, as I imagine you are. People who haven't lived overseas can’t understand this, but I can be longing for Seoul even when I am in love with London. We all become schizophrenic looking for home. It is what we have done, are doing, and will do. Even if those are three separate places.*

Chapter 6: mField Activities

Growth, in some curious way, I suspect, depends on being always in motion just a little bit, one way or another- Norman Mailer

In the previous chapters, we set the stage for learning in mobile spaces. Now it is time to get to the logistics of actually designing and executing our field activities. Much of this chapter will be pragmatic in nature, designed to help those interested in conducting mobile learning field activities to get out in the field and start doing them. There will be minimal explanation of the pedagogical intent of each activity and discussion around assessment will be kept to a minimum. This is about getting started with a purpose, a process, some reflection, and tools.

This chapter is structured to introduce a few points that need to be considered ahead of time, an example lesson geared towards a nondescript learner group, tools that I commonly use for such activities (and which are highly ephemeral in and of themselves; several of these applications are bound to be discontinued by the time you read this), and some data points to consider. If you are most curious about compositions, please feel free to skip to Chapter 7. If you are looking for different examples or models of this activity, please jump to Chapter 8. As I said, this is designed to get you started with your own mobile learning field activities so proceed at your own pace and with your own path.

PURPOSE

It might seem obvious to identify a purpose to an activity before actually enacting it, but in my experience in education that isn't always the case. A purpose for this activity can be dictated by any number of factors, including:

Discipline- if you are teaching or researching history, then consider defining your purpose through that lens. The discipline will more than likely suggest a purpose depending on what it is designed to investigate and the methods used to make meaning from that investigation.

Media- if you are more concerned with the media being collected, define your purpose through audio, video, imagery or some combination of media. If you want your learners to become more comfortable with the use of a particular media for capturing and representing place, considering that when defining the purpose.

Location- we discussed this at length in the chapters on Disciplines and Community and Place, but your location can be the purpose. You can choose to define a purpose through the documentation of a particular street or neighborhood, as filtered through a particular discipline or media. For example, have your learners create a sound survey of their street by recording the ambient audio from different locations and then mapping it.

Theme- defining your purpose through a theme (or idea or feeling) can be more challenging, but incredibly rewarding for your learners. Your theme could be defined by the scope of your discipline and interpreted through a presentation of manipulated media. For example, the purpose could be to explore the emotional characteristics of architecture, or how our architectural environment co-creates our emotional state. Learners record the architecture of a location through media (presumably video or imagery), record the audio of interaction with that architecture (a shutting door, the sound of a shoe squeaking on the pavement, an airplane overhead), and remix the media into a larger multimodal composition. To add emotional affect, the learners adjust the hues and saturations of the visuals, reflecting early and often on their choices for doing so. Another theme could be to identify on the time periods present in a particular neighborhood and how one age feeds into

another. Document older buildings or seemingly anachronistic technology (a mailbox is as foreign to some as augmented reality is to my parents) and juxtapose those in a mosaic or montage. Thematic representations are difficult, but highly rewarding as they engage across a spectrum of cognitive capacities (media, theory, artistic representation, emotional and intellectual content).

So have your learners begin with defining a purpose. Articulate it explicitly, but be prepared to revisit it. Some of you might have already guessed that this is essentially the beginning stage of crafting a research question. It begins with purpose and if you want to enact a mobile learning field activity through intentional design, the first stage of reflection for learners is to choose a location and a purpose. All else follows from there. The learners can choose to define their purpose through some sort of accessible media (text, audio note, image) and as a teacher you can have them switch between modes with each and every stage of reflection. This is useful if one of your goals is to spur a multimodal literacy in your learners or to make them more comfortable in their use of different media and modes. Make it clear that there will be many reflective activities and that each of those should engage a different mode (or combination of modes) and defining the purpose is merely the first reflection.

Do state the purpose explicitly. Declaring "I intend to…" is the beginning of enacting that intention as a reality. It is also the benchmark from which we contrast all subsequent work.

PROCESS

I think it is safe to say that we have made a strong case in this book for the importance of process in mobile learning and this is especially true at this stage of the activity. Process is learning design and having the learner design their own process is essentially having them wire themselves in a particular way to be successful in an otherwise chaotic space. By articulating anything, we begin to enact something, which is why mantras are so effective. Process is no different. Forcing learners to think about the structure and flow of things in sequence is a highly productive activity as useful to programming as it is to philosophy. In short, we are disciplining ourselves to visualize an environment and navigate our way through it. It is both the map and the compass.

So in this stage, we ask our learners to outline and diagram how they are going to satisfy their purpose. This begins with a group discussion on what satisfying the purpose actually looks like (What will success look like with this project? How do we satisfy our purpose?) and then working backwards from there. Learners are forced to articulate discrete activities that when sequenced lead to satisfying the purpose of the activity. It also begins the process of having them think on the media and tools they will need to use to satisfy that purpose.

Ideally this would take place as a workflow diagram and can be modeled on any number of flow-based representations (a subway map is a particularly good one); mind mapping applications are quite useful at this stage, but so is a pencil and a large white piece of paper. Be sure the learners see the tools as functional, (they allow them to perform some task) and not deterministic (they are the task in and of themselves). Keep them conscious of the sequence and the workflow and less on the tools; reflective prompts help in this regard. First they articulate the steps, the media, and the tools needed to succeed and then they sequence those in a process. The workflow diagram itself is the reflective activity for this aspect of the field activity, but a teacher can push further with asking their learners to articulate their methods of selection. Why does this tool satisfy your need? Why does this media need to be collected? Why does this step need to be sequenced this way?

(PERPETUAL) REFLECTION

I have mentioned reflection many times so far in this book, but I think that discussing it directly with your learners at this stage of the mobile learning field activity is useful. Once you articulate a purpose and a process, begin discussing the importance of reflection. The goals of reflection in this activity are varied, but mostly they fall under some of these general ideas:

Making learning visible- reflection forces the learner to make their learning practices visible to themselves and others, depending on how you structure collaboration around this reflection. Forcing learners to reflect turns semi-conscious activity into conscious activity, forcing things to the surface. What that does is allows learners to see the role of intention in their creativity and their work. That those who create are not necessarily naturally gifted or preternaturally inclined to these types of creative activities, but are merely enacting, intentionally, representation. Reflection forces learners to see the gears of the machine working; it transforms a view like alchemy to one more like chemistry (i.e., we see method and not magic).

Course correction- reflection, by making learning visible, also encourages course correction in process and purpose. This is especially important in a mobile learning field activity as it is large and has many working parts. Without reflection, we cascade through all of this with little to no control. With reflection, we are able to stop and see whether what we have enacted is answering what we want it to answer and change our methods if not. Teachers can stimulate this course correction merely by asking, "what would you have done differently?" With reflection, we begin to develop self-regulation in our learners. In time, they develop the capacity to enact this learning, these activities and compositions and reflections, without the need of an outside party. Reflection helps them learn how to learn.

Benchmarking- reflection also supplies benchmarks for learners to see their progress through a project and as a learner overall. It signposts a time when they were less comfortable with a specific tool, media or representation and provides evidence to contrast that against when they are more comfortable with it.

Cohesion- reflection lends itself to cohesion. With these multimodal compositions, it is very easy to lose sight of cohesion, or how all the elements work with one another to create a larger meaning. Reflection enables this process by forcing the learner to justify their selections of media, tools, assembly, location, and even purpose. Keeping all of these elements near the conscious realm through reflection allows the learner to begin cohesively assembling the answer. This flow of activity from the conscious to the subconscious and vice versa generates the epiphany. Everything just seems to come together based on this free flow of activity. This is in no small part generated by reflection.

So there are many types of reflection and there are many places to insert them into the mobile learning field activities. I have found that the easiest way to structure reflection into learning design is to break it up into discrete chunks of activity. This can be done by merely slotting activity into the categories of Before, During, and After the mobile learning field activity.

Before- Most of the activity we have discussed so far has been at this stage of reflection. What tools to use, what location to choose, what purpose to achieve, all of these are potential reflective activities. Have your learners reflect in whatever (accessible) means you wish, from a blog, a notebook, an audio note (or podcast), an image or a workflow. All of these are perfectly acceptable reflective outputs. Remember that the purpose of this is to keep learning visible and as near the conscious level as possible, so any number of modes will be sufficient in doing so. I do believe it

is important to have your learners reflect pragmatically on the following:

What **tools** will you use? Do you own the data in those tools? What will you do if the tool disappears? Since these applications appear and disappear with great regularity, this has been foregrounded as a great need in our learning.

How do we **assess** our tools, the advantages, disadvantages, and risks involved in their use? Merely asking the question of your learners enacts the beginnings of the answer. Each tool makes things possible and each tool prevents things from happening. Tool selection is incredibly important for this learning.

During -This is where the idea of a field notebook (digital or analogue) comes in handy and adheres to an existing disciplinary practice. Many disciplines use field notebooks as evidence and data gathering tools; mobile technology can be viewed merely as an extension of that. So having learners take notes on what they are collecting and how it answers their questions while they are collecting it adheres to disciplinary practice. It also immediately coalesces the data and the purpose. There is no lag between collecting and analyzing the data; with these mobile learning field activities that process begins right away. Reflection in this way can take many forms even within a field notebook. Each collected media object requires metadata such as description, title, location, purpose, and impression. The metadata becomes a reflection in and of itself. So reflection conducted during the activity can adhere to the practices of the discipline (field notebook) and of the practices of information management (metadata), all with relative ease. Teachers can enact this by asking their learners to collect descriptive and explanatory data for each object they collect while they collect it. The actual metadata fields being collected can be defined by the teacher (as loosely as possible) or negotiated by the learners as a group.

After- The largest reflective activity conducted after the field activity is the composition itself. Learners will take stock of their collected data, analyze it, assemble it, and present it. Each of these stages is a reflective activity so the teacher needn't be too demanding in terms of additional reflective activities at this stage. In the presentation of the composition, the learners will be asked to justify their composition so they will be reflecting throughout this stage to ensure that they satisfy that scrutiny.

TOOLS

I hesitate to include this section, as these tools are very ephemeral. Undoubtedly, some will not be around by the time you read this, but something will be there to take its place. I think it is helpful to categorize them according to media type or by what they allow you to do (function) as it will help learners ensure that these tools satisfy their needs as defined earlier in their purpose and process. Please note that I am writing this as an iOS user (iPhone, iPad, MacBook Pro) so the actual brand names are specific to that operating system, but most will have Android versions as well. However, that should not deter you if you do not have these products. Designing learning across a wide variety of platforms and tools isn't necessarily about designing for the lowest common denominator. It is about grouping learners together with specific technologies to account for specific functions or needs.

As a word of caution, please do have your learners consider what using these applications or tools 'costs.' Some tools lock data into their platform. If they can't export their own data, then that is a significant disadvantage to remixing that data. If they can't remix their own media, then I caution against using the tool. Most mobile technologies will have a native function for recording audio,

video, and imagery. Use those whenever possible as they will all allow you to export that data as you see fit. Learners can work in groups, collect their data in a centralized spot (a laptop, for example) and remix and compose to their heart's content. This is not always the case with many applications that we know and use quite often. You can test this by looking for a download data function in any of the tools or social media channels you use. You will be hard pressed to find more than a few services that offer this.

As a teacher, consider the fact that your learners will have their own set of tools that they use for precisely these things. In that case, it is merely a matter of getting them to discuss their current toolkit and reflect on the efficiency of this toolkit. As a teacher, you can then collect these examples and make sure each group or individual learner has capacity for collecting or presenting this media in these ways. Please note that I have listed specific tools in Chapter 10: Tools & Resources, along with their location online. Ask them at this stage to define their media and mobile toolkit.

The learner ultimately needs somewhere to present this learning, their composition, or their reflections. Again, we are faced with issues of owning your data and the frequent appearance and disappearance of these tools. When I first wrote this, I included several other blogging options (Posterous included) that have since shut down. Tumblr's fate remains to be seen as a recent acquisition, but Wordpress still appears relatively sturdy. Twitter is a useful reflection tool for learners; the teacher can promote this channel by providing a hashtag to organize the activity. Teachers can consider privacy and data ownership issues at this stage with a few reflective prompts.

ACTIVITY

Once the location and tools have been chosen, once the process and purpose have been articulated, we are left with the actual activity. The shape of this activity depends entirely on the purpose. Indeed much of this book is about cohesion, how the shape of things should reflect the purpose of things. So, it is difficult here to present activities that would apply to all projects. If you are looking for specific examples of how these mobile learning field activities might look, consider looking at the chapter on Examples & Models. Here, I am providing a few discipline specific examples of what a mobile learning field activity might look like. These are examples from my own work and imagination; they represent a means of getting started. They are all humanities-based, but it would be easy to imagine scenarios targeting the sciences. As a teacher, consider beginning from a disciplinary focus and then slowly moving outwards towards the actual activity, as the parameters of your discipline will dictate much of what is possible about the activity itself.

Also, be wary of being too regimented in terms of output, process, or purpose. As mentioned before, this is about making learning visible and about stimulating a healthy flow of activity between informal and formal spaces. It is also about moving learning outside the classroom and making learners active participants in designing their own learning. The humanities are a wonderful vehicle for these pursuits as they are about relational learning, drawing together seemingly disparate elements into one cohesive understanding. So insert reflection early and often into the design, but allow for the collaboration and imagination to guide much of the exploration. It will be a difficult balance between creativity and control, but a worthwhile one for your own teaching practice.

All of these examples are focused on the same unit of space, a street. It is accessible, personal, and both emotional and intellectual. It has application across several of the disciplines included in the humanities.

HISTORY

Activity: research and document the history of a street through its architecture. Learners research the history of a street and position the street within the larger communities of a neighborhood and a city. Learners research and reflect on the ethnic, religious, and/or social groups that have called this street home over a period of the last hundred years and look to document evidence of their existence through architecture. Architecture is documented through images geolocated at different parts of the street, with metadata provided as to the architectural genre, timeframe, and impact on local movements through the street. Learners collect and assemble a montage, collage, or mosaic as a composition along with methods of selection as their final project.

Optionally, learners geolocate the images on a map and present that as evidence of learning. Reflection can be inserted at all stages of this activity from the tool and media selection to the location and research selection to the eventual mosaic or montage production.

ANTHROPOLOGY

I am adhering to the particular definition of anthropology as the study of how people make sense of the world around them. In this field activity, learners choose a street or neighborhood, research the ethnic/religious/social groups that have called this place home over the last hundred years and begin researching how those groups interact with this place. Questions to frame an anthropological exploration of a place (specifically towards meaning-making) could be by answering any of the following:

1. How do residents enter and exit the neighborhood? What public transportation exists to move them from Point A to B?
2. What signs and symbols exist to direct activity? How are these linked to their sense of place and coming to know?
3. What spaces collect behavior and people and bind them together? Where are the schools, the churches, the playgrounds, and the parks? When and how do people assemble there?
4. What is the aural makeup of the street and how does that affect behavior and coming to know? What sounds compete with the voice to be heard? The cars, the airplanes overhead, the factories nearby, the trains in the adjacent lane. All of these challenge and inform understanding of the area.

Learners collect data to support the answering of these questions. This can include audio, video, imagery, along with significant metadata to explain why this is included and how this answers a particular question. Learners construct a multimodal composition to present their learning.

LITERATURE

Literature and art are both particularly good opportunities to situate the learner themselves as both the vehicle and subject for learning. Learners are asked to position themselves in the street and see how that street affects their process of coming to know. Ideally this would be a street with some familiarity (where they live). Learners draw from literature to document the motion of activity through that street and find relevant passages to match that flow of activity. Learners capture audio, video, and imagery from their street that provide an impression of their understanding of what it means to live there. Then they match literature to support this understanding, finding what other authors have thought in particular situations when describing their home or their neighborhood.

This could be as direct as using literature from local authors, or appropriating literature from authors who wrote about a similar place or who touched on a more relevant theme. Learners collect their

media, assemble it, and insert the literature in spoken or textual form (having them record recitations of the passages is particularly useful here) within the composition as a sort of multimedia postcard or short video.

Alternatively, it can be very productive to follow this process much the same way but to forsake the words of authors for the original compositions of the learners. A short poem, series of quotes or short prose cohesively drawing on the media. This presents the impression that the learners have on what it means to live there. With this activity in particular, we are situating the learner as artist/creator and as analytical agent simultaneously. The results can be equally if not more productive for the overall cultivation of the learner as it drives home the notion that learning is not merely about representation, but also about creation. It is about generating structure to make sense of a place.

What follows is an example lesson that I have actually performed with a group of learners in the field. It can be scaled according to different age ranges or disciplines, so please feel free to adjust as necessary. As presented here, it is merely to illustrate how mobile learning field activities can be constructed and articulated. It has a strong focus on methods of selection to make selection a highly conscious activity; this focus can be adjusted as needed.

LESSON: MEMORY, REFLECTION, METHODS OF SELECTION

Please note that this is not exclusive to mobile learning; in fact, it can be completely accomplished by recycling materials available online through a laptop or desktop. However, it adds to the authenticity when the images are created and compiled by the learners themselves.

LEARNING GOALS/PURPOSE

1. To critically reflect on located (local) history and the effects of literature and art on regional identity
2. To employ and reflect on the modes selected to present such a history
3. To comprehend the capacity of montage, mosaic, and collage as opposed to textual narratives; to assess the advantages of each mode of presentation
4. To develop the capacity for employing tools to create these local histories
5. To develop capacity for formalized learning activities outside traditional school structures (i.e., in the field)

ARTIFACTS (THINGS THAT THE LEARNERS ARE CREATING)

1. Collected media, including images, art, literature
2. Collected modes (image, audio, geographic, text, film)
3. Criteria for selection of this media and these modes as a reflective activity; justification for choosing the particular presentation form (montage vs. collage vs. textual essay)
4. Metadata, geographic information (GPS coordinates for the presentation) and justification for the choice of that location (Why is this space important? What memory are we actually trying to embed and what value does it provide to the community?)
5. Timeline. Charting the discrete activities and workflow (process) of this project is in itself a reflective activity. This is a critical step as it forces the learner to think about the design of such a project, the implications of the individual steps, and the overall structure.
6. Inventory of media manipulations tools (what tools will be used to collect media? What will be used to manipulate that media? What will be used to disseminate the composition and the reflections?)

ACTIVITIES/PROCESS

These activities foreground the methods of selection quite prominently as they stress process and composition. It is important for learners to not only justify their choice of materials and their methods of tool selection, but to reflect on the workflow used to create their composition. The following outline is reflective heavy, but these can be removed as needed.

1. Choose a location and research that location.

2. Articulate a purpose.

3. Reflect on how the purpose was chosen and how it can be answered.

4. Choose a thematic approach to the presentation of meaning in that location. This could an investigation of place, an impression, a representation, or anything suggested by the discipline itself.

5. Brainstorm discrete activities needed to satisfy the purpose and develop a process for these activities (process and sequence).

6. Research and choose media for the presentation (which images? which passages? which combinations?).

7. Reflect on media methods of selection.

8. Research and choose method of composition (montage, mosaic, collage, linear textual narrative).

9. Reflect on the method of composition.

10. Research and choose tools.

11. Develop workflow for use of these tools and media for assembly.

12. Reflect on the use of these tools, what they make possible and what they don't, and how this workflow will satisfy the purpose of the activity.

13. Develop final composition.

14. Disseminate final composition.

15. Reflect on methods of dissemination and the intended audience; this helps the learner begin to explore how the discipline, the community, and their peers will receive this composition.

16. Interact with other compositions. The learners should be encouraged to interact with other compositions from the audience's point of view. They will learn to identify the coherence of the composition through the roles of creator and curator.

This activity develops reflective capacity and a host of literacies. It also extends the notion of learning

well beyond the confines of the physical classroom. It presents learning in the open, in situ. It forces learners to engage in design thinking through an emphasis on process and workflow. It also emphasizes the role of open interaction and dissemination, that these are useful artifacts of learning for the learner and the extended audience. For the teacher, this activity emphasizes in the learner self-regulation, purpose, and process. This sequence is scalable to the needs of the learners and their ages; it can be condensed for time or pragmatic considerations.

Now that we have created a loose process for conducting mobile learning field activities, let's explore what these compositions might look like.

Chapter 7: mField Compositions

All motion is cyclic. It circulates to the limits of its possibilities and then returns to its starting point- Robert Collier

This chapter is designed to explore the actual compositions that the learners produce as a result of their field activities. In Chapter 3, we discussed how meaning is made in mobile spaces and this chapter builds on that meaning making through representation. This representation could take the form of a text-based essay, a multimodal composition, a map, a collage, mosaic, montage. The possibilities are almost endless. The structure of the composition should, however, lend itself to the object being observed or the knowledge being articulated. The forms should follow the functions; this is part of multimodal cohesion. This composition should encapsulate the location, the data and analysis gleaned from that location, and the representation or impression of that location. It is a capstone of the mobile learning field activity.

Yet, perhaps paradoxically, it needn't be the object of assessment. It might be a composition, a creation, an academic statement, a contribution to the discipline, or artwork, and thus incredibly valuable unto itself. However, that doesn't mean we should shortcut the process of learning that took place in these activities. Our training as products of formal education would be to use it as assessable evidence, grade it, and ignore the rest of the reflection, the collaboration, etc. That, however, defeats the purpose of this mobile learning field activity, this allegiance to process and reflection. The evidence of learning is the reflection; the process is the structure in which this reflection is enacted. The composition is an exercise in creativity, design, and literacy. It is the space in which we begin to reposition our learners as creators and artists, roles often overlooked in formal education yet perfectly complementary to our training as analysts and discerning members of society. It is where we ask them to create, design, and justify their creations. These justifications, methods of selection, and reflections are the objects of assessment assuming you want to assess at all. The compositions are larger than that; they are culminations and creations, bridges to that next plane of learning.

There is still the pragmatic issue of taking the data that was collected, analyzing its relevance, and forging something useful or representative from it. If you are channeling this activity through formal curricula, much of the shape of this composition will adhere to disciplinary practices. For example, a mosaic might be less applicable to language as it is to literature or art; a map might make less sense to philosophy than to history. So choosing the shape of your composition becomes a fairly important concern.

In this chapter, we explore a few potential forms that have proven useful for these types of field activities. They are exercises in creative representation and the tools outlined in the previous chapter make their assembly relatively painless. Before we delve into that, we need to consider what these compositions actually are. Are they artifacts or products? Evidence or art? Are they finished or perpetually incomplete? The way we position these answers in our thinking determines much of their shape and structure. Remember, process is paramount in these activities so we first need to think carefully about structure before creating structure. So, let's discuss what these compositions actually are. Are they artifacts or products?

ARTIFACTS VS. PRODUCTS IN NEW MEDIA: UNFINISHED AND INCOMPLETE

I passively accepted the use of the term artifacts when referring to compositions and only now have I paused to think of why I was so accepting of it. Why not use the term products or the increasingly unwieldy "knowledge representations"? Why not just writing or digital essays or any of the other variants of composition? Why specifically artifacts?

At the University of Edinburgh, we weren't submitting essays or finals or other traditional modes of academic communication, but rather constructing digital artifacts. The farther one would dig into the theory, artifacts were everywhere.[60] From Vygotsky to Wenger's community of practice theory even to multimodality, the term artifact appeared and reappeared and I accepted it blindly. All of these theories were built on the social construction of knowledge so perhaps I just took it for granted that much of the terminology was consistent.

Artifact implied different kinds of things for me and much of that had to do with discovery (ancient artifacts unearthed in some far archaeological dig) and appraisal (sifting through the wreckage and the context to determine the artifact's function and cultural significance). Artifacts were at the receiving end of learning, clues from a larger puzzle. All situated well within the past, all destined for interpretation.

This is a good indication on how tools like language can change thinking. Using artifacts to signify objects to be constructed, rather than merely interpreted, was a significant step in the process of my developing a broader picture of learning. An object is constructed, then interpreted, then reconstructed, and then reinterpreted. Built again and again. Yet I still had this notion of artifact as something constructed then buried in the sand to be discovered again. And it is to some degree. It is buried in the ether of the Internet or in mobile spaces, hidden in plain view. Waiting for a culture or community or someone with a specific idea of its significant to find it. And build it again.

Artifact works better than product. Product signifies completion. Products can be artifacts, but not all artifacts are products. In referring to the concept of "produsage", Bruns states that this process "does not work towards the completion of products; instead, it is engaged in an iterative, evolutionary process aimed at the gradual improvement of a community's shared content."[61] This is an iterative, evolutionary process where artifacts are never finished, while products are finished and distributed. This is a significant difference, one that frames our thinking around the subject matter. The differences in these terms are the differences in finding rather than creating and discovery over construction. Once I connected the two ends of the spectrum (creation and discovery/analysis), I crossed a threshold into a different kind of learning. Artifacts are active constructions of meaning in a shifting community; "discovering" meaning through creation.

Yet I think of how others in some other time might discover our words and our media and compositions and impose structure and meaning on them. They might think how quaint this artifact is or how simplistic or how revealing. The multitude of these artifacts will only be unlocked through a framing of the search and discovery and serendipity. We see meaning where we are looking for it. Media and their compositions are the artifacts of our day; the artifacts that unlock meaning from our past in their future. We still dig endlessly through all the rubble and reuse what we can. Our work is never done; there is always meaning to be made.

SHAPES AND CONTAINERS

So if we view these compositions as iterations, never truly complete, this frees our learners to experiment with structure and assembly. By framing these compositions as ephemeral constructions, relevant as representations of knowledge here and now, then learners begin to move the pieces around the puzzle with greater ease. Each piece, each media object, each expression or hue or opacity or

60 Specifically for the MSc in Digital Education at the University of Edinburgh. Retrieved May 10, 2013 from http://online.education.ed.ac.uk/.

61 Bruns, A. (2007, June). Produsage. In Proceedings of the 6th ACM SIGCHI conference on Creativity & Cognition (p. 99-106), Association of Computing Machinery (ACM).

contrast, has less gravity. It occupies less fear in the imagination of the learner. By stressing ephemerality, we free our learners from fear of making a mistake. In this mode of composition, there aren't any mistakes to be made, just meaning to be gleaned.

We can free the minds of our learners even more by suggesting, but never requiring, the use of particular shapes, or containers, to present their media and representations. Some of these are outlined here, yet this list is far from complete. Each container requires an understanding of what it affords and what it constricts (multimodal literacy). Some will free the learner to present a particular meaning and stunt them from presenting another. Not one of these negates the role of the traditional text-based essay; they merely present alternatives to that container that has for so long dominated our academic imagination.

So begin with the learners collecting media and taking stock of their collected data. Be sure that each object has accompanying metadata (description, location, significance, tool used to capture it, etc.). Have the learners begin to discuss what they are trying to answer (purpose) and which objects advance that answer. Have them discuss the shape of their representation and whether or not they want to use of any of the following shapes or containers. Be sure, as always, to keep reflection first and foremost in their minds. Insert reflective prompts into all of these activities, asking them to justify their choices or review their original purpose, assumptions, or research questions. Keep that reflection at the conscious level and let the semi-conscious state work on the cohesion of the media.

MULTIMODAL CONTAINERS

The following are applicable to what we have been talking about in this book, namely media such as image, video, sound, and so on. This is not an exhaustive list by any stretch of the imagination, merely a few examples to get you started as teachers or learners.

MOSAICS

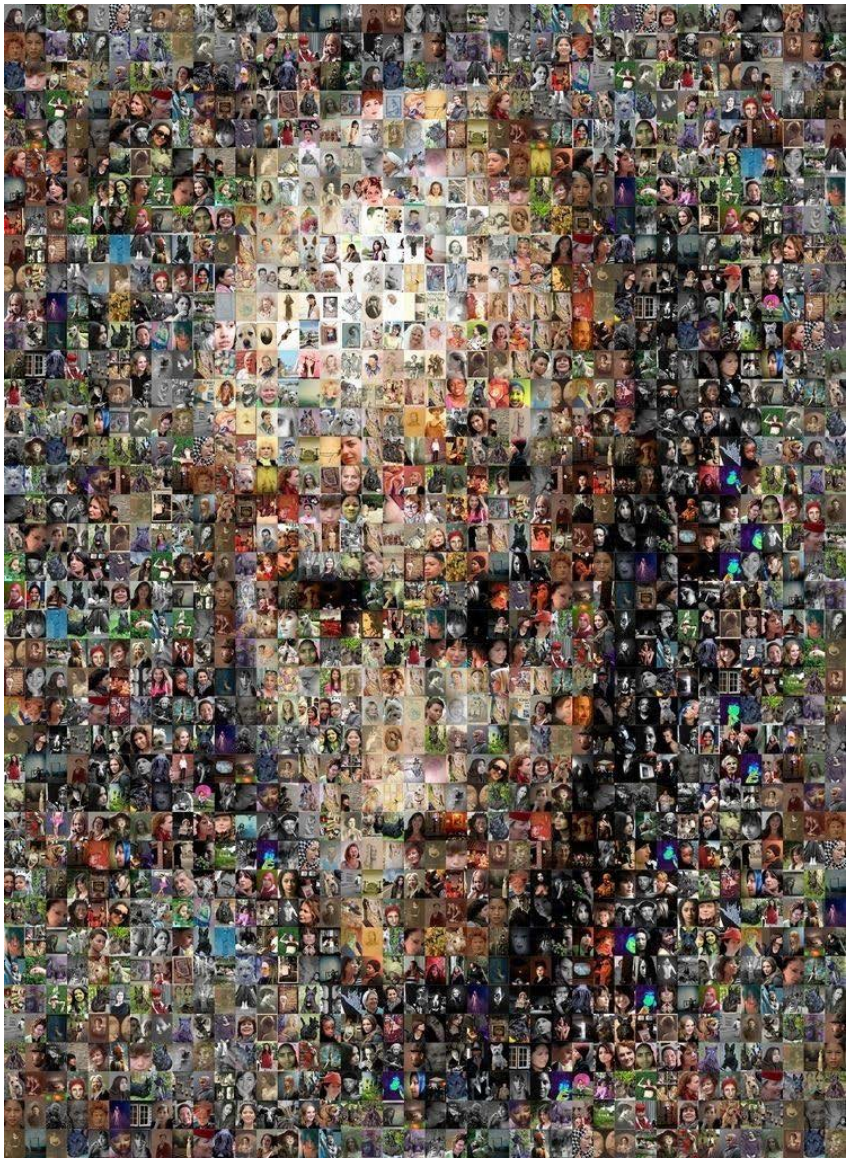
> *There are very few human beings who receive the truth, complete and staggering, by instant illumination. Most of them acquire it fragment by fragment, on a small scale, by successive developments, cellularly, like a laborious mosaic- Anais Nin*

A mosaic is an artistic technique of creating images with an assemblage of small pieces of material, which traditionally may have been glass or stone. The composite of small images makes one larger image. This particular technique of representation is highly applicable to current media practices and tools; for example, the practice of working with pixels in a photo editing application (Photoshop, for example) is very similar to working with mosaics. In terms of our mobile learning field activities, a mosaic is a useful vehicle for collecting discrete bits of data about a particular location and then assembling it to demonstrate that discrete units make up the larger composite, such as a neighborhood or a street. There are many tools that allow you to easily assemble a mosaic from an existing set of images and the same can be done with video or even artwork.

This is a particularly powerful learning method as it forces the learner to simultaneously engage the micro and macro levels of representation, justify media selections as aggregates of a larger whole, and justify the shape of the larger whole. It also stresses, innately, coherence by placing emphasis on that larger composite; without coherence, the audience wouldn't be able to recognize the larger image, let alone interpret it.

In the following, we have a mosaic that I made from a 26,000-year portrait found in the Czech Re-

public made from mammoth ivory and depicting a woman, essentially the world's oldest portrait.[62] The underlying images of the mosaic were created from an aggregation of portraits of women using the original portrait as a base layer. This, along with justification as to my methods of selection, purpose, and process would constitute a mobile composition crafted from a mobile learning field activity.



COLLAGE

> *Collage is a supersensitive and scrupulously accurate instrument, similar to a seismograph, which is able to record the exact amount of the possibility of human happiness at any period- Max Ernst*

A collage is essentially the technique for making art that involves the assembly of different things into a new whole. It is similar to a mosaic in this respect. Many of us I am sure can remember this technique from school, meticulously gluing a newspaper clipping or magazine photo onto a large

62 Originally from the British Museum's Ice Age Art: the arrival of the modern mind. Retrieved May 10, 2013 from http://www.britishmuseum.org/whats_on/exhibitions/ice_age_art/about_the_exhibition/highlight_objects.aspx#8

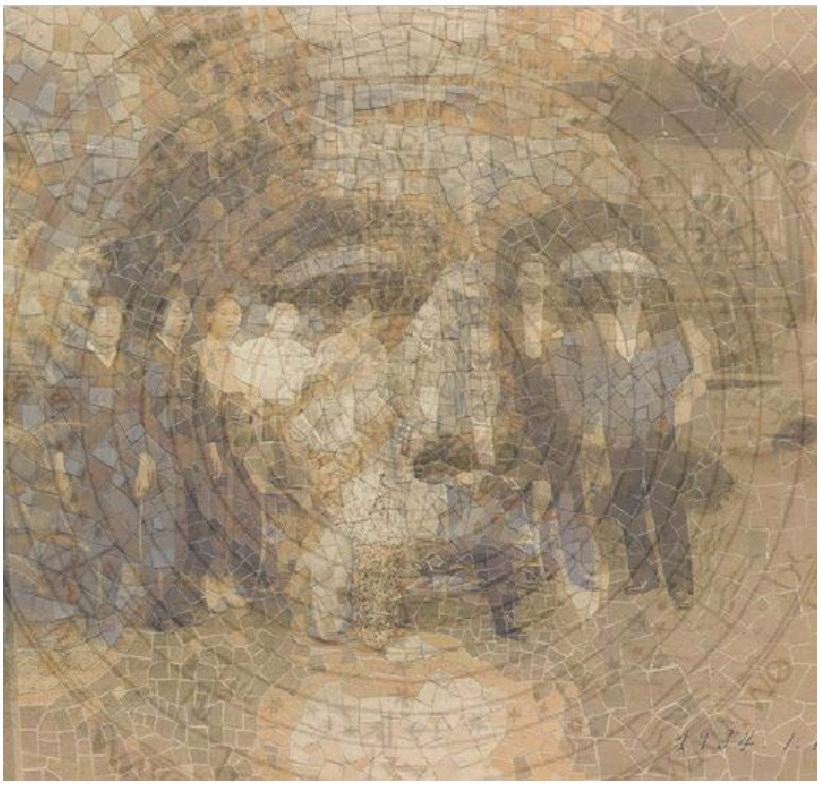
cardboard canvas. Due to my gross inability to draw or paint anything, it was quite literally the only art technique I felt comfortable with. Luckily enough, it has a mobile parallel. We can use collage to assemble our media from our mobile learning field activities to represent a new image, rather than an existing one. This new image is an aggregate of the other, smaller images, but the new image is, well, new. It is an impression of understanding that the analysis of the collected media suggested. It is an aggressive appropriation of any material that the creator feels helps them construct their impression.

This container in particular positions the learner as artist by forcing them to construct an impression of understanding, whether it is an emotion, an observation, or any knowledge statement. It is not about accuracy in the representation (accurately portraying the location under observation), but rather it actively tries to extract or construct an understanding or an impression from the assembled media. It is a wildly creative container that will intimidate some and motivate others. It stresses multimodal cohesion, methods of selection, purpose and process. It can be assembled digitally through applications either on the mobile phone or tablet or through the laptop. It is especially pertinent for those disciplines concerned with impression and artistic creation, like art, literature, and media studies.

MONTAGE

> *If the seams are showing, there is something wrong with the performance or the construction of the piece. This idea is completely at odds with our modern visual experience, because everything today is based on montage- Esa Pekka Salonen*

Montages are essentially, at least for images, the process of inserting multiple images together in one composition to present the idea of an unreal or exaggerated landscape. For our purposes, we can consider montages the process of inserting images, audio, or video into one composition to create an impression of the location being investigated. A learner can juxtapose seemingly incongruous images or other forms of media to create an exaggerated or unreal impression of the location, advancing a particular theme or emotion. These juxtapositions are useful for the learner as they make the process of coherence a conscious activity.



Coherence when matching similar imagery or media together is often not a conscious activity as it is something we do routinely. We match our wardrobe, our lunch, and our music on our daily commute; we constantly seek out patterns and cohesion. Montage makes this process a bit more observable. Montage, by intentionally looking for juxtaposition and exaggeration, forces this activity to the conscious surface allowing the learner to consider what is being juxtaposed and how that might advance a particular purpose. The example presented in the following juxtaposes the presence of a Korean family patriarch informing subsequent generations in orbits of time and space. The layers of images are intentionally juxtaposed and exaggerated to suggest a particular purpose about the patriarch. For the sake of reference, this is my wife's great-great grandfather (the patriarch) and her grandmother (third from left). The location is Daegu, Korea, but this montage is about the impression of family.

TIME CAPSULES

As much mobile learning emphasizes the ephemeral nature of knowledge, how much of our understanding is relational and dependent on time and space intersections? I would think quite a lot. What better way to accommodate that ephemerality than to have the learners create a time capsule? This time capsule of artifacts and compositions demonstrates their understanding of a particular place or time or confluence of events expressed for subsequent generations. In this approach to meaning making, learners are forced to consider not only their composition, but also their intended audience. Further it is an audience in the future. This is an audience removed from the time and space intersections that produced so much relevance for the learner when constructing the composition. It generates two parallel and complementary lines of investigation for the learner: art and audience.

Mobile technology makes this process all the more interactive by allowing the learners to collect media, analyze it, provide metadata for it, geolocate it, and then embed it in the original locale for others to find. This can be done by creating a virtual time capsule, which can just be a blog post or a slideshow or a webpage with the composition presented and then a QR code attached somewhere to the original location. If the subject is a particular street, have the learners generate a QR code or even just a shortened URL and place that in the neighborhood under observation.[63] Have the learners also attach tracking to the URL to observe how often it is accessed via the QR code. Learners should be tracking audience interaction of this sort as it helps them reflect on the audience. Time capsules would be especially useful for history, anthropology, architecture, archaeology, and even art or literature.

REMIXES, GALLERIES, MASHUPS, MAPS

There are a number of ways that learners can assemble their media into meaningful compositions. Remixes, galleries, and mashups are all useful vehicles for compositions. These don't have a specific form to speak of, but rather are assemblies of new or existing media in meaningful ways. Maps, in particular, are a valuable mechanism for presenting meaning through these mobile learning field activities as they foreground the location itself as the organizing focus. Learners can collect and select media, geolocate and provide metadata for that media, and present the map itself as the composition. They can even provide an audio walking tour to accompany the map. The resulting map or KML file can exported for the learners to collect as evidence of their learning. Learners' maps can be assembled into one larger map via the assembled KML.[64] Some tools for mapping are presented in

63 Another variation of this activity would be geocaching. Retrieved May 10, 2013 from https://en.wikipedia.org/wiki/Geocaching.

64 KML refers to Keyhole Markup Language. Retrieved May 13, 2013 from https://en.wikipedia.

Chapter 10.

TRADITIONAL, LINEAR 'CONTAINERS'

All of these multimodal containers or presentation tools do not, even for a moment, negate the advantages of written long-form reflection. I do not consider it anachronistic or even disconcerting that I am writing, via text, a book about mobile learning field activities that emphasize media as the artifacts of learning. In this scenario, what I am writing about and how I am writing it are separate modes. This is due to a host of logistical considerations, including the fact that text is a widely used vehicle for dissemination.

It also speaks to the role of long-form reflection and text as a good example of that medium. I am able to make sense of these threads of seemingly disparate activity in this textual space and hopefully articulate that meaning to you in a shared language and structure. I can do much the same through media, but I have chosen to engage as many modes as possible in my work and I encourage you all to do the same. Writing is one of those modes. Having learners write often is a rigorous engagement with one of those modes.

It is also a quiet space, a sanctuary; learners should have their own space where they feel comfortable to reflect. This can be a blog, a wiki, a site, or anything offline such as a diary. I find that blogging is a perfect 'quiet' space for reflecting on the learning activities I have engaged in. In the following, I suggest why.

WRITING=SANCTUARY AND MEANING MAKING; A CASE FOR BLOGGING: MENTAL EXERCISE

The mind is a muscle that can be exercised, but it is more than that. The mind is this brilliant cauldron that never fills entirely; it just absorbs and absorbs and becomes greater than the sum of its absorbed parts. It grows in relation to and independent of the material it ingests. Writing is an exercise in that ingestion of ideas and the synthesis of them to make original, 'emboldened' thought. You only know something once you can explain it to others; writing is one method for making sense and explaining that to others, even if those other are us.

BLOGGING, LIKE ALL WRITING AND ART, IS AN EXERCISE IN MEANING MAKING

It is constructing a knowledge base to interact with in this shifting, fluid life. It is a tool that allows you to interact sensibly with your environment, like a compass, a watch, a mobile phone, or glasses. There are moments when social media will satisfy this requirement; sometimes Twitter or Facebook or G+ prove perfectly sufficient for my reflection. Blogging, however, is the extended dialogue. Twitter and Facebook are banter, while blogging is contemplation. Blogging helps learners externalize their purpose, process, and progress in their learning and to make all of this conscious to them. It is like building a blueprint for a subsequent design. Blogging helps us make sense of all of that.

BLOGGING IS SANCTUARY

It is solitude. It is a half an hour at peace with my thoughts and myself. It lets me corral my words into phrases, my phrases into paragraphs, patiently dip into quiet, deep spaces without distraction or diversion. I am not at odds with myself. I am very much in the moment in thought and deed. It is a singularity that I hope we all achieve for moments of every waking day. It is like slumbering in the midst of one dream. It unfolds out before you and you are immersed in it. You are not a house divided. This

org/wiki/Keyhole_Markup_Language.

is one of the most beneficial aspects of writing or long-form reflection for modern learners; it is not an exercise in multi-tasking, but rather an exercise in persistence and contemplation. In this environment of mobile learning, full of media and activity and composition, blogging or writing is a perfectly complementary activity.

BLOGGING IS AN AUDIENCE?

I write because it is beneficial to me and, hopefully, it is beneficial to a few others. I feel I have something to contribute. The audience will take whatever they want out of this (or nothing at all), repurpose it for themselves, and move on. I encourage that. Blogging is the Shakespearian monologue to the terse haiku of Twitter. They are complementary, but one can never fully push out the other. So, blog on everyone; think in long forms and transmit in any form that seems pertinent. Reflect on your multimodal compositions; use media in your posts and text in your media compositions. They are all tools in a larger toolkit. And remember, especially at the beginning, you are the audience for your writing. It is transforming you.

With all of these different kinds of containers for composition we should remember they all serve as a vehicle for coming to know on the part of the learner. As teachers, we should challenge them to make conscious what they are doing and how they are doing it, what they are collecting and how it is being collected, what they are composing and what it means. We should challenge them to engage others in this same process and purpose. We should view these compositions as artifacts, incomplete and entirely relational. Whether artistic, representational, or impressionistic, they are expressions of the learning that is taking place through these mobile learning field activities.

Once you get started with these field activities and begin to see the transformation of the learners and your own teaching styles, once you see the creativity in these compositions, you will find it difficult to stop. It will become an expectation of all subsequent learning. We will be better for it.

Chapter 8: Examples & Models

Any person, brought into the presence of this fact, stops for a few moments and remains pensive and silent; and then generally leaves, carrying with him forever a sharper, keener sense of our incessant motion through space- Leon Foucault

This chapter is an assembly of different models or examples of how mobile learning field activities and their resulting compositions might look. These are examples drawn, mostly, from my own experience and my own experimentation and so they are skewed towards my way of looking at and organizing my world in meaningful ways. The mobile learning field activities that you perform yourself or those that you initiate as a teacher will reflect that particular context, a context informed by disciplinary practice, need, the age ranges of your learners, or the research questions you are asking.

If you are thinking of initiating a mobile learning field activity, consider organizing the activity around any of these groupings, many of which have been mentioned before in this book. Starting from a broad categorization of activity helps narrow the focus and provides an accessible means of getting your learners started; if they are an especially self-regulating or independent group, leave it open for them to decide which themes, purposes, processes, and media to pursue. Providing opportunities for ownership of the activity at the earlier stages gives the learners the autonomy that can lead to some fairly surprising results. So open the discussion by revisiting any of the following:

Location- where will you conduct these activities? Will the location be the subject of study or the enabling backdrop of activity? More pragmatically, is it a safe environment for unleashing a gaggle of eager learners with mobile technology? Have the learners select, research, and justify their decisions.

Discipline- what disciplines are you filtering this activity through? If it is an informal learning exercise, the parameters are less clearly defined, leading to greater degrees of autonomy, creativity, and potential paralysis if the learners find the open process too unstructured. If it is a more formalized activity, namely one in response to a disciplinary question, then frame the mobile learning field activity through this disciplinary filter. Consider what is considered accepted practice in terms of investigation, data collection, and composition. Allow the freedom to cross disciplinary boundaries and combine fields (literature/history, art/architecture, etc.), but structure the questions, the answers, and the compositions through a disciplinary lens. There is much literacy presented in these field activities and this is one of them, this disciplinary navigation.

Media- what data or media will be collected at the location? This might seem a pedestrian consideration in light of the different questions we are asking in this book, but much, if not all, of the effectiveness of the composition in answering the purpose will depend on what is possible to collect as data. There are logistical considerations that bind us here and there is no shame in acknowledging these practical considerations up front at this early stage. What can we collect? What can't we collect? How does that affect my purpose and process?

Purpose- we are bound by purpose and process in these activities and that is a good thing. It is the path in which we recondition ourselves to embrace flow through informal and formal spaces, to compose with different media, to refine our disciplinary understanding, and to transform learning into a creative, reflective exercise. So the articulation of the purpose (research questions) should never be overlooked, nor considered complete. The research questions are artifacts in and of themselves and they should evolve in light of new evidence. Force the learners to consider and articulate answers to what they wish to do and how they wish to know it. Challenge them to reflect and revise upon their purposes and research questions in light of the media and data collected.

Technology- I generally dislike posing this argument, that technology determines the outcome of this activity, but it is a logistical consideration that has considerable practical, ethical, and even legal dimensions. What technologies exist in the groups of learners? Take stock of what is available. What media can be recorded? What can't be? Who owns the data? How can it be used? These are both technological and content considerations of great importance.

So framing the activity from these spaces is a good way to begin. Once the learners have focused their activities around these considerations, it is best to consider presenting what is expected of them. As a teacher, this can be a delicate balance. Suggest something and you encourage creativity; dictate something and you stunt it. For something like these field activities and the resulting exploration of media that the compositions entail, this is especially challenging.

Teachers will need to mention, if part of a graded curriculum, how this project will be assessed. My personal opinion is that the assessment sits with the reflection as evidence of learning, or reflection as a tool for formative assessment. The compositions can be assessed, but criteria will have to be generated to make that process transparent. The learners themselves can do this by having them create assessment criteria for their own and others' compositions. This can be an open dialogue amongst the learners as to how a composition presents the learning of the individual learner and then how it can be interpreted as such by others. So assessment is a consideration depending on what degree of formality this activity is structured.

Informal considerations, I find, are more powerful as they are a challenge rather than a dictation. They encourage the learner rather than contort them to a particular structure. Remember, this entire exercise encourages participation in a host of different structures and literacies, from media to disciplinary to theoretical to design. Making the structure too restrictive or the methods too rigid stunts one or many of these literacies. Bind them with ideas or theory or disciplinary process, if necessary, but not with structural, design, or presentational considerations. So I would ask my learners to consider the following of what I, as an outside party, would want from their subsequent compositions:

There should be evidence of **intellectual and emotional** states of being. Working with different forms of media simultaneously brings this to the foreground, that our intellect informs our emotion and vice versa and that the personal and academic identities inform one another. Free the learners to include personal and emotional evidence to support their findings, impressions and representations. It situates the learning in an authentic context and forces connections between intellect and emotion, hopefully removing the artificial boundaries we have generated to sequester the two. We are foregrounding emotional and academic literacy here.

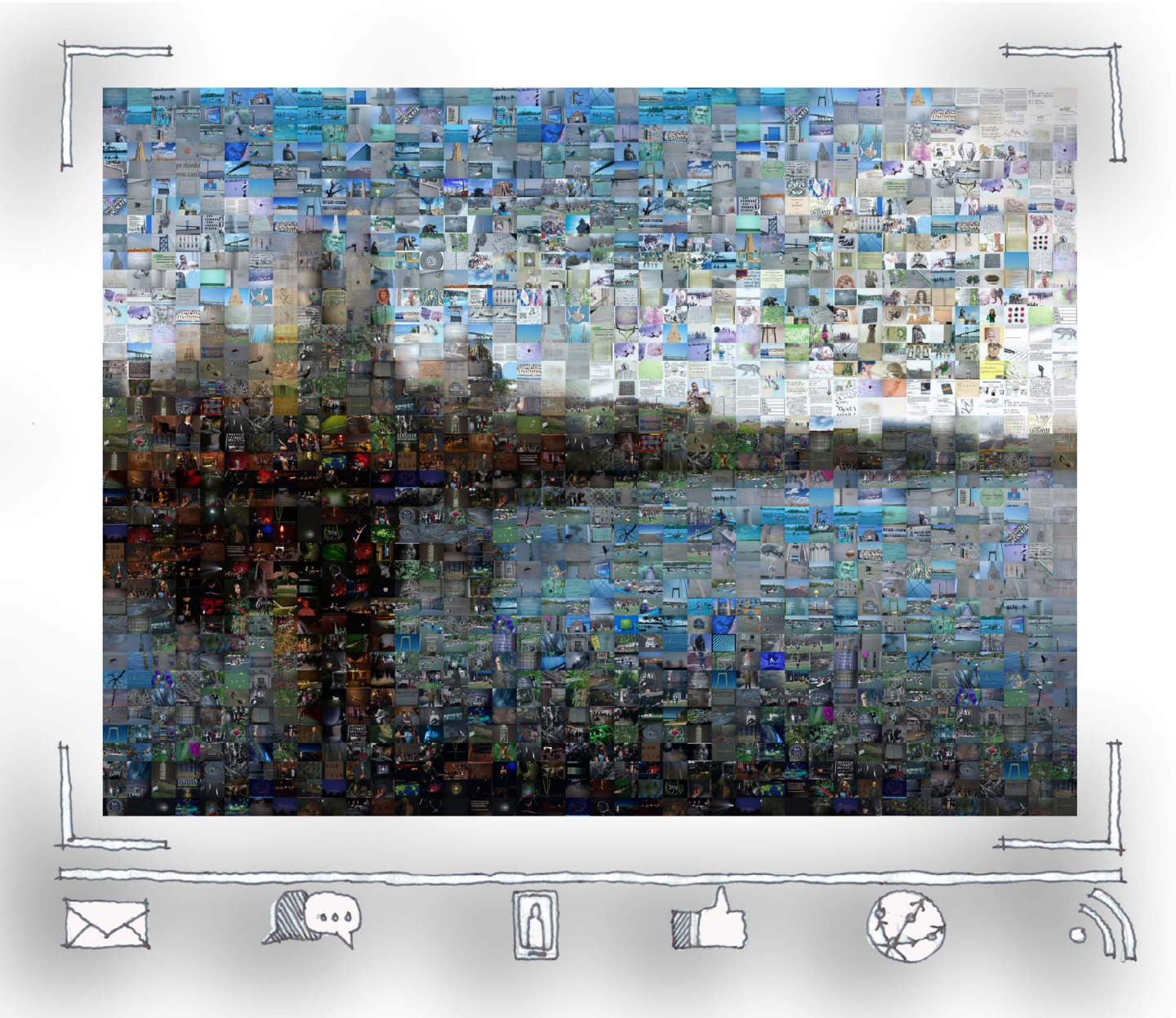
They should use **space itself as a medium or method**. Mobile learning is about the transformation of space, either cognitive or geographical or both so acknowledge that in these suggestions.

There should be evidence of **informal and formal flow**. These compositions should have informal characteristics, mainly that they are accessible by non-academics and incorporate informal media practices, but satisfy the formal needs of the discipline. There should be capacity for sharing these compositions through both formal (academic) and informal (social) channels.

Once these considerations are addressed, the reflections performed, and the purpose and process have been articulated, it is time to get out 'there' to transform the habitus and collect data. So what follows in the addendum are example mobile learning field activities that I have conducted myself, either for informal or formal spaces. You might find that my idea of informal and formal space is not

that discrete; one will always include elements of the other and this is by design. I don't believe that these rigid dichotomies of here/there, informal/formal, and emotion/intellect work for us as systems of meaning making. Now is the time for a more nuanced approach to understanding how these elements overlap and interact. It is my hope that some of these activities make visible that nuance I am seeking. More importantly, I sincerely hope they prove useful for you in beginning to think of your own activities for yourself and your learners. Please feel free to use these or appropriate them as you please for your own learning.

Chapter 8: Addendum



EXAMPLE 1: SOUND SURVEY. A DAY IN THE LIFE: AUDIO DISPATCHES FROM SEOUL ON JANUARY 6, 2012; AN AMBIENT BACKBONE OF A CITY

Introduction: I am relatively enamored with the transformative effects of audio on understanding and sense making in new environments. You can know a place to a point through images and maps, but audio transforms that knowledge, injects it with urgency and a strong sense of place. Audio floods every crevice and every nook of understanding. I decided to test this out a bit. I recently traveled to the south of Seoul, Korea to meet with friends and hike a mountain called Gwanaksan. Gwanaksan is a considerable hike (took us about four hours to work our way up there) and a wonderful way to get some exercise. Mountains are found throughout and around Seoul and hiking is a favorite pastime of many. They are visible from almost any vantage point in the city. They are rarely empty. As such, it is a perfect way to frame activity in a particular space.

Purpose: to document a motion-based activity in Seoul, Korea. To record and present an impression of the sounds of Seoul through three distinct activities, all with significant community interaction (public transportation, recreation, taxi) and with significant oscillation between public and private space.

Process: Along the way, from the subway to the mountain to the taxi I took home, I recorded audio with my mobile phone in an attempt to capture the space of Seoul aurally. I wanted to get at the ambient backbone of the city, the hustle and bustle of the subways transposed against the expansive mountain capped with the rhythmic serenity of the taxi ride home. Audio recordings allow me to tell this story in a way that activates imagination (with only audio and without imagery, you would attempt to fill in the physical visual domain almost reflexively) and refines understanding.

Note: this is an example of where the confines of text and this publication process are at odds with the media we are presenting and exploring. I am including the audio recordings described in the following as links from my hosting service. I had them hosted at Audioboo, but was wary of the longevity of that service or my access to the data I had hosted there. There is the possibility that by the time you read this, these recordings will have moved again depending on the longevity of my hosting service.

STAGE 1: THE SUBWAY

This was the subway ride from my home in Mapo, in north-central Seoul, to Nakseongdae, which is a bit further south and east. These two locations required that I switch subway lines; the entire trip took about thirty minutes. Along the way, I recorded audio to demonstrate the urgency of subway travel in Korea and provide a mechanism for you, the audience, to draw your own impressions of the effects of audio on perception. Without accompanying imagery, audio can be disconcerting or inviting, depending on your impression. These sounds paint an environment of structure and space, of being held attentive collectively by a common journey, of signals and directions. Available May 10, 2013 from http://bit.ly/12Y2C14.

STAGE 2: THE MOUNTAIN

From Nakseongdae Subway Station, we proceed to make our way up Gwanaksan over a course of four hours. We hiked, stopped, and marveled at older Koreans who didn't seem to be struggling in the least. There is wonderful camaraderie up on a mountain and it has been my experience that Korea is at its most accessible on a mountain; everyone is bound by a common activity. The ambient

sound I recorded from the mountain hopefully projects that a bit. The chanting you hear is from the Buddhist temple at the summit. Available May 10, 2013 from http://bit.ly/11feYQO.

STAGE 3: THE TAXI HOME

After a long climb and a good meal of galbi (Korean barbecue), my friends and I parted and I jumped in a taxi for the fifteen-minute ride home. If the driver is good, these taxi rides are wonderfully tranquil moments, the warmth of the car transposed against the frigid cold outside, the gentle hum of the engine, the repetitive strips on the road zipping past in time. It provides an impression of sanctuary. I think a lot of that comes through in this recording. Available May 10, 2013 from http://bit.ly/ZDMC7F.

Analysis and Reflection: this activity proved to be a gateway into systematically documenting the aural landscape of Seoul, Korea. It was through this activity that the aural landscape of Seoul reflects not only the purpose of the space (park vs. street, taxi vs. subway), but also the emotional content of the people interacting there. Based on this experience, I would also consider video a good form of media to further explore this landscape. I am undecided as to the effects of sparse imagery on this composition as it adds context and perhaps familiarity, but the starkness and urgency of the audio is minimized.

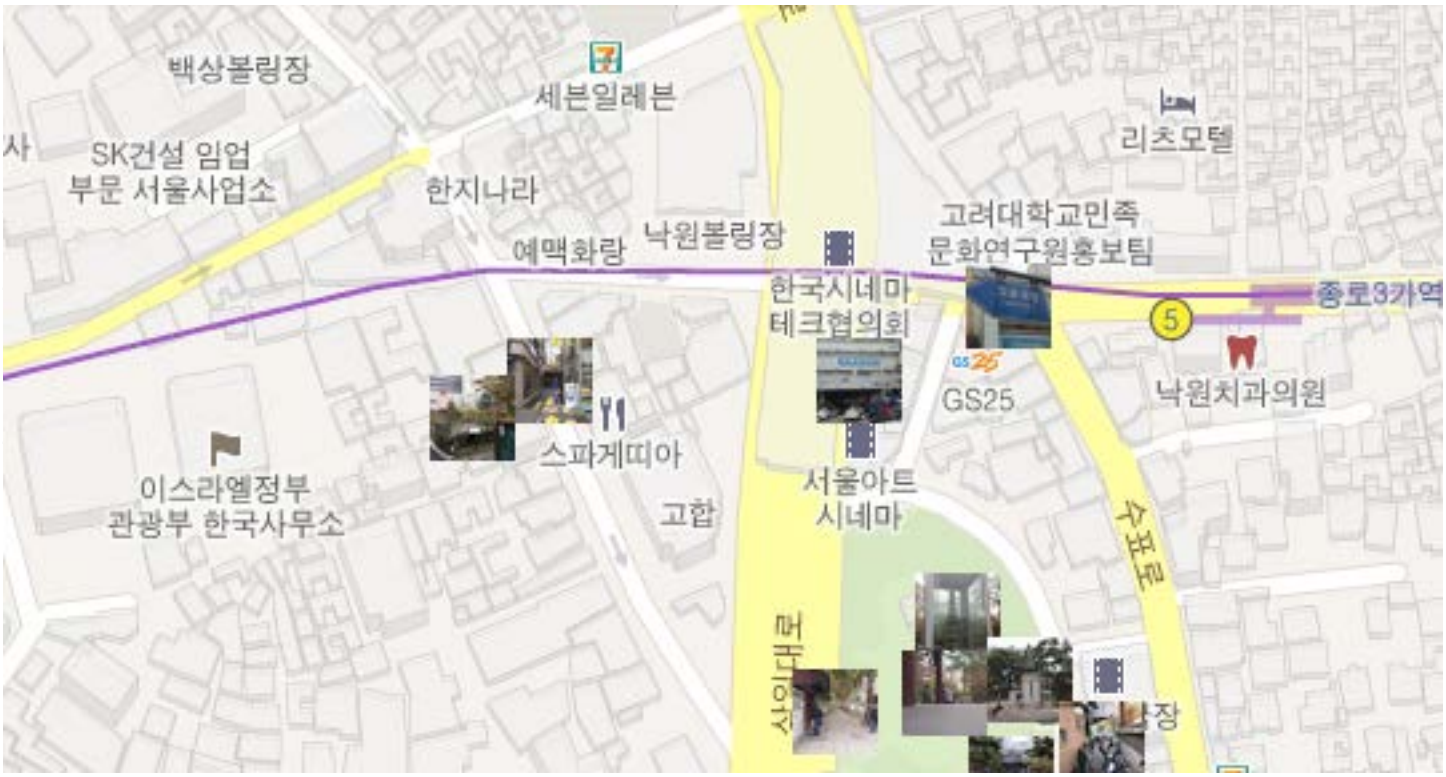
EXAMPLE 2: FAMILY HISTORY. MOBILE HISTORY AND DATA CAPTURE IN THE FIELD: HYUN FAMILY STREET

IN INSADONG, SEOUL

This activity I recorded, composed, and disseminated all on my mobile phone and had most of the elements online (described, positioned, and tagged) by the time I got off the subway coming home. This is a short composition of family history that combines all the elements that make mobile learning field activities highly accessible learning experiences by combining the personal (family), the discipline (history), the location (a particular neighborhood in Seoul, long since transformed into a commercial center from a purely residential one), intellectual analysis (positioning evidence, assembly, design, and cohesion) and emotional content (my relationship with my father in-law; presenting him with an opportunity to see his childhood home and neighborhood for the first time in close to 50 years). It can be a heady learning experience.

My father in-law emigrated from Korea to the United States in 1965 and has only returned once, in the late 1980s. As my wife and I were living relatively close to his old neighborhood recently, he had asked me to collect some images from the area so he could remember the layout. He specifically mentioned how he used to walk through it on the way to school, or to the market, or to explore. So this composition was both an attempt to recreate a memory, a navigational narrative (his journeys through this space), and an impression (old and new Seoul juxtaposed).

The evidence I had at my disposal was a translated hojeok, which is essentially a family registry kept through many generations (ideally to the progenitor of the clan, or family). It is a primary source document of great value as it presents a family narrative (genealogy), as well as addresses and a chronological narrative. Individuals come and go from this document (marrying into other families, emigrating) and so it is a fluid artifact of a people in a place. It has great significance in the Korean context. The address, although from an older neighborhood grid, allowed me to track down the location of his childhood home only to find that it was still the original structure (highly unusual for a constantly evolving Seoul). It had been converted into a restaurant and a bar (which I found amusingly incongruous), but the surrounding buildings were more or less replaced, surrounded by a lively commercial district selling mostly Korean fabrics, trinkets, pottery, and other tourist-centric goods.



EXAMPLE 3: IMPRESSIONS OF URBAN SPACE AND MOTION. NEW YORK AND A MIXTURE OF PURPOSE AND SERENDIPITY

This particular activity centered on the process of acquiring a visa at the Korean Consulate in New York City. That was the frame in which we approached the activity, but it evolved into something more. It involved a purposeful walk to the Korean Consulate followed by a meandering one to the Lower East Side, to Washington Square Park, the New York City Subway, and the Long Island Railroad, all entities worthy of documentation. It is an example of how the urban structure defines our interaction with the city, how it defines our movements and our organizing logic. I saw and still see New York City as a collection of discrete entities rolled into one, only occasionally, cohesive whole. The logic of this composition is defined by our purpose (visa, food, transportation, journey). It proceeded as follows, through this process of movement:

My wife and I took the Long Island Railroad (LIRR) from Manhasset to Penn Station

1. We walked to where I thought the Korean Consulate was located at 45th and 1st Avenue (wrong)
2. We walked to where the Korean Consulate actually was at 57th and Park Avenue
3. We took the 6 train from 59th and Lexington to Bleeker Street
4. We walked to Russ & Daughters on Houston Street in the Lower East Side65
5. We walked to a bar nearby, ate our bagels, and drank a beer
6. We walked to Washington Square Park and spectated
7. We took the A Train from 4th Street back to Penn Station
8. We took the LIRR home to Long Island

The data I collected to record this journey was a combination of imagery, video, and audio. However, I struggled to find a mechanism, or container, to present this data in the way it impacted me as an impression. None of the normal methods I use (montage, mosaic, map) seemed to capture the process of motion itself, the way in which these discrete spaces and their related activities rolled out ahead of me, as if I were the stationary object. How the impression of New York City and its related motion left my wife and I with a feeling of emotional attachment, for each other and for the place.

So I approached the actual composition slightly differently. I used a video editing application (Camtasia, although iMovie or a similar service would work just as well) to place the video from the train leaving Penn Station heading to Long Island as the layer of motion itself. I used a reflection of a shadow of my wife and I from Washington Square Park as the static background image, adjusting its opacity to allow for transparency, and then I clumsily rolled out the images from the journey over the shadow image and the rolling video. The impression it provides is a juxtaposition of motion and stillness, of an emotional and intellectual contentedness.

More importantly, however, this combination allowed me to present an emotional narrative of a good day. The day was beautiful. It was sunny. New York City didn't challenge me as it normally might. The dirt didn't affect me. The energy seemed infectious. The parks were full of people in a lazy late Friday afternoon kind of way. The doors of the bars were open and inviting. The food at Russ & Daughters was primordially good. The plane flew into the video I was recording on the way home. The whole day was a litany of serendipity. And the mobile technology allowed me to record, compose, and disseminate that. It improved my capacity for relating a story of a perfect day. The video is available as of May 10, 2013 from http://bit.ly/13wnkpi.

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65 A signature establishment of the Lower East Side and a highlight of any of my visits. Retrieved May 13, 2013 from http://www.russanddaughters.com/.

EXAMPLE 4: DRIFTING THROUGH SOUTHERN KOREA WITH A HISTORICAL PURPOSE. FROM SEOUL TO DAE-GU TO TONGYEONG TO YEONHWADO AND BACK: DRIFTING IN A MOBILE STATE OF MIND

In the summer of 2012, I took a short journey along with my wife to the southern coast of Korea, far from the confines of bustling Seoul. This journey was intended to be a quick jaunt to somewhere we have never been, to wander, eat well and revel in the motion of pastoral flânerie. I feel as though Korea has a cultural equivalent of the flaneur. The yangban, a landed noble, encapsulates a bit of this general curiosity about the world that I believe the flaneur demonstrates.[66] These were individuals with hereditary status in the Confucian tradition that did not actively work, wrote poetry and painted, and generally served as the vanguard in Korean intellectual and social life. This is flânerie filtered through a Confucian worldview. So, I approached this journey as a yangban might, full of ideas but with little logistical consideration as to how they might unfold. In short, I wanted serendipity to be my guide.

That isn't to say we didn't have locations in mind. We had chosen them well and had ideas of what we wanted to see, but we left the details intentionally hazy. So the journey involved the following:

1. Seoul to Daegu via train (about two hours journey)
2. Exploration of Daegu to explore my wife's family history
3. Bus from Daegu to Tongyeong (about two hours)
4. Ferry from Tongyeong to the farther islands off the coast (one hour)
5. Exploration of one island-Yeonhwado (about two hours)
6. Return to Seoul

This represents the chronological and geographical sequencing of the trip. However, the emotion

66 For a more thorough examination of yangban and Confucian society in Korea, consider the following source: Deuchler, M. (1992). The Confucian transformation of Korea: A study of society and ideology (Vol. 36). Harvard University Asia Center.

and intellectual geography of the journey skewed differently. There was another layer of psychogeography, or emotional substance, being enacted in this journey colored by the emotional content of the traveler and the contrasts in the travel.

Psychogeography is the study of the precise laws and specific effects of the geographical environment, consciously organized or not, on the emotions and behavior of individuals. I see it as a playful approach to exploring geography. The psychogeography of this trip was mediated through our understanding of departure from Korea a few weeks later. So this was a last hurrah of sorts, a goodbye.

RUSTIC TRAVEL AND THE EMOTIONAL CONTEXT OF FLUX

So the psychogeography in question here is my own and my relationship to my ever fluctuating physical environment. I was based in Korea at the time, relocating to the USA a month later, and then to the UK in September 2012 for a PhD, all without my wife who didn't join me in the UK until the end of the first year. I was passing through a series of geographical, emotional, and intellectual states in a compressed time period in a life that was already predicated by lots of motion. All of this affected my emotional and intellectual state of being both positively and negatively. Motion of this variety is all encompassing and one feels as if they are floating through this artificial calm at the center of a large storm of one's own making. This is my drift, my environment for analyzing my work.

So, a trip to a new place with my wife shortly ahead of our temporary separation created a tempest of emotional and intellectual content, an augmented psychogeography contrasted against the slow pace of this Korean locale, fishing communities dependent on ferry travel for news and supplies from the mainland. In short, it is a rustic place, the islands off the coast of southern Korea. It is a world of hefty and ephemeral opposition. Much of this intellectual content is influenced by sensory inputs (audio, imagery). Much is influenced by the general contrast between what is known and what is novel. For me, this journey was marked by an urgent and, at times, subtle transition from urban to rural to urban. I felt Seoul slide away and the stillness of a fishing village creep over me. I then felt that stillness fade away with the first burst of the ferry motor away from the dock. All of this experience was clouded by time. Knowing that my time in Korea was drawing to a close. Knowing that my time with my wife was temporarily drawing to a close. The finality of experience and geography. Memory as the intersection of time and place.

DRAWING CONCLUSIONS FROM ENVIRONMENT

Now I should be looking for a pithy conclusion to this experience, a conclusion that encapsulates motion and mobility with intellectual and emotional balance, but I haven't found that yet. What I am sure of is that environments this pregnant with emotion, with geographical or psychogeographical substance, must be supportive of intellectual discovery. They must be supportive of learning about emotional, intellectual, and geographical contrasts.

Exploring these rich environments is productive for mobile learning as it will unlock the intersections of discovery. Those times when a thousand emotions and a thousand memories and a thousand parallel journeys are all enacted in space. Academically, it is an amazingly verdant place and so, where there is a bus, a ferry, or a train, I will take it.

MEDIA

So I attempted to document that environment, full of emotional and intellectual content, through media. I attempted to assemble that media into an impression, or a series of impressions, of how that

motion and change was affecting me. In this instance, the location was the backdrop for a different kind of exploration, an internal one. A philosophical positioning of self and place. I collected audio, video, and imagery. I positioned these on a map, but in this instance, writing in text won out as the expressive medium. I needed these words to tell this story, or so I felt. The emotional and intellectual affect of what I was experiencing required elocution of this sort. This was a method of selection, a reflection on the best medium to convey my meaning. I needed words to express and analyze why this approaching ferry, ready to take us back to the mainland, back to Seoul, and for me, back to the US and the UK, filled me with such melancholy.

EXAMPLE 5: AUDIO SURROUNDING A THEME. LIQUID LEARNING: AUDIO COLLECTED AND ASSEMBLED BY THE WATER

This composition was more an exploration of audio itself surrounding a particular theme. I am interested in different organic models for learning design, ideally ones extracted directly from nature itself. I feel as though we have yet to produce learning structure that can compare to the models being provided to us in nature, structure that emerges from the intersection of time, space, and artifact, structure that accurately reflects the cascading properties of learning. Basically, I think water is the most representative example of how we learn and what that learning looks like.

I had been recording quite a bit of audio near water in Korea, the US, and the UK. This ranged from rivers (the Thames, the Han, the Hudson or the East) to oceans (the Atlantic and the Pacific) and was giving those a listen recently and something struck me. The audio signature was different from those collected elsewhere. I don't simply mean the obvious aural characteristics of the water lapping on the shore or anything like that. I was struck by the sound of socialization, how people were influenced by or interacted with the water itself. It changed the tones of the recordings. So this is an example of collected media that framed the eventual purpose, reversing the order of how this book has been presenting these mobile learning field activities, as purpose and process leading to media and composition. In these instances, I recorded this audio without an overt purpose, except perhaps a general feeling that these might be significant. A hunch, if you will.

Now how much of this is my interpretation (I assume quite a bit) and not anything particularly objective or even observable, I am not sure. But I don't think I would be going out on a limb by suggesting that water influences the way we interact with it and each other. It provides a governing structure in which we make meaning. In some cases merely being beside the water makes people turn playful; in others, it fills them with dread or foreboding. It does both for me. I am awed by its ferocious simplicity. In the same breath, I am frightened by its relentless vastness. So long story short, I stick to rivers whenever possible. They are more accessible and less stressful. I think Joseph Conrad understands this and the point he raises about restlessness is valid in this context. We are drawn to water, as it is reproduces the rhythms of our own wandering souls.

> *The sea has never been friendly to man. At most it has been the accomplice of human restlessness- Joseph Conrad*

Water has fascinated us for eons and always will. It is the stuff of life and the object of appreciation. It is the most perfectly sublime organic invention. I suspect it is the archetype we base much of our understanding of the world around. It has incredible psychological effect and power. It reveals, completes, tears asunder, and provides people like me with other hyperbolic statements.

> *For whatever we lose (like a you or a me),*
> *It's always our self we find in the sea- e.e. cummings*

It most certainly affects social interaction. And, as such, it seems a particularly apt metaphor for mobile learning. Learning through fluid space and connections. Ephemeral constructs, transient connections; no intersection of time, space, and socialization is ever the same. We bend according to its fluid structure, much like it bends when we try to contain it.

> *Human nature is like water. It takes the shape of its container- Wallace Stevens*

So we have the sound of birds and snow and lapping water and all the hallmarks of water-based audio recordings. More importantly than that however, we have this social interaction. We have social

alignment with the governing dynamics of the environment. We bend towards it. There are thousands of cultural inferences to be made here and a thousand means of interpretation for them. The water might influence me more or less so than my counterpart in another country. I draw from literature reflecting my own sentiments, my own upbringing, and my own sense of what is important. I cannot deny that. I have recorded the water of Hyde Park (granted, that is just a lake) on a particularly sunny day, another from Shadwell Basin in East London on a snowy day. Some I have recorded in parks near the rivers in Korea. All have the sounds of social interaction and all of it is informed in some way by the water. Water influences our behavior, as all space does.

The significance of this as a learning activity is to understand how the shape, the characteristics of our natural environments affect our interaction there. How things that seem lifeless or sedentary are actually highly emotive or mobile. Learners can be asked to do the same. They can record the audio of interactions of people around a particular space. Reflection can be inserted to determine the locations, the characteristics they are responding to (water, grass, tree, building, etc.), and the conclusions drawn from these recordings. And all of it can take place with a mobile device.

Note: recording the audio of water is especially difficult without rather expensive equipment. It is a highly dynamic sound and one aspect of that sound is bound to overwhelm the others. If interested, I suggest the London Sound Survey as a model of how this can be done well.[67]

Hyde Park, London. This was a surprisingly beautiful day in early February and many people were in the park next to the lake. Available May 10, 2013 from http://bit.ly/10JfOJ0.

Hangang River Park, Seoul. Note that the music being played there dominates the aural landscape and attracted quite a crowd, but the river drew the people there. Available May 10, 2013 from http://bit.ly/11fjE9g.

Shadwell Basin, London. This was recorded on a snowy day in January along the Thames. Many people were still walking, but were more withdrawn, introspective and the snow and the water, I believe, influenced this. Available May 10, 2013 from http://bit.ly/15t7ltq.

Tongyeong Ferry, southern Korea. This was a ferry ride to a small island off the coast of southern Korea. The passengers were a mix of locals returning to the islands and tourists like myself. There is a nice mix of social interaction present in this recording. Available May 10, 2013 from http://bit.ly/Zmp2Ki.

EXTENSION ACTIVITY: PLAYLIST

I even went so far as to record a playlist of music that I thought encapsulated the motion of water. These I assembled as a tool to present an impression of water as an enabling agent, one that despite its seeming chaos actually makes thinking and action lucid, even cohesive. The playlist was a cobbling together (or an assembly) of songs that make me think of the water. I have included the track names. Tinariwen might seem like a strange addition, but the sound of caravans and that rolling sense of Saharan music always makes me thinks of oceans.[68] I had someone tell me that Saharan towns like Timbuktu, seemingly on the edge of nowhere in desert areas, orient themselves to the deserts as we might the sea. They are ports on a vast expanse of an ocean of sand. So motion is as important for them as it is for those living next to the water. Have your learners construct playlists

67 Retrieved May 20, 2013 from http://bit.ly/148LLLL.

68 Tinariwen is a band of Tuareg musicians from northern Mali. Retrieved May 23, 2013 from http://www.tinariwen.com/.

to reflect the learning or cognitive impression of a particular object or space. It is engaging them in another mode for reflection and another type of literacy. To listen to the playlist, please see (available as of May 10, 2013) http://bit.ly/12or4gY.

1. ISAN: Cathart
2. Jonsi & Alex: Daniell in the Sea
3. Tinariwen: Matadjem Yinmixan
4. Mozart: Quintet for Clarinet and Strings in A Major: Kv 581
5. Squarepusher: Tommib Help Buss

EXAMPLE 6: PERSPECTIVES AND PUBLIC TRANSPORTATION. TOKYO AND ELEVATED TRAINS: THE ROLE OF PERSPECTIVE AND ENGAGEMENT/DETACHMENT IN LEARNING

A relatively recent visit to Tokyo (late 2011) had me thinking a bit about urban cityscapes, perspective, and learning. Particularly, learning of the spatial sense making variety. The trip was great fun, seeing some old friends, enjoying good food, long walks, and great Tokyo backdrops as set pieces. It had also had me collecting media and reflecting on the role of public transportation in orienting our

perspective on urban spaces. These public transportation grids, none more conceptually powerful than a subway map, affect our sense of space and motion profoundly. Tokyo juxtaposed that perspective for me by introducing height and depth as a defining characteristic, a vantage point onto the city itself.

I should say that I am used to subways in sunken places. As subterranean encounters that thrust our gazes upon one another, that allow us to inspect social interactions with strangers, and to learn what we do with enclosed spaces. The subways I refer to here are the ones in New York City, London, and Seoul. Tokyo's subway is primarily underground as well, but it does peek its head out a bit more (much more, at least in the limited stretches I was riding). When it does emerge from its underground tunnels, it becomes an elevated train. So one goes from subterranean exercises in introspection to an elevated outward gaze. The effects of this transformation on perception are significant.

Immediately what was once a case study in learning about the social interactions of enclosed, dense spaces becomes an expansive learning experience. The gaze immediately renders away from contraction and towards structure. The city becomes the focus of observation. Being elevated affords a perch to gaze down upon, almost as if the city had become a game of Civilization.[69] One can gaze on the structure of the city, how its design naturally funnels flow through the city, and how these funnels act as areas of consumer attention. The biggest and brightest signs at the biggest and busiest intersections.

69 https://en.wikipedia.org/wiki/Civilization_(video_game)

How we learn depends on how context unfolds. Our environments are often presented to us. I couldn't tell you what it looks like above the ground at my most common subway routes. I wouldn't be able to find the subway entrances at most of these stops on foot above in the bustle of the city street. There are vast swaths of New York or London or Seoul that I only know via their iconic subway signs, underground. Below ground, I am contained and rendered linear. I am going there from here. There is no expanse, no extenuating factors of traffic, noise, or advertisements. Below ground, the symbols of attention are much starker, clearer, less muddled. Yet above ground on an elevated train, things are different.

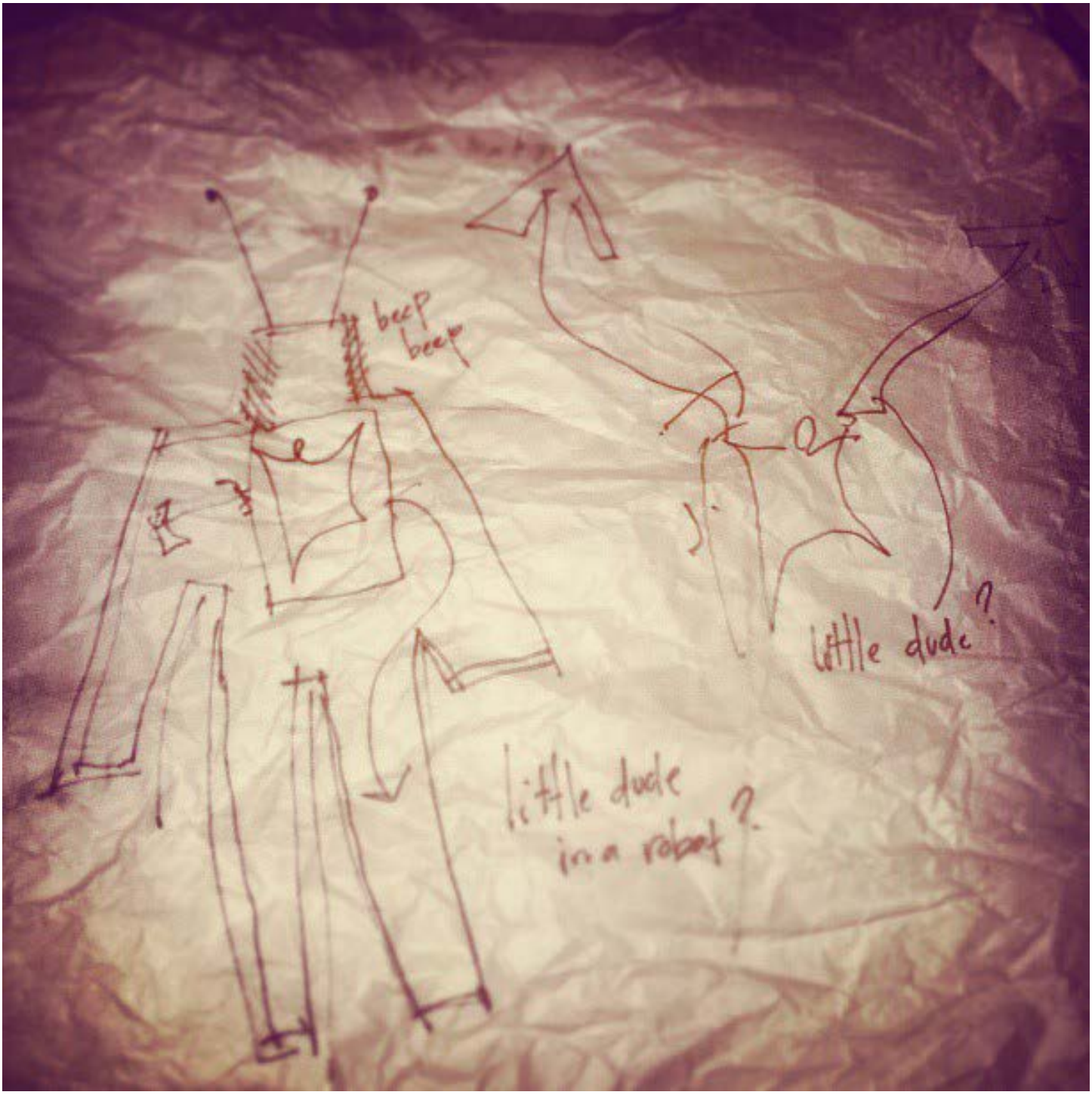
The expanse of an elevated train. We float and meander and worm our way through the sprawl. Less shoegazing and more stargazing. We feel ethereal, even a bit transcendent. We are the middle point between satellite imagery and Street View. Maps, digital or analogue, have changed the way we interact with space and unfamiliar terrain. We can know a place before we go to a place. In between this binary of Google Maps (as satellite imagery) and Street View rests the slightly anachronistic elevated train. It is a throwback to a bygone time that offers an intriguing space for interacting with and knowing a city.

I believe the map isn't always the terrain. The map doesn't account for the incredibly urgent perspective of being on foot in the hustle and bustle. An elevated train gets in without fully being in. It both represents and is flow. Elevated trains can be nightmares for those living in those areas, but for the passengers they are magically capable of enlarging focus without distracting attention. Engaged but introspective, they are a thinking person's form of transport.

LEARNING ACTIVITY: record the city from both an elevated train (or a bus) and record that same approximate stretch from a subway. Use whatever media you have at your disposal, whether the claustrophobic confines of audio (the desperation of whispered voices in a very crowded subway), or the expanse of video (motion itself unfolding).

All of the examples presented in this chapter are personal and applied; I have tried them all personally and some in more formal situations. What is important is that the process of coming to know and the iterative nature of learning are foregrounded, made conscious for the learner through reflection. With an understanding that learning is never complete and that learning artifacts are never finished, we begin to transition to a perpetual stage of learning, where we expect and indeed seek it out in all our spaces, motions, and oscillations through this world.

Chapter 9: mLearning Design



There is no such thing as perpetual tranquility of mind while we live here; because life itself is but motion, and can never be without desire, nor without fear, no more than without sense- Thomas Hobbes

This chapter is designed specifically for teachers or those interested in pedagogy or the future of learning. It contains a series of observations (mine) around different aspects of the learning process and how mobile learning might fit in these spaces. It also begins to discuss how you, as a teacher, might design learning in mobile spaces and what that design might look like. It is intended to provide a broader perspective than the last few chapters have been, being rooted as they were in actually conducting the specific field activities. It is also an opportunity for teachers to reflect on their own practices and assess their usefulness in these mobile learning spaces.

All of these reflections are guided to some degree or another by our rush towards the future, however enthusiastically or reluctantly. Much of this book has attempted to position mobile learning as a space of transformation (habitus) and not strictly a technological issue to emphasize purpose and process over tool or output. This is a deliberate attempt to keep these activities relevant in the face of change. We are approaching a future where our technology will be further on our person, further down that road of seamless integration with our physical selves (Google Glass, for instance), where interacting with technology may not be a deliberate, conscious activity, but rather a reflexive one. One that augments the existing self with additional context, or information, or further makes possible the kind of alignment of seemingly incongruous materials that we have described in this book. It is a future that will do all of this by default.

This changes the way we approach learning and further reiterates the need for perpetual reflection. Reflecting on what is changing and what is being made available in this future and how to best position learning in this space. One way to begin, one aligned with our focus on the humanities, is to challenge your learners (and yourselves) to investigate depictions of the future in our media, art, and popular culture. How much of what is depicted of the future in film or art a prediction, a prop, a measured presentation, or merely fear? How does our relationship with the future dictate the way we might learn in new spaces and how we approach the future itself?

Challenging your learners to engage in this type of reflection is an adherence to the belief in the transformative powers of purpose and process; essentially, we are priming the pump for learning in highly volatile, unpredictable spaces. These are the kind most often associated with the future or some new technologically enhanced environment. Asking learners to analyze existing depictions of the future as well as create their own is a reflection unto itself of learning design. Learners are challenging themselves to take ownership of their future, identify its shape and flow, and to structure it for their own learning.

What follows is my observation, from the role of both teacher and learner, of depictions of the future in popular culture and my own take of what the future will be. Whether or not the details prove to be accurate is beside the point; it is essentially analysis of what makes structure in any context and what will continue to do so in the future, what binds societies and peoples together. It has immense application to learning and how learners can position themselves amidst this change to function.

MLEARNING, SOCIAL FABRICS, AND DEPICTIONS OF THE FUTURE

Generally when I watch a film set in the distant future, I find that a vehicle commonly used to present that future, or to contextualize it quickly, is structure. I am speaking mostly of architectural structure. I have noticed that much modern science fiction (visualized in film or art) tends to rely on architectural

structure to project the ‘future-ness’ of the composition. We imagine the future and the first thing we imagine is the architectural structure of that future. The building, the street, the house. The architectural geography of our future societies is more readily accessible than the future interaction and social composition of those societies. I don’t want to make the case that this is due to a lack of imagination in our artists or writers; quite the contrary, I believe them to be visionaries perfectly relevant to those interested in learning. I am intentionally isolating the visual away from the textual descriptions of science fiction. I just can’t fail to notice that we visually imagine our futures to be either structural (architecturally) or generally dystopian.

I believe this predilection towards dystopian and/or architectural future projects more about our current composition as humans. I suspect there are a few different reasons why this is the case, some of which I highlight in the following.

STRUCTURE IS EASIER THAN SOCIAL COMPOSITION

It is easier to suspect that buildings will continue to grow taller, that transportation will continue to expand in structured ways, and that society will grow and grow with only an occasional regression. This is a general trend that has been happening for thousands of years. So cityscapes, these geographies of perception and containers of action, will continue to frame our worldview. Much of my perception of Seoul is a view from my old apartment from the 23rd floor. The framing of the skyline from that window structured my motion in one direction or the other. A mountain here, an overpass there, a building or two, and my day is constructed through the navigation of diminished choice. There are only so many directions to go once I leave my building. This is how we shape our lives and it makes sense that projecting a futuristic cityscape would be a means of containing activity close enough to predict it. It is a useful tool for controlling change and a useful tool for structuring learning. Those interested in learning design should take note of the intersections between structure and choice.

What interests me is how that structure has evolved based on the needs of the community it supports. Not only does it guide and dictate behavior to some degree (only so many ways to get from Point A to Point B) but it also supports community practice. How people interact, what they want, what they need, and what they do when thwarted from that need. This is the substance of social structure. I would love to see more depictions of society as projected a hundred years from now. I would be curious to engage learners in such depictions through discussion and composition. But a reliance on structure isn’t merely an attempt to steer clear from the messier, social spaces. It is a desire to imprint the future with a direction.

STRUCTURE IS AN ATTEMPT TO IMPRINT THE FUTURE WITH A CERTAIN DIRECTION

Depictions of the structure of the future are a race to imprint the future with a particular composition or even direction. I used to believe that the past happened because it had to happen; that was its only path. This isn’t true. There are millions of potential realities looming in the future. Choosing one doesn’t exclude the possibility that there were others. More importantly, it also re-emphasizes the nature of choice in the crafting of the future. One consequence of one activity can tip the scales in unforeseen directions and alter direction considerably. History teaches us that some things happened because they happened and some things happened because someone willed them to be. Choices have consequences and we are all co-creators of our own futures.

Some historical events had some inalterable momentum; they were just going to happen and most of those tend to be based on the biological realities of life and death. However, much of what we know as history was derived from very intimate decisions. A thousand intimate decisions of the present

have considerable impact on the future. This is the inviolability of choice; it is an action of empowerment for both the individual, the present and future society. History is laden with these 'what if?" scenarios so I won't recite them here. But choice does affect outcome. History is the confluence of when, what, how, and why. Hence the present is the progenitor of the future. Designing learning is a means of enacting the future through the present. It is a pedagogical model built on a highly relevant social one.

So depictions of the future foregrounding structure are attempts to cast that perception of the future onto the future itself. Predictions, if repeated enough, become mantras. Mantras become drivers of collective human will towards the future. Subconsciously and collectively, we will be casting our future using the predictions of the present. All things being equal, a bold plan trumps everything else. And by merely articulating something in the conscious, we begin to enact it and make it real. This parallels the need for perpetual reflection in these field activities; we are crafting the future through purpose and process. This is the role of science fiction as both prophet and architect. It announces a potential future and begins constructing it.

CAVEAT: MLEARNING AND DEPICTIONS OF THE FUTURE

So building on that, science fiction writers using architectural structure in depicting the future has considerable learning application. It is an accessible narrative device: a building, a home, and a street. I had lamented about how I see very few depictions of social interaction in science fiction. That is partly why I am so interested in open learning and mobile learning. It is in these highly fluid spaces, these chaotic environments of ephemeral connections and collaboration that I see that social future beginning to take shape. We see connection driven by purpose (learning objectives) or serendipity (stumbling upon a topic or person of interest), by rebellion (rejecting the current order), and by adherence and reverence (open learning as an almost spiritual act).

This is, in my estimation, what the future social fabric will look like. It will have connections driven by purpose and process; meaning making occurring across juxtapositions and intersections of time and space. Not surprisingly, it looks a lot like the present. I think we will see a fusion of these layers of activity (virtual vs. physical) onto an augmented consciousness. We will interact simultaneously and consciously on parallel levels. Perhaps we can consider this the end stage evolution of multitasking. We are becoming comfortable with simultaneous activity.

Some of this interaction will be technologically enabled, some of this intelligence will be distributed, but social interaction will remain a constant. It will increase in volume, flutter in terms of quality, quiver in the face of responsibility and basic survival (i.e., jobs), but it will be a frontier on which we build social structure. These social structures are the conduits of learning. The mobile learning field activities described in this book are the places in which these futures might be enacted; the humanities are a mechanism for their interpretation and composition.

TIPPING POINT: AN ANECDOTE

These layers of simultaneous interaction are already here; they are already redistributing the neural pathways, causing psychological and physiological shifts. We see neural pathways ignite with music (think of the work of Oliver Sachs on music and cognitive development).[70] We see a distributed emotional balance emerge from a disciplined social interaction (online or otherwise). We see balance being forged from chaos. And the virtual begins to dwarf the physical if only in terms of scope.

70 Specifically this work: Sacks, O. (2010). Musicophilia: Tales of music and the brain. Vintage Canada.

Consider the amount of people you interact with physically on a daily basis. How many times do you speak with someone a day? My reality is motion, movement, relocation, and a general nomadism. There are days when I speak to no one but my wife and this is on Skype as we are in two different countries as I am writing this). There are days when I verbally interact with no one but the store clerk. Yet my virtual world is rich, stacked with transient, overlapping discussions and interactions. I interact with hundreds online, but just a handful in my physical life. Mobile learning brings me closer to combining the two.

Some would lament this lack of physical connection. I don't. My reality has always been a limited scope of physical interaction. It hasn't lessened over the years. I just expanded in another direction. Socially and intellectually I have broadened my interaction. It is an increased space in which to explore and not a zero sum exercise. It has tipped dramatically towards the virtual or this new reality being enacted in mobile spaces in sheer volume and quality. This has everything to do with the larger potential for social exchanges and learner autonomy. I am free to seek meaning, to extract quality, to advance knowledge. I am free to record impressions and locations and bring Point A to Community B. I am free to write this book and you are free to ignore it. There are millions of smart, generous people looking to connect, like magnets floating through space. They will merge and emerge strengthened. They will connect and then break apart. That is what they are naturally meant to do.

Mobile learning captures this simultaneity of activity, this scale of community, and this ephemerality of connection. These are the learning realities of the modern age and there is great opportunity there. We just need to explore the contours of this fluid, social space. We will adhere to it and engineer it just like tires to a road. Yet the present and the past undoubtedly inform the future. So perhaps it would be a good time to consider how this happens and how this can be enacted through a combination of reflection and function.

MOBILE LEARNING AND REINVIGORATING ART (AS EVIDENCE OF LEARNING)

As context is a construction of time, space, and experience, learning is as well. It is a construction (or alignment, if you prefer) of past experience with current need and want. It is building one construct on another and the evaluating that construct based on subsequent experience. There is nothing novel here as it is well documented in much learning theory, but isn't art constructive in this respect as well?

Mobile learning serves this construction by providing this in the context of the learning event itself (informal or otherwise). You immediately experience the event in situ and then reflect on it, reconstruct it, and recast it as art. You do so immediately. Many of the examples presented in the previous chapter were designed to position the learner in mobile learning field activities as artist, creator, engineer, or architect. We build meaning from otherwise disparate artifacts. Art, somewhat uniquely, builds meaning from emotion and intellect, from impression and experience.

IMMEDIATE

There is certainly room in mobile learning for long-term reflective activities, ones that take place over time and slowly synthesize with larger conceptual issues. The smaller reflections that I have suggested inserting throughout these field activities can be granular or can become a long-term, long-form reflection. This requires time, certainly. Art can and is a reflective activity and it can capture impressions of the time and space in which it was produced or synthesize understanding as a composition that presents knowledge. Much of the art produced in these field activities is art of the moment, cap-

turing that moment in space and time and how it recast the individual's understanding of their reality. It is often the art of emotional perception.

Mobile learning serves this process by allowing for an immediate composition or reflection through tools (mosaics, photo filters, blogs, even drawing applications). Music does much the same. Why not score the soundtrack to these compositions? There are very few technical constrictions with mobile technology that would hinder this process. I might be able to squeeze some music out of a synthesizer/piano application even though I cannot play a musical instrument. Why not an audio post?

Each generation remembers a pivotal event (in the US this might be Kennedy's assassination, or 9/11) and each generation remembers it differently over a course of time. The memory shifts with them. With audio posts, we have a record of our impression or representation of the event as it occurred. Learners can reflect on these feelings at later dates. They can mark their shifting impressions over time and use those shifts to cast future projections. They can cultivate understanding and emotional intelligence constantly. In this case, by recording, composing, and presenting the past and present, we begin to project ourselves into the future.

NOSTALGIC (COLLECTIVE MEMORY)

Mobile learning can serve as a read/write device, a media diary of sorts. There are some applications and services that have been created to do exactly this, present to us on a daily basis our social media content from the past. Why not take this process further by offering playback from a select date or time or categorized by a select emotion? This process further emphasizes the need for extensive metadata in the materials and compositions being produced and these should include descriptive, intellectual, and emotional characteristics. Metadata is reflection. Providing metadata in such a way makes the materials generated in these mobile spaces all the easier to use for present or future purpose. Remember, it is about making conscious that which wasn't; learners will make subsequent meaning for themselves.

With proper metadata and a centralized collection of our mobile learning compositions (a blog or a site), we can review the emotional triggers in life to see common themes or contexts. We can enact the development of emotional intelligence through art or composition. Creating art through the accumulation of events and their emotional significance. Categorizing these compositions in emotional and intellectual terms. Not only does this promote multimodal composition and literacy, it promotes an emotional and intellectual cohesion by forcing the learner to consider how one flows from the other, not unlike the formal/informal flow we had discussed earlier in this book. Teachers can contribute to this development by prompting their learners to reflect on both the intellectual and emotional aspects of meaning. Soon enough, the learners begin to synthesize the two in their explorations of meaning.

This type of development prepares learners for the challenges of the future, where intellect and emotion are valued assets for making meaning in chaotic, highly social spaces. But it isn't just the intellect and emotion, the art and analysis that we need to consider. We need to consider the context in which these learning activities take place and how they can be best positioned.

REPRESENTATION VS. INTERACTIONAL CONTEXT IN ICT & GEOGRAPHICAL ALIGNMENT

A mentor had recommended some articles to me when I was struggling with the notion of context in learning design, how to manufacture it (if indeed that was possible), how to manage it, how much control do I have or want to have over it as a teacher or learning designer? This notion of context is

especially nuanced in learning design. The mobile learning field activity examples presented in the last chapter provide just a few examples of shifting context. The articles my mentor had recommended helped position my thinking for mobile learning design and context in a broader fashion.

These articles deal with the issue of defining and designing context in technology environments and how elusive that process can be. This relates to our exploration of mobile learning in this book. Is one merely enabling an existing community through the use of mobile technology, augmenting what already exists? Or is one using mobile technology to connect strands of disparate activity around a common domain, the 'stuff' of community? This is a very important distinction that all teachers need to consider before conducting their own mobile learning field activities. Are we increasing the capacity of an existing community or are we connecting disparate activity into a new community? If you have a group of learners, ultimately the greatest assets to their learning will be each other so consider this question carefully.

Defining and understanding the context in which activity takes place is critical for the understanding of all learning, but particularly for the kind of constructivist, community-driven learning we are advancing here in these field activities. We are dealing with groups of learners with existing social and media practices, some drawn to particular disciplines, and some who may or may not be friends. So to design in this context is to consider these overlapping layers of context.

Some pertinent passages that deal with the distinction between context as a representational problem vs. context as an interactional problem are as follows. If you think these distinctions don't matter in the scope of mobile learning design and use, then I caution you to reconsider. Basically, consider whether you believe designing context to be a representational or interactional issue. Are we designing to represent an existing context or are we designing to allow the community to interact? Much of the design presented in this book opts for the latter. In the following I merely borrow from Dourish what distinguishes the two approaches.[71] Please note that I have bolded the sections of the passages that I thought most relevant for our discussion here.

CONTEXT AS A REPRESENTATIONAL PROBLEM

> First, **context is a form of information**. It is something that can be known (and hence encoded and represented much as other information is encoded and represented in software systems).
>
> Second, **context is delineable.** We can, for some set of applications or application requirements, define what counts as the context of activities that the application supports, and do so in advance.
>
> Third, **context is stable**. Although the precise elements of a context representation might vary from application to application, they do not vary from instance to instance of an activity or an event. The determination of the relevance of any potential contextual element can be made once and for all.
>
> Fourth, and most importantly, **context and activity are separable**.[72]

CONTEXT AS AN INTERACTIONAL PROBLEM

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71 Dourish, P. (2004). What we talk about when we talk about context. Personal and ubiquitous computing, 8(1), 19-30.

72 Ibid.

Contextuality is a relational property that holds between objects or activities. It is not simply the case that something is or is not context; rather, it may or may not be contextually relevant to some particular activity. Activity is the glue that binds context.

Second, rather than considering that context can be delineated and defined in advance, the alternative view argues that the scope of contextual features is **defined dynamically.** Context is defined, again, by doing something. It emerges from activity.

Context is **particular** to each occasion of activity or action. It is specific to that activity.

Context arises from the activity. Context isn't just "there," but is actively produced, maintained and enacted in the course of the activity at hand.[73]

So consider whether context and activity can be separated. Is there any learning context if no activity is taking place there? For the purposes of this book, the answer is no. We have defined mobile learning through a transformation of habitus and we have emphasized process and purpose, an active approach to coming to know.

I believe that context as an interactional problem as it emerges from the activity taking place there. It is "enacted in the course of the activity at hand" and thus the use of mobile technology (or any tools or artifacts) cannot be separated from the context that emerges from this use. This distinction between representational and interactional context is an important point of departure for all subsequent design. For mobile learning, we need to consider the tools and the interactions that take place through the tools. It had me thinking of a personal example of context, alignment, and geography.

GEOGRAPHY AND ALIGNMENT

If context emerges out of the course of the activity being undertaken, then my context is bounded by geographical metaphor. I think in geography, in spaces and places, in the distance between and the motion and mobility required to get there. I design mobile learning activities around and through this geography. This is essentially the subject of this book.

I place related activities in contextual buckets and employ these metaphors when performing certain tasks. I turn towards the geographical metaphor, the place, when performing this or that activity. Please note that these categorizations do not correspond to a factually accurate description; rather they are bound in my own sense of meaning making and contextual activity. My rough categorizations include Edinburgh & London as the center of elearning and academia; the US as the center of all things non-profit and digital humanities; Africa as the center of ICT4D and mobile learning; and Korea as the center of all things PhD and travel. These categorizations are my interactional contexts.

These categorizations are ways to align my activity with the context I designed to perform that activity. Further, I organize my supporting contextual networks around those categorizations. Using Twitter as an example, my network for my research interests match almost exactly to those geographical distinctions. My community for elearning is mostly UK based, Africa is where much, if not most, of my ICT4D and mobile learning community resides or performs their work. The places represent real activity and context even in this online space. I align myself with these communities depending on the activity or context at hand. So we have context as an intersection of space and activity. However, context is also about time intersections, about context emerging from activity in specific places/spaces at specific intervals or times. Let me illustrate this through my own example. I am currently

73 Ibid.

based in London for my research. I call Korea my home (emotionally, at least). I am currently writing this at my father in-law's house in New York visiting my wife. Three continents, three dramatically different time zones.

In Seoul, I am 8-9 hours ahead of London. In New York, I am 4-5 hours behind the London. If I am participating in activity that I generally associate with London or interacting with my community there, then I align those activities with London. I metaphorically turn to London. In Seoul, I feel perpetually ahead of the curve, as I am almost complete with my day by the time these other locales even wake up. In New York, I am a tardy student perpetually behind the clock. My activities in these spaces depend on my location and depend on what location I am aligning myself with; they are about attempting to stay ahead or catch up, to adjust the mis-syncs of time that my alignment has produced.

Technology makes all of this possible, even exacerbates this process by making all of this time, space, and context synchronization immediate and visible. I am consciously aware of my being ahead or behind activity taking place in a particular context. I am perpetually adjusting, aligning and shifting behavior to produce a very fluid context. To think that this can be captured in some sort of representational design is denying the variability of the activities. It is relational, not unlike the knowledge produced in mobile learning and the humanities.

ENACTING THEORY THROUGH MLEARNING DESIGN: MANTRAS AND TEXT INSERTS

As teachers, one way to consider context and learning design in mobile technology is quite literally to design it through wireframing or prototyping tools, some of which are listed in the chapter on Tools & Resources. This is also a good exercise for learners as well. The activity is to articulate the needs, the context, the functions, the layouts, and the processes of a particular tool for supporting learning in the humanities. This forces considerable reflection on existing practice and the advantages provided by mobile technology to support these practices. There is no need for teachers or learners to know how to code or program; merely through a needs analysis, defining functions and layouts, and outlining workflows through a wireframe can learners demonstrate their understanding of process and purpose. The wireframe serves as a wonderful example of a multimodal composition as well.

I was recently working on another project and needed to wireframe a few mobile environments for a particular learning tool.[74] I use Pencil, a GUI (Graphical User Interface) prototyping tool. I was wireframing some of the page layouts and became a bit distracted as I had just come off a long writing session earlier in the day. So my mind was still a bit in that writing mode as I was wireframing. I found myself slotting in text in the mobile wireframes that had more to do with my general thoughts than the tool I was working on. I had created quite a few of these, all of very limited design and in some cases just the iPhone wrapper, but all with some textual insertion that related to theory. I was basically posting the equivalent of sticky notes to the designs and each of these designs contained instructions or reminders or mantras. These mantras became conscious reflection and enactments of future thinking.

MANTRAS=ENACTED THEORY

I am basically suggesting that this distraction of slotting in text in these wireframes enacts the marriage of theory and technological design. It is a mantra enacting a desired state of balance. The text is more than just a list of design considerations; it is more than a wish list of 'nice to have' deliver-

74 Pencil in particular is highly recommended, as it is free and open-source. Available May 10, 2013 from http://pencil.evolus.vn/.

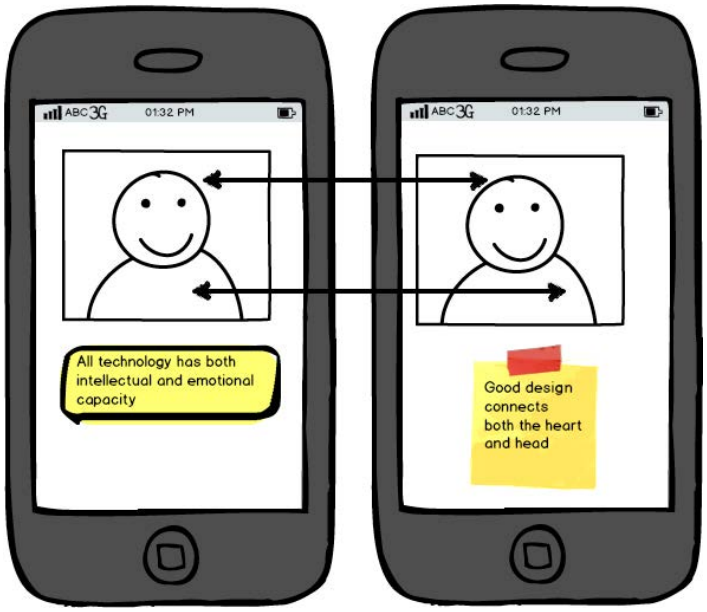
ables. It is enacted theory. So I wanted to keep designing these as much for inspiration as for theory and reflection. They inspire me to push beyond what has been presented to date and affirm that what I am trying to do with my research. They remind me that there are design considerations that we are not always considering. There are considerations that extend beyond usability and navigation, clear feedback and signaling chains. There are design considerations of interactional context and the creation of mediums for the pursuit of novelty and experimentation. They remind that there is a role for design that challenges and inspires outside the context of current workflows or entertainment; it is a tacit understanding that design isn't always representational, but it is always interactional.

These mantras also illustrated an important consideration for participatory design processes. It convinced me that learners could dictate their own needs, their own functions, their own workflows, and even their own wireframes if encouraged to do so. Recognizing that this entire design process was a process of reflection and composition meant that this could be incorporated into any of the mobile learning field activities presented in this book.

PARTICIPATORY DESIGN AND MANTRAS: ARTICULATING NEED IN A SHARED LANGUAGE

If working with a community unaccustomed to speaking in technological terms, then creating spaces for this sort of communication is important. It gives a voice and draws the discussion closer to need and requirement. Articulating where previous technologies have fallen short is useful, certainly, but that approach couches future design on past models. It builds legacy into the discussion and suggests that iterations resemble past design.

The approach described here works in shapes and text. Drop a text insert (a callout, a button, a markup, anything) in space and articulate what that space should be doing for you, or what type of interaction you want to have there. This approach has worked with white paper and markers for decades, but using it in a wireframe bridges that gap between gathering requirements, articulating, and presenting them. For academic purposes, it enacts some aspect of a theory or framework or observation that the individual wants enacted. For teachers, it provides the most accessible medium for considering the learner and their interaction with technology in the process of coming to know; it allows them to design it for themselves. So consider wireframing with your learners; it forces learners and teachers to reflect on current practices and how those practices are in some part shaped by the limitations of the tools being used.



DESIGNING SPACES FOR MEMORY AND MOBILE LEARNING: WESTMINSTER ABBEY

Building on this consideration of context and learning design, I wanted to briefly turn our attention to possible models for designing spaces for learners to reflect and compose. The connections drawn here will be fragile, but bear with me. We are in the business of designing through metaphor and inference and relation in the humanities and the learning design should reflect that. So I constantly look for models to frame that interaction and activity. In this instance, we turn to the past to design a learning future.

I love to wander around Westminster Abbey in London when my wallet permits; I love marveling at its scope of history and national memory. Its thousands of nooks and crannies, abbeys and crypts provide a narrative of a story of a people. It is narrow and cramped in spaces, dramatically expansive in others. At times it is both messy and measured simultaneously. Things are here and there, strewn about, with equal parts awe and mystery. More than all of this, it is a collection, a curated (in the most organic sense of the word) identity. Jeremy Irons even does the audio tour. Not sure how one could top that.

It is also perfectly illustrative of how mind collects and curates. The endless plaques and crypts, the tombs thrust on one another all battle for one's attention. Depending on the light or the cold or the shuffling of feet, different alignments take place and different perspectives. In the Poets' Corner the statue of Shakespeare looks down on the two greatest Shakespearian actors of their respective times, David Garrick and Laurence Olivier. The progenitor and the progenies, all within sight of Geoffrey Chaucer, the father of them all. One stands in one spot and these all align naturally. In another and the perspective shifts and other connections are drawn.

These are broad examples of aligning people. But our minds do this with ideas, concepts, and content regularly. Juxtaposing Shakespeare to T.S. Eliot or W.H. Auden, slamming modernity with Elizabethan glory. Glancing towards the tomb of Elizabeth all while standing on Darwin's plaque. There are no immediate connections there aside from their nationality; the mind will manufacture connections to remember them both.

This is memory itself. We link one object to another, regardless of the similarities or mutual characteristics; through linking, we generate the memory. There is no memory without remembering. So the process of national memory as born out in Westminster Abbey is assisted by the spatial irregularities of the place itself. Tight corners here, broad spaces there. Some piled on one another, some with the grandeur and glory they thought their due. A king in earshot of a toll collector, royalty with scientists, artists with diplomats. Ideas circling and meshing, all under the watch of that elaborate canopy. So the place itself evokes the past, encourages connections of this sort, enthuses new juxtapositions and learning. We learn who we are and then remind ourselves who we are through novel connections, all made possible by this seemingly haphazard structure. Unlike many museums, nothing is sequestered there. Everything is spilling out into everything else. This is a living, breathing space. And it offers some interesting considerations for designing mobile learning spaces.

SEQUESTERING SCAFFOLDS AND SEQUESTERING STUNTS

The biggest takeaway from this attempt at making Westminster a learning space is this: artifacts are discrete and artifacts are assembled into meaning. So each statue has meaning in and of itself. They can be read and digested and researcher further with little to no connection to the larger environment at work in Westminster. Yet they stand in the open and beg to be assembled into larger chunks

of meaning and memory. This is multimodal assembly and Westminster emphasizes it enthusiastically.

Much mobile learning design sequesters for the sake of clarity and immediate learning need. We do this especially with introductory learning where concepts of importance need to be foregrounded and not muddled. We scaffold our way to more complexity. However, mobile learning design also tends to do this with complex learning or discussion. This is often the limitation of the mobile technology. It doesn't organically expand with the changing needs or intellectual pursuits. Yet even with complex design, there is still structure however amoebic and fluid. So, the nooks and crannies of Westminster Abbey lend themselves to broader learning and novel connections. By putting the objects of observation directly in our view and in our immediate consciousness, the space begs for connections and assemblies. If one stares at the tomb of Elizabeth long enough, it begins to recede into the background. That isn't because it ceased to be interesting; rather, it has been assigned space, connected with other memories, and made available for reuse. It is an artifact for later learning.

Westminster Abbey also provides guidance on how the country it represents will reposition itself in the future. It presents a chronology of change through an assembly of people and artifacts, demonstrating the flow of the past into the present and presumably into the future. We can see the future through the patterns of responses to the past. It engages the audience to interpret the memory being presented there.

So when designing learning, I caution against sequestering, to being too rigid in terms of purpose or process or spaces in which to enact the learning. Provide spaces (both mobile technology and geographical locations) with some nooks and crannies, with some space to spill out on the proverbial floor. Provide spaces with artifacts. We want to build and assemble these things into meaning. Give it space and give it a pliable structure, simultaneously. Completely open and completely closed often produce the same result: nothing.

DESIGN THE MIND INTO YOUR LEARNING SPACE

Design the flow and structure of the mind into your learning space. Challenge memory with juxtaposition (seemingly incongruous juxtaposition), challenge understanding with contradiction. Provide space where a vantage point is changed often (not unlike the Shakespeare to Garrick and Olivier vantage point, which obviously privileges Shakespeare. We never exceed the reach of our parents, this positioning might suggest). The spaces and activities presented in these mobile learning field activities are about the possible constructions of meaning, the possibility of juxtaposition and alignment. Merely flipping a view from left to right, from up to down, from black to white can do the trick. Encourage them to rearrange, adjust colors, hues, opacity. These are shades of difference with significant learning impact.

The mind works in assemblies and compositions. Westminster Abbey begs to be assembled based on the people, the light, the structure, even the mood. It shifts with each passing hour. Have learners assemble, reflect, evolve, and synthesize. Construct montages of an intellectual vantage point, challenge inclusions and exclusions. Broaden discovery through these assemblies. Westminster Abbey is not inclusive, but nor is it overwhelmingly exclusive. It is merely curated according to national memory and importance. Some of these individuals have stood the test of time; some require a Wikipedia lookup. Yet it is a visible process of curation and this can be enacted in mobile spaces through a considerate design. Provide spaces for remixing, montaging, reflecting, curating. Provide a space to present this. Provide some space to take it all in. Remember, we are looking for interactional context.

PATTERN LANGUAGE AND ARTIFACTS

So now that we have shape and models, have considered context and design, let's finish with a brief mention of artifacts and pattern language as they are so critical to mobile learning in the humanities and especially to the types of field activities we have explored here. Pattern language was advanced through the work of the architect Christopher Alexander in A Pattern Language: Towns, Buildings, Construction.[75] This work was highly influential in the crafting of this book and these field activities. What it does is provide an understanding that structure not only encapsulates but also generates meaning. Once we position the structure as an artifact in the process of coming to know, learners begin to employ structure (streets, architecture, signs, houses) to generate their own meaning.

Architectural and geographic theories provide a framework to explore how spaces inform the ways in which individuals recognize, incorporate, and respond to various contexts. Particularly because they emphasize the importance of social and cultural meaning that emerges through interaction with and within spaces and structures, these theories are useful for understanding the contexts that arise in mobile spaces. Overall, architecture research suggests that spaces carry social information based on their own physical properties and the spatial knowledge that participants develop about them. This knowledge, developed from social meaning and spatial experiences, allows individuals to create mental models of spaces that inform subsequent behavior.[76] We learn from space how to interact in space.

This "inform subsequent behavior" is important. We are generating in our learners the capacity for dealing with their own learning. I love the notion that "spaces carry social information" based on the physical properties of space. It carries, contains, and encapsulates.

We interact with this social information through space and are mediated by it. Each turn at each corner with each recognizable sign centers us further in this community and allows us to further model our behavior in subsequent visits. The mobile space might be fluid, but we still rely on our mental models of how this structure has come to be, what social information is carried in it, and how that governs our behavior. Architecture is space embedded with meaning, with tools for constructing models and for creating further architecture. We are the Doozers of our own worlds, constructing meaning and models and architecture by doing and making and without fully understanding why we choose to build so methodically, so incessantly, so religiously.[77]

This is another of the reasons why I am enamored of mobile learning. It is incessant modeling and building of knowledge, conceptual maps, of social and physical realities. It is all happening simultaneously across physical, virtual, and cognitive spaces. It is the processing of structure and space and information to create meaning and significance both in the virtual and material. It is an intersection of activity and time where meaning is constructed both for present and future need. Two vantage points on time, two vantage points on cognition, two vantage points on space. Structure is everything to this act of learning agility. It is the flow, the extension of the individual as system of activity.

75 Alexander, C. (1977). A Pattern Language: Towns, Buildings, Construction. Oxford: Oxford University Press.

76 Stromer-Galley, J., & Martey, R. M. (2009). Visual spaces, norm governed places: the influence of spatial context online. New Media & Society, 11(6), 1041-1060.

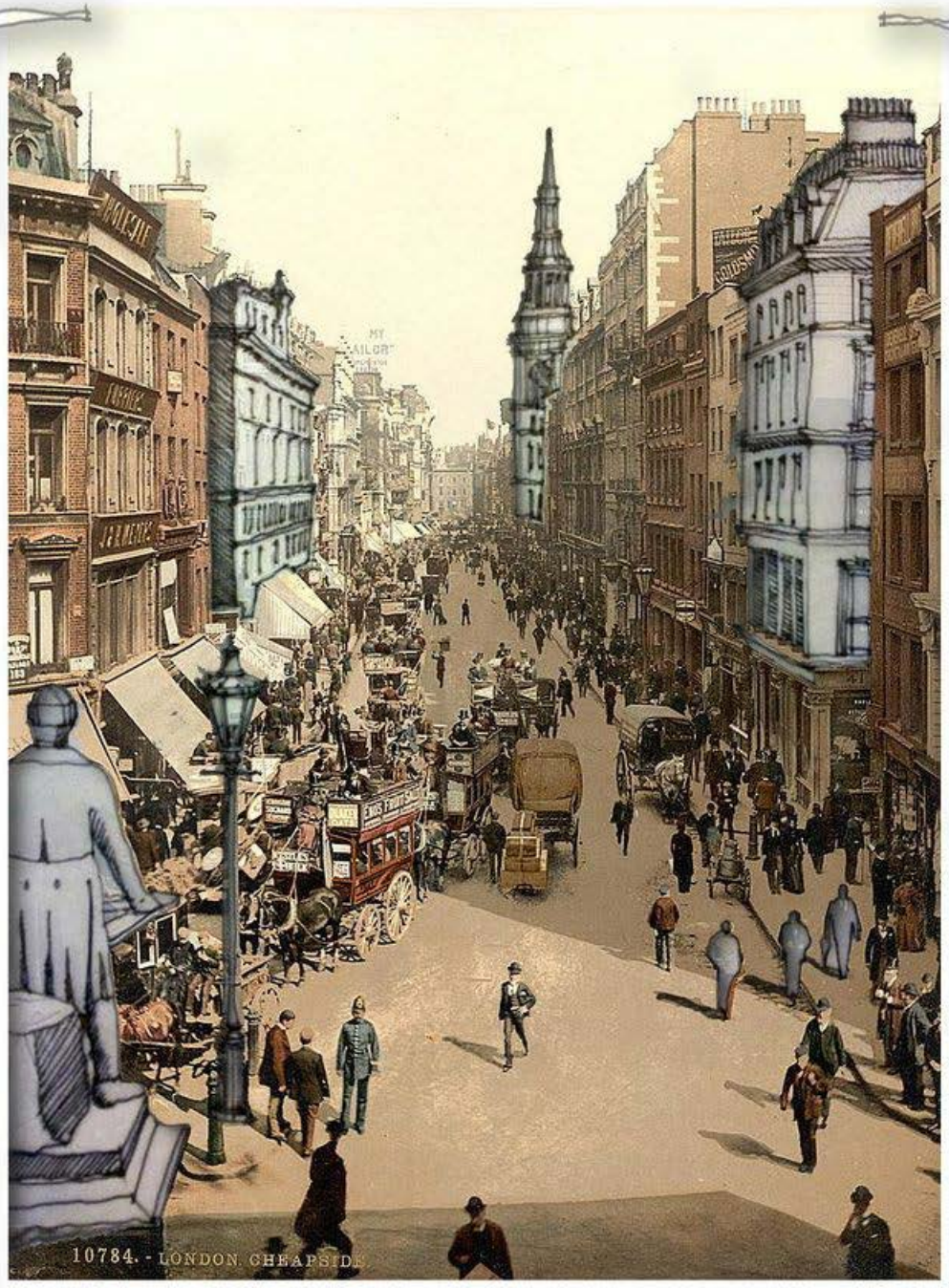
77 Doozers are imaginary characters in a Fraggle Rock, a short-lived television show from my youth. Doozers built endlessly from materials that the other characters subsequently ate, thus ensuring that the endless cycle of construction and destructions was enacted for my young eyes in each and every show.

Alexander believes we can all express, given the right framework and vocabulary, how we want structure to govern our behavior.[78] Any community with their toolkits and "their repertoire of shared processes" can communicate this need and craft their own structure.[79] That is the learning design process as I see it, a process of giving voice and agency to communities to craft their own structure. To help them rearrange their space and populate it with meaning. All design is, or should be, like this. All design is learning design. All of it is about structure and space and significance and how we, as community members, might navigate this and make meaning for ourselves. Mobile learning, and in particular mobile learning field activities, is but one way to begin to enact our own understanding of space and begin to build it for ourselves.

78 Alexander, C. (1977). A Pattern Language: Towns, Buildings, Construction. Oxford: Oxford University Press.

79 Wenger, E. Community of Practice. Retrieved May 10, 2013 from http://www.ewenger.com/theory/.

Chapter 10: Tools & Resources



Every body continues in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed thereon- Isaac Newton

This section provides resources that I have used or referenced in my mobile learning field activities. Many of these resources highly subject to change, whether they change location, discontinue altogether, or become obsolete through shifting technology use or social practices. These changes reiterate the need to position our thinking in these spaces to ephemeral compositions mediated through tools that are available at and for a certain time. Nothing is permanent in this space and through these activities, aside from the development of the learner's capacity to learn. That is what we have centered in this discussion through consistent reflection, through a positioning of mobile learning as a transformation of habitus, and through a focus on process and purpose. With that focus, it becomes easier to weather these constant shifts in the availability of tools and resources.

Rather than just weather these changes, we should embrace the fact that these volatile spaces and tools present opportunity, as all challenging situations do. There is opportunity for learning about data and identity management, a highly relevant topic as more and more of our work shifts to these electronically mediated spaces. In these activities, we are generating considerable data, whether media or metadata or the compositions themselves, and this data and our social interaction around this data 'lives' somewhere. It exists on some server, locally on some laptop or phone or tablet, accessible in a million different ways. Some of the applications require the hosting of your data on their servers and make exporting that data out either challenging or impossible. This is a critical consideration in choosing what tools to use. We must discuss where the data will reside and who owns it, or even who has access to it. Much of the composition will depend on the availability of this data.

We must also know that this data will shift locations several times over the course of its lifecycle (i.e., the period of time that it is relevant to us or our community). My data, writing, media, and compositions have been hosted on individual services (such as Flickr for images, Vimeo for video, Google Drive for documents) and centralized locations (Dropbox and my server space). The use of these services has depended on need, access, the portability of the data, and the pricing points of the service. These are all logistical considerations, but pertinent ones. So have your learners reflect on this. Not only are the compositions (and media and metadata) reflections of time, space, and purpose, so is the underlying technical infrastructure.

This can be linked to the overall discussion on projections of the future and technology as outlined in the previous chapter, or it can be a separate discussion altogether. Learners need to think about what tools they use, how that limits or enables their meaning making, and where that produced media and compositions will reside. These are discussions with logistical concerns. This should help ground the discussion in what is possible. All services or tools have a cost, whether or not that is monetarily imposed upon the consumer. If something is free, it more than likely won't always be so; if it continues to be free, chances are you aren't the only one with access to your data. If you host your materials in one location, chances are it will change. I am writing this precisely as Flickr is reworking their paid services, forcing a reconsideration of where I will host my 5000+ images for use and reuse.

So what follows are resources to help you along, some of which have appeared already in this book. I have also included references to books, articles, or other written works here for easier reference. With each resource or tool, I have included the date I accessed it online; many of these are bound to shift location depending on when you read this. Many, but not all, of these resources are included in the References.

RESOURCES

Mobile Learning- these resources are designed for teachers or learners who are interested in learning more about mobile learning and the kind of experimentation taking place in this field.

- IAMLearn (International Association of Mobile Learning)- professional association of mobile learning enthusiasts and professionals and a useful resource for those looking to learn about advancements and experimentation in the field. Retrieved May 21, 2013 from http://www.iam-learn.org/.
- JISC: Mobile Learning- a collection of resources exploring the potential for mobile technologies and what impact these might have on learning and teaching practice. Retrieved May 22, 2013, from http://www.jisc.ac.uk/whatwedo/topics/mobilelearning.aspx.
- UNESCO: ICT in Education, Mobile Learning- a collection of resources focusing more on the policy, teacher and technological development aspects of mobile learning. Retrieved May 22, 2013 from http://www.unesco.org/new/en/unesco/themes/icts/m4ed/. Individual projects that might prove helpful for teachers can be found at http://www.unesco.org/new/en/unesco/themes/icts/m4ed/mobile-learning-resources/.

Community Theory- there is a fairly large body of theory and research surrounding community, so these resources are merely designed to begin your thinking on how your learners work in their communities, their motivations for doing so, and what that means to their work. Some of the resources listed under Media Practices further in this chapter will explore how particular media and sharing practices have strong community implications.

- Infed Guide: explore community theory and community studies. Retrieved May 10, 2013 from http://www.infed.org/guides/community_theory.htm.
- Wenger, E. Community of Practice. Retrieved May 10, 2013 from http://www.ewenger.com/theory/.
- Elliott, Mark. “Stigmergic Collaboration: The Evolution of Group Work.” M/C Journal 9.2 (2006). Retrieved May 10, 2013 from http://journal.media-culture.org.au/0605/03-elliott.php.

Pattern Language- building on our understanding of community, pattern language is a structured method of describing good design practices within a field of expertise. In this case, we are focusing on mobile learning design. Alexander’s seminal work is particularly useful for those wishing to create their own mobile learning field activities as it helps make a space itself a conscious artifact in our process of coming to know. Extending this work to your learners’ reflective practices will prove useful in developing their capacity for making sense of their environments more systematically and consciously than they do now. It will also prove useful in making visible how the learners interact with their community and how meaning is socially negotiated.

- Alexander, C. (1977). A Pattern Language: Towns, Buildings, Construction. Oxford University Press: Oxford. This book has inspired and continues to inspire a number of fields and I have used it guide much of the mobile learning field activities I have conducted. It provides a clear, organic method for analyzing space and our interactions with and through it. It is quite useful for framing the location-base activities explored in this book.

Participatory Design- This design method builds on Pattern Language. We have alluded to participatory design in this book, but have never overtly defined it. Participatory design attempts to bring in all stakeholders to the design process in order to make sure the resulting design is usable. For learning design, this means that learners (learners), teachers, parents even, would all be involved in

the learning design process. For our purposes in this book, participatory design assumes that the learners would be involved in the design and articulation of these mobile learning field activities. This is enacted to some degree through the reflective activities inserted, but it can be more explicitly addressed through collaborative activities designed to discuss what the mobile learning field activities should look like, what purpose and process they should have, and what are the outcomes of these activities. It is a very useful approach to engage learners in their own learning and generate ownership over the learning activities (and presumably foster a stronger sense of participation). These two resources are quite useful for anyone wanting to learn more about participatory design.

- Institute for Participatory Design. Retrieved May 11, 2013, from http://www.participatory-design.com/.
- Participatory Pattern Workshops from The Learning Design Grid. Retrieved May 11, 2013, from http://www.ld-grid.org/resources/methods-and-methodologies/participatory-pattern-workshops. These are useful materials for those wanting to actually employ this participatory design process in an educational setting. It also combines a pattern language and participatory design approach and provides a clear methodology for extracting learning design patterns from the workshop discussions.

Mobile Learning Design- I have mentioned it more than once in this book, but I continue to return to it. It isn't strictly about mobile learning design, as it also provides useful explorations of space and location, media, and other elements of mobile learning field activities outlined in this book. There are other works that I could list here, but I won't. I feel this work is that good. For teachers, it helps position much of what we have discussed here in this book in practice and is very accessible in its presentation. Highly recommended.

- Farman, Jason (2012). Mobile Interface Theory. Taylor and Francis.

Multimodality- multimodality is an emerging inter-disciplinary approach to understanding communication and representation as something more than just language. It is concerned with, among other things, how we make meaning from visual, aural, embodied, and spatial elements of our environments and, as such, it was the subject of its own chapter. It is also incredibly vast, complex, and granular.

So the following two resources are designed for those who wish to push beyond what was presented in the second chapter. The first is a glossary of multimodal terms, quite handy for those wanting to fully understand what cohesion, assembly, modes, and multimodality itself mean. The second extends the glossary much further into actual practice in a relatively accessible way. This second resource, The Routledge Handbook of Multimodal Analysis, is especially useful in further theorizing the techniques presented in this book. I highly recommend both for those hoping to develop their understanding of multimodality further.

- Jewitt, C. (Ed.). Multimodality. Glossary of Multimodal Terms: A MODE Initiative. Retrieved May 1, 2013 from http://multimodalityglossary.wordpress.com/
- Kress, G., & Mavers, D. E. (2009). The Routledge handbook of multimodal analysis. C. Jewitt (Ed.). London: Routledge.

Media Practices- the following resources are designed to offer some introduction to these new media practices. For your learners, making their media practices observable to them through reflection will help them iterate on their practices. Some of these resources might prove helpful in that process. Some are included to demonstrate the range of activities taking place in this dynamic space, a space

your learners will soon be contributing to with their compositions.

- Potter, J. (2012) Digital media and learner identity: the new curatorship. New York: Palgrave Macmillan.
- Kress, G. (2004). Literacy in the new media age. Routledge.
- Burn, A (2009) Making New Media: creative production and digital literacies. New York: Peter Lang.
- JISC Digital Media (2013). Retrieved May 20, 2013 from http://www.jiscdigitalmedia.ac.uk/.
- New Media Consortium (2013). Retrieved May 20, 2013 from http://www.nmc.org/.
- HASTAC: Humanities, Arts, Science, and Technology Advanced Collaboratory. Retrieved April 23, 2013 from http://hastac.org/
- University of Southern California (2013). Project New Media Literacies, Teachers' Strategy Guides. Retrieved May 23, 2013 from http://www.newmedialiteracies.org/teachers-strategy-guide/.

CONTENT

Ideally the learners themselves would create the content being used to generate meaning. However, there is an often an attempt to assemble a composition using learner-generated content, primary source content (census records, paintings, photographs, diaries, etchings on the sides of buildings), and secondary source content (reviewed articles, books, analysis).

So the expectation is that for some of these mobile learning field activities, at least others will have created some of the content being used to generate meaning in the compositions. As such, it is important whenever possible to pull content from sources without onerous legal restrictions (public domain material, particular Creative Commons licenses) or content that is available for reuse and derivative works. Therefore, it seemed like a good idea to include a few resources here that are open and freely available for learners to remix and reuse in their own compositions. This is expanded upon in the next chapter on how teachers can navigate copyright.

To begin, it would be a good idea to become familiar with Creative Commons and their licenses for content found online. A good overview of their structure and restrictions can be found on the Creative Commons site itself.[80] For our purposes in terms of remixing this content into our mobile compositions, learners should consider those Creative Commons licenses that allow for reuse and remixing (derivative works), namely:

- Attribution CC BY
- Attribution-ShareAlike CC BY-SA
- Attribution-NonCommercial CC BY-NC
- Attribution-NonCommercial-ShareAlike CC BY-NC-SA

If the license states that no derivatives are allowed, then your learners should avoid using the content in their compositions. Further, once the compositions are complete, an excellent learning activity would be to consider what Creative Commons license they wish to apply to their own work, based on their audience and their comfort with derivatives or commercial reuse.

The following are some resources that provide content under Creative Commons licenses that can be remixed, but learners need to still look carefully at the license. The first is by far the easiest as it is the search function from Creative Commons which searches across a wide variety of social and

80 Retrieved May 23, 2013 from http://creativecommons.org/licenses/.

media platforms, including YouTube, Flickr, Vimeo, Soundcloud, Google Images, and more.

- Creative Commons Search. Retrieved April 2, 2013 from http://search.creativecommons.org/.

- The Commons on Flickr. Retrieved April 2, 2013, from http://www.flickr.com/commons/. Please note that the restrictions on these images will vary depending on their respective contributing institution.

- Creative Commons licenses on Vimeo. Retrieved April 2, 2013 from https://vimeo.com/creativecommons. Please note that these licenses vary considerably so learners will need to be aware of the restrictions before using the content.

- Creative Commons content on Soundcloud. Retrieved April 2, 2013 from http://soundcloud.com/creativecommons. Please note that these licenses vary considerably as well so be cautious about using this content.

- Open Source Shakespeare. Retrieved April 2, 2013 from http://www.opensourceshakespeare.org/. I included this mostly because I love Shakespeare.

TOOLS

The following tools are mostly applications, whether Android or iOS; some target tablets, phones, or laptops. Some exist across all these spaces. Please note that these tools are especially prone to change. Learners will need to understand their volatility and where produced media will reside, how it can be used and reused and so forth. I have intentionally limited each category to only a few representative choices.

Audio

The purpose of your audio recording and composition will determine the tools that you use. If you want to record ambient audio of a place for later use in a composition, I would suggest using the native audio recording application on your mobile device. This avoids the problem of hosting your audio data through a service that doesn't allow you to download it or remix it outside their site.

Audioboo- the advantage of using Audioboo is that it helps generate a composition solely through the application itself. Learners can record ambient audio or even a podcast, attach a representative image, provide metadata, and load that composition to the Audioboo site. The hosted composition will even geoposition the composition on a map. As such, it is representative of a composition conducted in a mobile learning field activity. The disadvantage is that there is no download function in the service. There is a Firefox workaround that allows you to right click the Play button on Audioboo and click Save Link As, thus allowing you to download your audio files after you have hosted them on Audioboo. Retrieved May 10, 2013 from http://audioboo.fm/.

Soundcloud- this is a service that allows you to host recorded audio and interact around that data. Learners can upload audio compositions and others can comment on the audio itself. The mobile application also allows for recording of ambient audio or podcasts. Retrieved May 12, 2013 from https://soundcloud.com/.

Garage Band- this is Apple's tool for audio recording and it is quite powerful. It allows you to edit and manipulate recorded audio, layer it together with other audio, and much more. The mobile

application (for iOS) allows you to compose music, which is a useful supplemental activity for learners to consider: scoring your own compositions. Retrieved May 10, 2013 from http://www.apple.com/ilife/garageband/.

Audacity- a free, open-source audio editor. I have been using Audacity for many years and it is a very reliable tool for editing and manipulating recording audio. Highly recommended for those with limited or non-existent budgets for buying applications. Retrieved May 10, 2013, from http://audacity.sourceforge.net/.

Images

There are many image-based applications and therefore the ones listed here cannot pretend to be representative of the larger environment. They also come and go with relative ease. The ones following are applications or environments that I have used personally; some are strictly iOS based. Be wary using tools that require you to host your created images on their service.

MacOSaiX- a very powerful, laptop-based application for creating mosaics from images tagged with specific search terms. Learners can compose mosaics from representative images that speak to their meaning making from sets of images available online (through Flickr, Google Image Search, locally). Retrieved May 10, 2013 from http://www.macosaix.net/.

Diptic- this is a collage application for creating compositions of images. It is limited in terms of functionality but allows the learner to export their created composition. Retrieved May 10, 2013 from http://www.dipticapp.com/.

Montage- iOS application that allows learners to create montages. It has tools similar to that of Diptic, but with a slightly greater freedom for the learner to manipulate their own imagery. Retrieved May 10, 2013 from https://itunes.apple.com/us/app/montage/id307408378?mt=8.

Flickr- I use this service to host my visual data, which I then use as my own personal stock photography library, thus avoiding most of the legal complications that arise from using other people's work. Retrieved May 10, 2013 from http://www.flickr.com/.

Pixlr Express- this is an application for both Android and iOS that allows for photo manipulation. Learners can edit, adjust, and manipulate their images in any number of ways and export that generated media. Retrieved May 13, 2013 from http://pixlr.com/mobile.

QWiki- this is a mobile application that allows you to combine your media (audio, video, image) into a sort of multimodal composition or montage. Retrieved May 13, 2013 from http://www.qwiki.com/.

Video

In general I would recommend using the native video recording application to generate video, but consider using these tools to manipulate the recorded data.

Lumify- this is an iOS application that allows for manipulation of recorded video. It is a fairly powerful production tool. Retrieved May 10, 2013 from http://www.lumify.me/.

Camtasia- this is a powerful laptop tool for producing video or multimodal compositions. It sup-

ports the use of text, audio, image, video, transitions and other effects. It is also expensive, which limits its use in educational settings. Retrieved May 10, 2013 from http://www.techsmith.com/camtasia.html.

iMovie- iMovie is the standard Apple video editing tool (akin to Windows Movie Maker on PC) that should prove satisfactory for most of the compositions created from these mobile learning field activities. Retrieved May 13, 2013 from http://www.apple.com/ilife/imovie/.

Mapping Tools

As mapping is a particularly powerful narrative and compositional tool, I am listing a few tools here that will help teachers and learners map their data. Mapping, however, can quickly become a quite complex process both in terms of the technology used and where the resulting maps are hosted. So consider using a service like Flickr that will allow for an easy export of mapped data to be used in Google Earth or another presentation tool.

Crowdmap- from the makers of Ushahidi, Crowdmap is an accessible mapping tool that should prove quite intuitive for your learners to begin mapping their media and supporting metadata.[81] Retrieved May 10, 2013 from https://crowdmap.com/welcome.

Flickr- I am returning to Flickr here as it allows for learners to upload their data into sets, provide accurate metadata and tags, geolocate the data and extract the geolocated data for viewing in Google Earth or elsewhere. Conversely, learners can present the Flickr map of their images within Flickr as their composition. Retrieved from http://www.flickr.com/map.

HistoryPin- this is a service that allows learners to upload images of historical relevance, geolocate it to a map and provide descriptive data. It is quite useful for collaborative activities documenting a particular location. It also allows learners to oscillate between historical representation and the present environment via Street View. Retrieved May 10, 2013 from http://www.historypin.com/.

Mind mapping and Workflow

As we have explored in this book, process and purpose are critical to the success of these learning activities and should be given considerable focus. As we are in the business of transforming habitus and assisting in the creation of reflective, self-sufficient learners, we must acknowledge the role that process has on that transformation. These resources will help your learners visualize their processes and workflows. Please note that these are particularly subject to change as mind-mapping tools seemingly appear and disappear daily.

Pencil- I use this for both the workflow and the wireframe aspects of a presentation (including visualizing the process). It can be used as a mind-mapping tool as well. It is free and open-source. Retrieved May 10, 2013 from http://pencil.evolus.vn/.

Padlet: Learners can outline their purpose, process, and tools with this tool. Retrieved May 10, 2013 from http://padlet.com/.

Freemind- available for Windows and Mac as a desktop application, this is another example of

81 Usahidi specializes in developing tools for mobile in developing countries. Retrieved May 25, 2013 from http://www.ushahidi.com/.

a mind-mapping tool that might prove useful for your learners. It is also free and open-source, which makes it attractive. Retrieved May 13, 2013 from http://freemind.sourceforge.net/wiki/index.php/ Main_Page

Presentation Tools

Presentation tools refer to any service, space, or environment that allows the learner to present their compositions or the narratives of their compositions. It is important to remember that the presentation can be the composition itself. It is important to engage your learners in a discussion on the ephemerality of these compositions, where they reside, and what control the learner has over their use and reuse. Any of those among you who have been blogging over the last decade or so will know the volatility of this space. I have personally moved from Typepad to Blogger to Wordpress to Tumblr to Posterous and back to Wordpress over the last 10 years. With each move, something is lost and something is gained. These are important discussions to have with learners on how they will present their compositions.

Regardless of which service they choose, it is important for the learners to have their own space for generating and presenting meaning. It allows them to host their compositions over a course of time, identify progress and gaps in their knowledge, and promote an ongoing reflection. For these reasons alone, I generally encourage learners to have their own site or blog, a space that can account for text and other forms of media simultaneously. Wordpress is particularly good for this as it allows for the exporting of all generated data (posts, comments, tags).

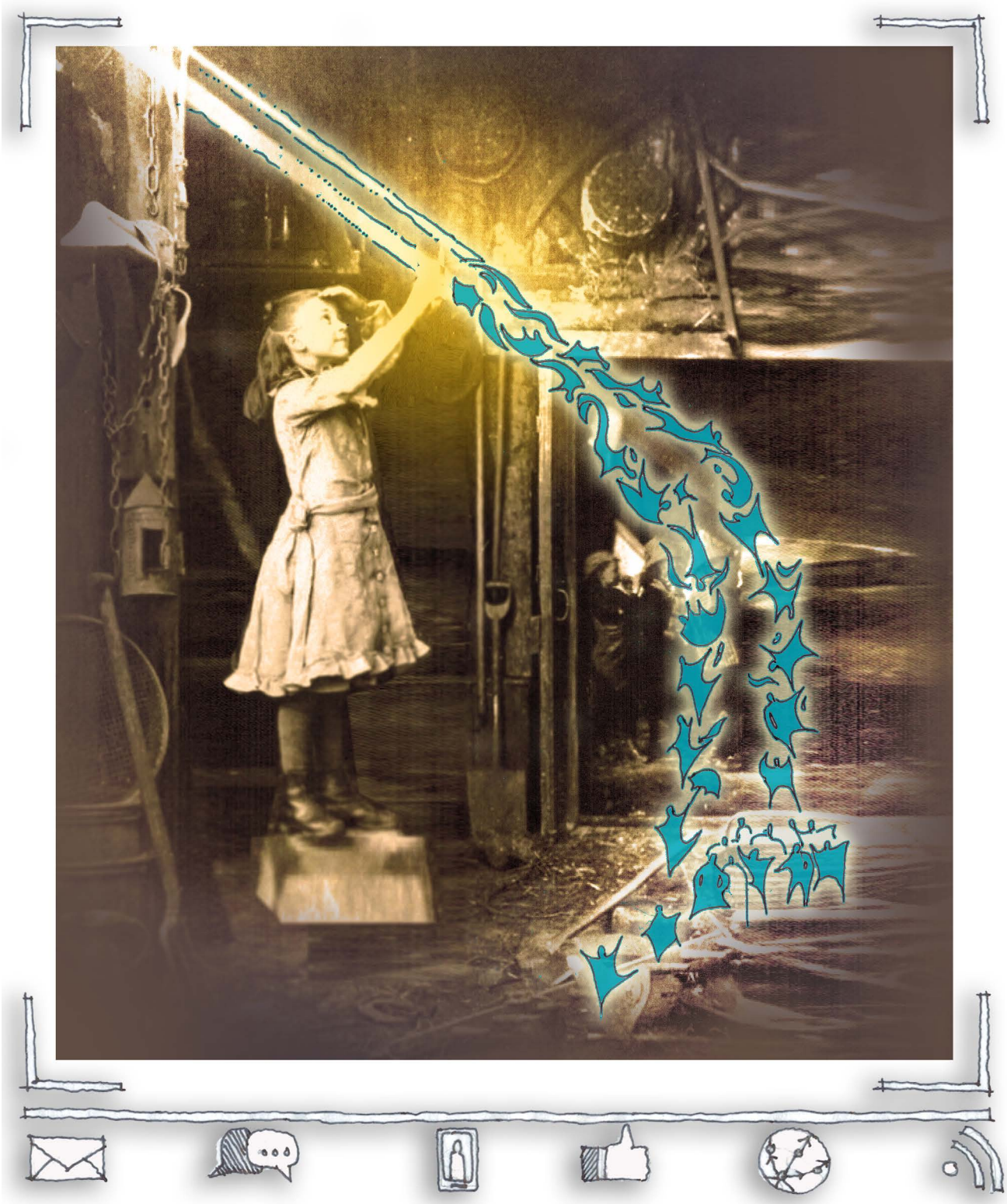
Wordpress- as representative of a blogging environment, it is relatively powerful. Most importantly, it seems like the service with the most staying power. In recent years, we have seen Posterous fail and Tumblr bought out. This is not to dissuade anyone from blogging, but rather to have your learners understand that there is little to no permanence in these spaces; Wordpress simply seems like the one with the most endurance. Retrieved May 10, 2013 from http://wordpress.com/.

Google Earth- Google Earth is a wonderful presentation tool assuming one has the KML file from the media that was geolocated. To learn more about how you can import or geoposition your imagery, please see the following resource, retrieved May 10, 2013, from http://www.google.com/earth/learn/advanced.html.

Prezi or PowerPoint or Keynote- these presentation tools are all possible mechanisms for presenting the compositions produced from mobile learning field activities. Prezi offers greater freedom in organizing and aligning your media for narrative effect, but PowerPoint and Keynote are generally satisfactory as well. Prezi is retrieved May 10, 2013 from http://prezi.com/.

There are many more resources that I could present here, but this was designed to get you as a teacher or learner started in your mobile learning field activities. Experiment early and often with these tools and develop your own toolkit to support your field activities. Reflect early and often on what is being enabled and what is being restricted with the use of tools; push whenever possible on restrictions. Promote flow from all aspects of the learning environment from informal to formal spaces, from socialized and individualized activities, from disciplinary to multidisciplinary perspectives, from artistic to analytic to scientific points of view. It is a brave new frontier of learning waiting for you out there.

Chapter 11: Data Ownership, Privacy, and Copyright



This additional chapter is not directly related to the structure of the overall book, but I thought it offered some value to those teachers wanting to get their learners thinking about data security, privacy, data ownership and copyright issues. These are issues of great importance in the world we currently find ourselves in, one where CCTV cameras and the long reach of digital surveillance are a reality. A world where copyright and fair use restrictions can prove baffling; where orphan works can be an impediment to creation and curation. This is the world in which your learners will be living and conducting these mobile learning field activities. As such, it is important to approach this logically and systematically. It is important to address these issues with a level head and a hefty capacity for discernment and discretion. Hopefully this chapter will help you along this path with your learners by exploring how these issues directly effected the construction of this book. A little bit of reflection at the earlier stages of this field activity goes a long way to making visible to your learners the role of data ownership, privacy, and copyright on their creativity and work.

If you are looking for in-depth or scholarly explorations of this issue, I suggest you consider the work of the Electronic Frontier Foundation and their excellent resources for teachers looking to explore these issues with their learners (also mentioned in Chapter 10).[82] You can also consider Privacy International for discussion around the broader theme of privacy worldwide.[83] For something a bit more scholarly directed at copyright, consider Lawrence Lessig's work.[84]

This chapter is designed more as a series of reflective prompts for your learners to consider. As such, each section is meant to be relatively succinct. I have included some prompts of my own to get you thinking about how you might pose these questions to your own learners. Questions will need to be tailored to particular age groups, but I would hesitate to say that any of this is beyond any learner. Even young children are perfectly capable of considering what it means to see and be seen, to own and to use, to borrow and ask permission. This is essentially the discussion we are having here.

PRIVACY

This is a particularly timely discussion to have with your learners and an especially pertinent one in light of recent reports on the pervasiveness of state security apparatuses. Specifically for these mobile learning field activities, we need to consider what the privacy implications are for having our learners explore specific spaces with specific mobile technologies. This discussion takes on at least two dimensions and both are necessary to consider for your learners; both relate to our respect of place as mentioned in Chapter 5. The first dimension is the right of the community to privacy. The second is the right of the learner/creator to use recorded data. Much of this will, at least legally, be framed according to the laws of the country in which you find yourself. To begin, prompt your learners with these reflective questions.

1. Do we have the right to record whatever we want in this neighborhood?
2. What can we record?
3. Do we need permission?
4. What should we not record?

Following this discussion, consider framing a discussion around Google and Street View and the litigation that has arisen as a result of property owners objecting to their property being recorded and

82 Retrieved May 10, 2013 from http://www.teachingcopyright.org/.
83 Retrieved May 10, 2013 from https://www.privacyinternational.org/.
84 Retrieved May 10, 2013 from http://www.lessig.org/.

presented on a commercial website.[85] After this discussion, it helps to begin having your students categorize the privacy issues involved for the groups involved in these mobile learning field activities. Specifically, what privacy rights and responsibilities does the learner have? What rights do the residents and property owners of these locations have? What permissions should we consider seeking?

Seeking permission to document a particular location can prove onerous depending on the scope of what you are trying to do in these mobile learning field activities. However, it presents a great opportunity for your learners to civically engage their neighborhoods and the residents therein. The reflection that goes into this discussion can inform the composition of a permission request form, which can be made available via mobile technology through a collaborative tool like Google Drive. This is especially useful and necessary for conducting oral histories of the residents of a neighborhood. For media compositions of sound and a few images, this is much more formality than what is required. Regardless of the level of formality one explores in this stage of the activity, it is necessary to make your learners consciously aware of the privacy rights of themselves and of the individuals and neighborhoods in which they are filming.

Have learners consider their own privacy in these activities by reflecting on their collected data, their compositions, and their eventual dissemination. What rights to privacy do they have when their compositions are posted online? What controls do they have over its use and reuse? Or, have them consider what means of observation exist in the locations they are observing. How many traffic or CCTV cameras did they see? How is data recorded in this neighborhood currently?

DATA OWNERSHIP AND COPYRIGHT

Data ownership and copyright are significant issues for your learners to consider. This can be approached in two ways. Namely, what ownership do they have over the media and compositions they create? And what copyright issues exist over the materials and media they are trying to appropriate in their compositions? I mentioned some good resources in Chapter 10 discussing alternative copyright licenses that your learners should consider before disseminating their compositions. Consider revisiting those for this discussion.

Even with the content they generate themselves, learners should consider copyright. How comfortable are they with people reusing or remixing their content for commercial use? This is where we return to Creative Commons and their different licenses. A good overview of their structure and restrictions can be found on the Creative Commons site itself.[86] Learners should consider licenses that allow for reuse and remixing, but they should reflect on whether or not they are comfortable with commercial reuse of their work. There is no right answer here; reflecting on the process at this stage makes these copyright considerations a conscious activity and ultimately that is the real goal of this exercise.

The same is true of material they wish to use in their compositions created by others. If a learners wishes to use these materials, then they need to consider what level of copyright the creator has over them. Once again, I would refer to the excellent materials Electronic Frontier Foundation on teaching copyright. Much of what we do in these mobile learning field activities is generally accepted as fair use (however loosely defined) as it is educational and non-commercial, but it is still a good idea to engage your learners in a reflection of what using other's work entails, how one might get permission to use that work, and what licenses exist for your learners to make their own work available for

85 Retrieved May, 10, 2013 from https://epic.org/privacy/streetview/.
86 Retrieved May 10, 2013 from http://creativecommons.org/licenses/.

reuse.[87]

Orphan works, especially for those teachers exploring field activities in history, art, or any discipline where the primary source material is of great importance, are another consideration. They also represent another good opportunity for teachers to engage in a meaningful discussion over the use of these materials. Orphan works are essentially works (media, text, or otherwise) where the original creator and copyright holder cannot be contacted. This could be because the copyright holder has long since passed, or the work in question cannot be tracked down to its creator. This is a very difficult issue for historians and archivists to address as it is specific to the country in question and the laws established there to protect copyright.[88] This isn't to scare you off from using or considering using such materials to inform the field activity compositions, but rather to suggest that reflection at this stage about what to materials to use and who owns those materials will go a long way.

So questions to consider at this stage include

1. What copyright licenses will I apply to my own composition?
2. Who holds the copyright to works I am using in my compositions?
3. Can I use these works in my compositions?

ILLUSTRATIONS AND INSPIRATION

I briefly wanted to discuss how I approached these questions of data ownership and copyright in writing this book, which is itself one big composition. This book took inspiration from many other works and the works that I cited in the text are included in the References. But these are only the textual references. I was inspired to write this book from my own work in mobile learning and most of the writing is drawn from that experience. However, much of the structure of the book, the way it cohesively comes together (if indeed it does) was inspired, at least in part, by someone else's work. So what responsibilities do I have towards that other work? The way I see it, I have the responsibility first and foremost to acknowledge its role in inspiring this book. Most of these images were not used in the final book, but they inspired a mood, a theme, or even a talking point in which to collaborate with the illustrator of this book, who just so happens to be my sister.

All the illustrations that appear in the preceding chapters were designed by my sister, Jennifer Gallagher, based on conversations we had surrounding the subject of that particular chapter. Otherwise, the images are my own. This is a good reflection for your learners to undertake as well. Discussing what mood or theme or impression you want the composition to take and what a representative work might look like with this mood or theme or impression. This is another example of making design thinking visible to your learners. It also represents a real skill of translation from one mode to another and from the conceptual to the applied.

The notes themselves would seem like gibberish (and indeed some of them are) if I were to include them here, but they represent the starting point from which all these illustrations began. They are rooted in text as we collaborated asynchronously through email and Pinterest.[89] They are laden with feelings and emotions and impressions. Some of these notes refer to chapters I had written and was trying to articulate; some of the chapters hadn't been written at all at this stage.

87 More information on fair use specifically for educational purposes can be found here. Retrieved May 25, 2013 from http://www.teachingcopyright.org/handout/fair-use-faq.

88 A good case study of orphan works is available from https://www.eff.org/deeplinks/2008/07/a-real-life-orphan-works-dilemma.

89 Pinterest board can be found at http://pinterest.com/mseangallagher/design/.

The larger question here is the path from inspiration to illustration to copyright. I am suggesting here that particular images inspired much of this work and many, if not most, of them are found on that Pinterest board.[90] To what measure am I using and reusing these images for derivative effect? The illustrations my sister has created aren't the same as those works and indeed most have veered in another direction altogether, but the inspiration, the antecedent for them can be found on that board. This, I suggest, is a good activity for your learners to undertake. Create a collaborative board where group members can suggest images that convey the impression of the mobile learning field activity composition, the mood, or the theme. They can even use these images to suggest a particular layout or design akin to what they are trying to convey in their compositions.

Ultimately, though, this activity will have them thinking consciously about the process of inspiration, how if we are gathering inspiration from other works, we are in some way creating derivatives of those works. It will help them understand that this is a perfectly reasonable way to compose and create as long as we acknowledge that inspiration.

For me, much of the inspiration for the illustrations found in this book comes from Adam Diston and his photograph titled "Cutting a Sunbeam" (1886).[91] It is a good example of the transformative effects of learning and how manipulating the environment around you can generate that learning. It is also an example of a work that I felt skittish about including as an actual image as I wasn't sure what copyright restrictions existed (Diston being long since deceased). As Diston created these works in the United Kingdom then it stands to reason that this work would be encapsulated under the National Copyright Laws of the United Kingdom.[92] These laws state that the duration of the copyright exists at least 25 years after its creation, and general 70 years after the creator's death. Diston passed away much longer than 70 years ago and therefore I feel somewhat comfortable in presenting it here. Just to be safe, I contacted Guy Diston, Adam Diston's grandson and received permission to use this photo here. These last few paragraphs weren't designed to introduce this inspirational and incredibly rich photograph (although it is), but rather demonstrate that having your learners engage in this process is a healthy one as it makes observable to them creation and reuse and the responsibilities of the artist and the curator in this creative process.

I had intended to use many more remixed historical photographs, but had great difficulty tracking down the creator and copyright holder of many of these works (the orphan works scenario as I described earlier); those that I did contact hadn't responded at the time of this writing. In later stages of constructing this book, I looked for inspiration (and indeed my sister created derivative works) from images found through a Flickr Commons search that allowed for derivative works or had no known copyright restrictions attached to the images.[93] This doesn't mean that a copyright claim could emerge at a later stage thus forcing me to withdraw these images from this book; indeed, copyright could be claimed down the road. It just represented an acceptable risk for the purposes of this book.

So we acknowledge the inspiration and move on. We look carefully for copyright and proceed with derivative works if we have permission to do so. We proceed gingerly through orphan works and we

90 Ibid.

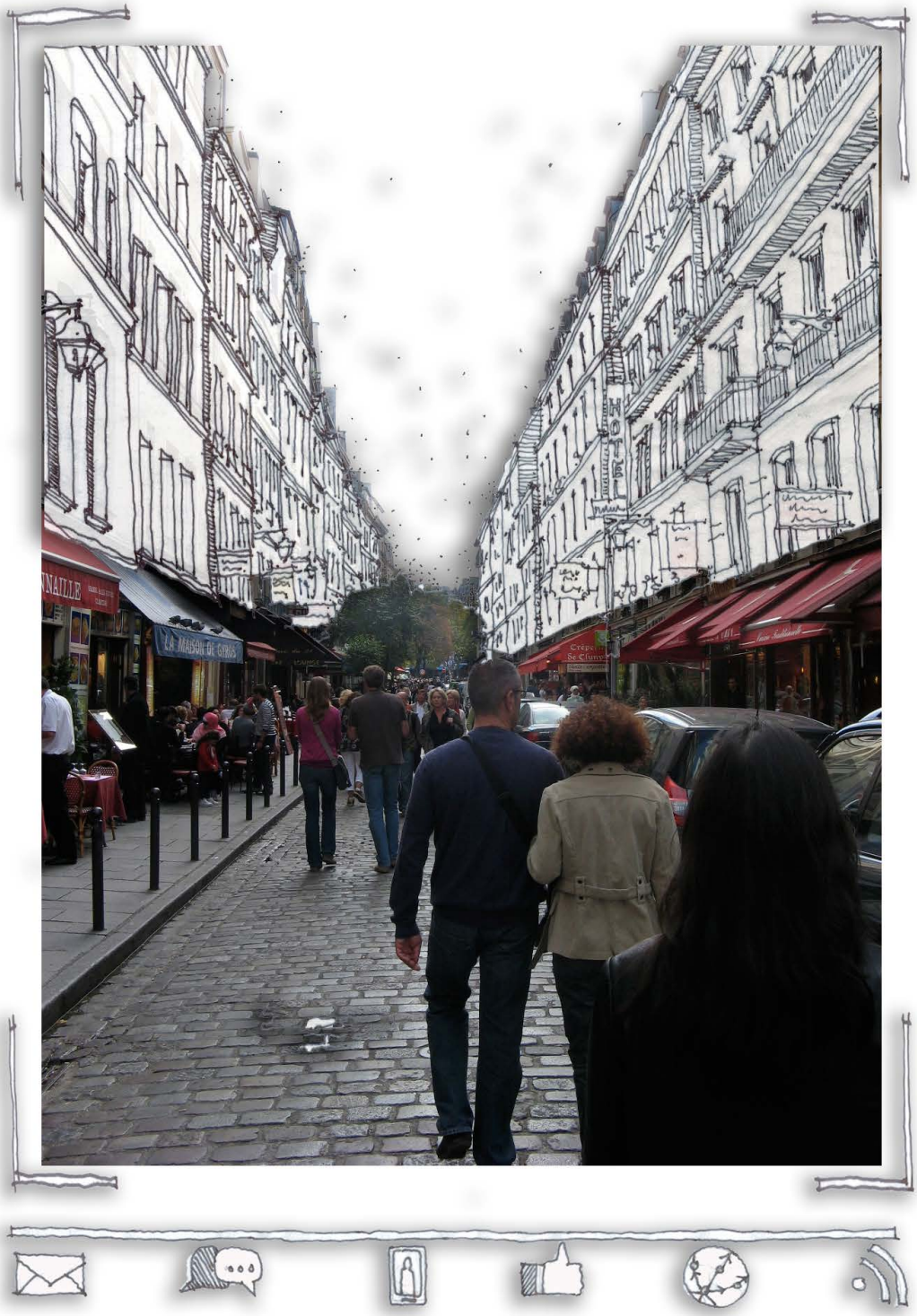
91 Retrieved May 10, 2013 from http://www.retronaut.com/2013/02/cutting-a-sunbeam/.

92 Retrieved from the UK Copyright Office May 10, 2013 from http://www.copyrightservice.co.uk/copyright/p10_duration.

93 In particular, Cornell University Library's Flickr collection proved invaluable, both in terms of the images they provided and the clear copyright information included on each photograph. Retrieved May 20, 2013 from https://secure.flickr.com/photos/cornelluniversitylibrary/sets/72157622658973877/with/4095361425/.

reflect on all of this early and often. I couldn't think off a more valuable skill for your learners to have, this ability to navigate this terrain of copyright and data ownership.

CONCLUSION



Nothing is built on stone; all is built on sand, but we must build as if the sand were stone- Jorge Luis Borges

This is perhaps a slightly irreverent take on conclusions, but I find them important only so far as they allow the reader to digest the gist of the work being concluded with minimal fuss. Sort of like a handout of the salient points of a presentation. As such, they are especially important to this book, a book purposefully designed to allow for sporadic or non-linear engagement. So, this conclusion is designed specifically to be brief, to be relevant to what was discussed in this book, and to provide some takeaways that will hopefully allow you to improve or extend your practices as a teacher or learner. It is organized according to the salient points from each chapter and is written directly.

POINT #1: MOBILE LEARNING IS ABOUT TRANSFORMATION (OF THE LEARNER)

This book made the case that mobile learning, above everything else, is about the transformation of the habitus of the learner. The learner transforms space into learning space. It is about bringing artifacts into alignment that were previously thought impossible to intersect. It is about generating knowledge out of these intersections. This process is mediated through the mobile technology. The technology provides certain advantages (affordances) and disadvantages that we all need to be made conscious of through reflection. It affords some magnificent opportunities for investigation and composition that were not possible before. It also determines much of what the shape of those activities and compositions will be. Technology is an important tool in this larger environment of the learner coming to know. There is no denying it (nor would one want to); we just need to avoid making it the central focus. The learning comes first.

If you position this learner transformation at the heart of your mobile learning field activities, then you will be helping the learners transform themselves into active, reflective appraisers and artists of their own worlds. By making purpose and process observable, they will begin to become consciously aware of the potential for learning in the seemingly mundane corners of their waking lives and they will, hopefully, become eager to build something from it. The teacher can push this process along by situating the transformation at the center of these activities.

POINT #2: MOBILE LEARNING IS MULTIMODAL

These mobile learning field activities foreground the need for the learner to be able to decipher any number of modes (speech, text, media, ambient environments, design) and to actively employ them for composition. Mobile learning will expose your learners to a wide range of modes and promote a wide range of literacies. Each form of media and each mode will have their own advantages (affordances) and disadvantages in presenting the meaning of the composition. Each will need to be carefully considered and arranged coherently. Teachers can make this process of selection and design conscious through continuous reflection. This can be reflection on what media to be used, how that media advances the purpose, and how a particular arrangement of media is coherent in its presentation.

As teachers, we need to be comfortable with these compositions as they broaden the range of acceptable practice in our disciplines. Some will be non-linear (mosaics, collages, maps), some will be challenging assemblies of media, some will be demanding on your attention, some might miss the mark entirely, but all will be relevant to our exploration of what it means to learn and create presentations of that learning. However we choose to approach this, we must acknowledge that text alone is an insufficient vehicle for presenting knowledge or creativity in highly chaotic landscapes. These mobile learning field activities attempt to stimulate creativity by ‘capturing’ and presenting knowledge

gleaned from a lived experience; as such they need as many modes as they can lay their hands on.

POINT #3: PRESENTING MEANING IN MOBILE ENVIRONMENTS IS CHALLENGING; REFLECTION ISN'T

A recurring theme in this book is that having learners reflect early and often through these field activities is highly productive. Reflection makes both purpose and process observable; it allows the learner to adjust both accordingly depending on the circumstances. It foregrounds the importance of methods of selection, namely how we choose what to observe, what data to collect, and how we choose to present that understanding.

It also makes what could be a highly intimidating environment much more accessible. Large, open spaces where the learner is responsible for constructing the purpose, the process, and the presentation, can lead to paralysis. They can lead to an inability to act on anything, as everything is possible. Reflection raises these questions and concerns to the surface; in this conscious acknowledgement of concern or confusion, we begin to enact an answer. Reflection is a very powerful tool for the learner to make sense of their lived world. Teachers can help this process along by inserting reflection (however simple or involved) into all stages of these mobile learning field activities. These can be prompts, questions, a challenge to a particular selection or design, discussion around data management or logistics, a representative image that provides an impression rather than a representation, or a needs analysis. All of these are reflective activities.

POINT #4: LOOK FOR OPTIMAL FLOW BETWEEN SEQUESTERED SPACES; DON'T BUY INTO DICHOTOMIES UNNECESSARILY

In a few of these chapters, we explored the disciplines of the humanities and how they impact the purpose and process of learning; we explored how learning oscillates between informal and formal spaces. We also explored how form follows function, how the design of presenting knowledge should never be too far from the knowledge actually being gleaned from a learning activity. We also explored the need for a balance between emotion and intellect, or, more specifically, how one can actively influence or mediate the other. These were presented for pragmatic concerns, as this book is an exploration of mobile learning specifically in the humanities. However, the larger issue to consider is this: be wary of these dichotomies. With mobile learning field activities, we have a unique opportunity to explore learning that flows between all these states of being, from informal to formal, from emotion to intellect, and from function to form. Ultimately, we want to avoid sequestering these field activities too much, rooting them too specifically in one of these camps. When done well, these activities generate learning that flows through all these spaces, like blood being pumped through a body.

This is made conscious to the learner through reflection; the learner reflects and our conscious thought and subconscious processes begin to optimize the flow through these spaces. So avoid classifications other than those imposed by logistics (what can reasonably be observed? what data can reasonably be collected?) or disciplinary practices (how does this answer or add to knowledge valued by this community?). Keep purpose and process in mind and avoid the dichotomies, if possible.

POINT #5: PLACE IS IMPORTANT; IT CAN BE THE OBJECT OF INVESTIGATION OR THE BACKDROP OF EMERGENCE

We have rooted place itself as a critical artifact in this process of coming to know through mobile technology. It is a very accessible focus of these mobile learning field activities. Everyone makes

meaning in his or her world through space and place; it is a very organic artifact to design learning around. All of your learners will have a favorite place, a street where they live, a house, a neighborhood, and a school. These are all physical spaces, actual geographical locales. There are also cognitive and emotional spaces, the spaces that we foreground when we talk about mobile learning as the transformation of habitus. Habitus is, in this instance, our cognitive understanding of the world. It is our comprehensive space.

Pragmatically, it is quite easy to root these mobile learning field activities in space. That is precisely what they are designed to do, to explore locales or provide impressions influenced by these locales. We can choose to make the learning activity an exploration of a particular space rooted through a particular theme. These are highly appropriate activities for history, archaeology, or anthropology. We can use space to construct impressions of understanding gleaned from literature, art or architecture. We can document and observe and analyze. Whatever we choose to do, we need to remember that these field activities are all rooted in space.

Selecting space and reflecting on that selection is a good place for these activities to start. Challenge your learners to select a space, to research it beforehand, to develop a purpose and process in their explorations of it. Challenge them to reflect how this space fits into larger spaces (a street to a neighborhood to a city to a country), how it informs the process of coming to know in its inhabitants. Model this on the signs and symbols used by the people in these spaces (a subway or bus map, street signs, street grids). Making this all observable through reflection promotes in the learner a conscious awareness of how space affects meaning and how it can be used to construct understanding.

POINT #6: SEQUENCE THESE ACTIVITIES AND TINKER WITH THE SEQUENCE; GLUE PROCESS TO PURPOSE

In this book, we have foregrounded the need for purpose and process. These two, along with the choice of location itself, is really where these field activities start. It also helps transform the learning purpose into discrete activities designed to meet this purpose; these activities are then sequenced for optimal flow. This is a pivotal consideration in effectively executing field activities with mobile technology. We must consider what we want to do and how we want to do it without being too rigid. This is, more or less, design thinking and it is a useful process for the learners to engage in. We see a broader purpose, we think of a means to realize that purpose; we evaluate and sequence these means (or activities).

As teachers, keeping this purpose and process at the center of this activity is one way of realizing that learner transformation that we discussed earlier. It allows learners to engage the purpose (the why) with the process (the how) and the eventual composition (the what). This is a slight departure from how most, if not all, of us have been taught. We weren't overtly tasked with considering the process of activities that would lead to our understanding and presentation of that understanding. The curriculum encapsulated much of that for us and delivered it to us through assignments and their assessments.

These mobile learning field activities can be used to complement that formal system, but they can be used for much more than that. They can be used to promote learning in open spaces (geographically and cognitively), spaces where most interact and generate meaning in the world outside formal education. Transforming these unstructured, open spaces into learning spaces is made possible by defining a purpose and sequencing a process. Ask your learners to reflect on this process and purpose often; challenge them to articulate why a particular step in the process answers a particular purpose. They will adjust their processes for optimal flow with this kind of reflection.

POINT #7: PRAGMATIC CONSIDERATION IS REFLECTION; THERE IS NO SHAME IN BEING ROOTED IN WHAT CAN BE DONE

I find that there are two camps in this discussion (and a third camp: lazy thinkers like me who want to slot everyone into two camps). There are those who want to focus almost exclusively on logistics (how can we do it? how can we link to the curriculum? what tools can we use?) and those who focus more on theory (what are we advancing here? what are we coming to know? how are we coming to know it?). I like these mobile learning field activities partly because it forces these camps to interact. There are pragmatic and conceptual considerations to make. There is a flow of activity from logistical to theoretical concerns. We are considering at one stage what tools to use and how to manage our collected data and then at the next we are forced to consider how a particular assembly of media supports our overall knowledge claim.

This is a wonderful balance for learning. We are constantly shifting from theory to practice, from concept to form, and we are all the better for it. We are broadening our capacities for understanding ceaselessly in these field activities (almost mercilessly). We are nimble, versatile, ferocious creatures of learning, devouring (metaphorically) our environment to make meaning. Better yet, our devoured environment is all the better for the learning. Appreciated more, understood more, acknowledged as an important (and subsequently protected) piece in a larger environment of coming to know.

As such, there is no reason to shy away from the fact that logistical considerations are as critical to these activities as theoretical or conceptual ones. We are bound by what location we can reasonably explore, what data we can reasonably collect, and what structures we can reasonably use to present that meaning. We logistically must consider our technology, our collected data, and how we can legally use it before we present our larger meaning. This is a not a divergence from our overall purpose; this is a core part of the purpose. Your learners will reflect on what tools to use, what data to collect, and how that data can be presented. They will benefit from their development as learners in chaotic spaces. So reflect on tools, on operating systems, on open vs. closed knowledge and spaces, on data management and fair use. These logistical considerations will be highly valuable for your learners in their lives outside of school (i.e., their lives).

POINT #8: LET THE ACTIVITIES CHALLENGE YOUR LEARNING DESIGN

This was less explicit in the book, but I feel it bears mention. This process is about transformation, of habitus, of space, of learning. As teachers, you are part of that transformation. Engage in these field activities with your learners, choose your location, collect your data, create your own compositions, and reflect early and often along with your learners. This overtly provides authenticity to the activities (you as teacher are actually doing them), but it forces you as a teacher to reflect on your learning design. What would you have done differently? What could have been sequenced in a better way? Engage your learners in this process. What would they have liked to see more or less of? This process is conducive to your development as a teacher, as a focal agent of that learning.

Teachers and learners alike should develop their capacities for creating meaning in multimodal spaces, for visual literacies, for their powers of identifying purpose and enacting process to support that purpose. Both teachers and learners should be developing their technological capacity for using tools, applications, and the resulting data for compositions. Everyone involved should be developing his or her own mobile learning toolkit for performing this work. This is ambitious and demanding and altogether transformative.

So this is where we will end. We have explored what I felt needed to be explored. Please take what

you think of value and get started with your own mobile learning field activities; disregard the rest until such time as it might be useful. Tinker, construct, create, comprehend, and try again. But know that there is great power in these messy spaces of everyday life. There is great potential to transform our learners into individuals able to make sense of their worlds, to construct meaning from open spaces, to adjust course when and if necessary. Learners versatile enough to use any mode, any media, any method of composition to present meaning. There is no greater learning outcome that I can think of. So get outside and see what you can do.

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Please note that several of these sources were not included in the text of the book. However, they are provided here as additional reading for those wanting to learn more.

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Incessant motion through space: Mobile Learning Field Activities in the Humanities

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