Crossing The Great Divide: An Investigation of Data and Memory

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CROSSING THE GREAT DIVIDE:
AN INVESTIGATION OF DATA AND MEMORY

by

Julia Pollack

A Capstone Project submitted to the Graduate Faculty in Liberal Studies in partial fulfillment of
the requirements for the degree of Master of Arts,
The City University of New York

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Julia Pollack
Crossing The Great Divide:  
An Investigation of Data and Memory

by

Julia Pollack

Advisor: Dr. Maura A. Smale

Crossing the Great Divide has been a working project for over two years. The project was initially inspired by the maps drawn and paths traversed by Meriwether Lewis and William Clark 1804-1806. From June to August of 2015 a few travelers and myself followed their historic journey and traversed the landscapes of the American frontier on bicycle. We chose this mode of travel as it put us into a direct intimate relationship with the landscape and thus a more sympathetic connection to the histories that preceded us. Leaving from Clark’s survey point of Indian Boundary Line on the shore of Lake Michigan, we ended at their last campsite at Cape Disappointment on the Pacific coast of Washington. As we slowly moved through these spaces we cultivated an archive of information about this journey. We collected quantitative geospatial weather and elevation data using Nicholas Felton's Reporter app. We compiled qualitative data: photos, diary entries, and historical stories about the places we moved through. I will use a praxis-based model of Digital Humanities investigation to interrogate my archives of data. This project will consider the parameters of each type of data collected and ask the question: what is made apparent in this data and what remains hidden? By closely reading quantitative and qualitative data side-by-side, I will explore how these forms of information support each other in
order to create a more complex Digital Humanities argument. This project is also a step into the creative possibilities of firsthand participatory research that will shape new modes of discussion around history, humanities, art and the digital world.

The final product of this thesis will be in the form of a website. By creating this comparative analysis around humanities data forms in an open digital space, I will allow the model of my argument to design the visual information of my publication. With an open book design, other humanities scholars will be able to access the data in my thesis and utilize its properties to build unique projects of their own.
Acknowledgements

Thank you to my Dad, Don Pollack for getting me out on the road and into the saddle. Thank you to my Mom, Amy Pollack for being supportive and inspiring. Thank you to all of the bike riders that came on the road with us. My Heartfelt thanks Dan Menet for fixing my commas.

I would like to acknowledge the careful support of the Bronx Community College Faculty and staff.

Thank you so much to Maura Smale for advising me.
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CONTEXT

This project is split into three sections. Numerical Geospatial Data as Evidence, First Hand Accounts or Textual Account as Evidence, and Photography as Evidence; each section outlines the different types of data as evidence. Each section participates in an analysis of these data forms. The first section, Numerical Geospatial Data as Evidence, utilizes spatial statistics to build a picture of the journey. This section relies on the data collection application Reporter, and the ArcGis program to form an argument about the relational findings of the quantitative information gathered. The second section is informed by the practice of autoethnography and qualitative data analysis to consider the First Hand Accounts or Textual Account as Evidence written throughout our travels. The coding of this data forms thematic elements that define the purpose and intentions of this journey. The last section, Photography as Evidence looks at the body of photographic data collected on this journey and considers the purpose of and historical context for the documentation of these images.

All of the raw data discussed in this project is open and available in the Github repository created for this project. The entirety of this project is laid open, the initial website for the project is online¹ along with as is the subsequent data and analysis project.² This project identifies as Digital Humanities, utilizing the ‘Big Tent’ theory to position itself as a critical work constructed as a digital object that utilizes many digital tools to assist in the mode of inquiry of its own production.³ In Patrik Svensson’s essay “Beyond the Big Tent” he considers the Digital Humanities “as a trading zone and meeting place, we can acknowledge disciplinary and methodological expertise, while approaching grand challenges, relating key disciplinary

¹ “Crossing the Great Divide” http://www.crossingthegreatdivide.net/ Web. 6 April 2016.
discourses, supporting multiple modes of engagement, with the digital, and distinctly engaging with the future of Humanities." This project hopes to engage with all of these possible readings of the Digital Humanities field as praxis-based processes of humanities, questioning the use of digital tools and spaces for presentation and analysis. The open online aspect of this project seeks to make available the multiple modes of questioning engaged with this data as well as encourage a sharing of the information that constructs this data.  

SECTION 1  

Numerical Geospatial Data as Evidence  

The geospatial data for this project was collected using Nicholas Felton’s cell phone application, Reporter. The app aggregates the data that a cell phone usually collects for a set number of times a day. Using the application on this 48 day trip across the nation, I tracked our location and weather. The app collects this information and can batch export the days’ report from phone to cloud storage space in a .json file. I then hand culled the types of data that would be most interesting for the consideration of geospatial analysis. Figure 1 shows a simplified .csv file with the data I deemed relevant to this mode of questioning.

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There are many other data points ambiently collected via the Reporter application, battery power level, audio level of a given space, number of photos taken as well as technical specs about those photos, their brightness and exposure. While these data may be interesting to consider in future projects I wanted to focus on data that could be spatially analyzed due to the mobile aspect of the project. All of my raw .json files from the time of the journey are available online for download and experimentation (I invite the reader to take my data sets and reinterpret them in new unexpected ways). There are many additional questions that could be asked of the data collected on this journey. For this project I had to choose a mode of questioning in order to begin an investigation of my data. As I sifted through the raw data I thought the sound and photo information was interesting but might not have any patterned relationship to my location. As I considered the memories of the trip in the photos and the journals collected, I decided to focus on the weather data. I wanted to see if a real quantitative reading of my weather data could raise some interesting findings about our travels that I may not have been able to extrapolate in other ways. When stepping into GIS analysis it is imperative to consider that “Simple maps may be

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easy to make and interpret on their face value, but GIS further enables quantitative and statistically-based measurements of the relationships among data sets.”

A considered quantitative reading of my data would require a statistical comparison.

I then reformatted the data I would use from my .json file, turned it into a .csv with only the data I intended to consider, and worked to make my data readable in ‘ArcMap,’ an ‘ArcGis’ tool made by Esri. The program builds maps and provides statistical tools so that the user may interpret their map’s relational data as well as their spatial position. Once the data was compiled and read accurately into ‘ArcMap’ I began to consider how I was going to question the material. I decided to create personal index as a standard of measurement to weigh the weather data against. Using a basic pain index scale pictured in Figure 2, I sifted through all of my daily journals and rated my pain scale for every day of the trip.

![Figure 2. Pain index.](image)

The next step was to take a look at the general patterns found in the weather data. I used a ‘HotSpot’ analysis, specifically the “Hot Spot Analysis (Getis-Ord Gi*) (Spatial Statistics)

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(Tool)”. In ArcMap, “The Hot Spot Analysis tool calculates the Getis-Ord Gi* statistic for each feature in a dataset. The resultant Z score tells you where features with either high or low values cluster spatially.”

I then made a ‘hot spot’ map for each one of my weather variables. This gave me the ability to see the basic trends in my data. I then used the “Ordinary Least Squares (OLS) (Spatial Statistics) (Tool)” to compare each of the weather variables against the happiness index.

The following Figures 3-7 show the ‘Hotspot’ map for each one of the weather variables considered.

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Figure 3. Altitude in Miles Hotspot map.

Figure 4. Relative Humidity Hotspot map.
Figure 5. Temperature in Fahrenheit Hotspot map.

Figure 6. UV Index 1-10 Hotspot map.
On close inspection of the OLS report and considering all the weather variables with relation to happiness, the only significant weather data that affected happiness was relative humidity. The two asterisks in the chart below Figure 8 show the results of the OLS test. I then took the OLS relative humidity layer and pulled it into Google Earth to consider a street view look at the positive significance and negative significance of the OLS report. This required me to convert the OLS map to a .KML layer using the kml conversion tool in ArcMap.
Below are the OLS Variables (altitude, wind, temp, visibility, UV, and relative humidity) relative to Happiness layer pulled into Google Earth. The first series reveals the correlation between relative humidity and happiness as we travelled to Postville, Iowa shown in Figure 9.

Figure 9. Postville Iowa, relative humidity being highly positive in relation to happiness index.
This street view in Figure 10 may look insignificant but I immediately recognized it. This image documents the moment I was coming into Postville after a fourteen hour day of riding with terrible road conditions all day. Although this road is paved, you can see the large rumble strip on the side and a six-inch shoulder to the left of it. This road had huge trucks flying down the highway and very little room to travel on a bike. This was one of the toughest physical and mental days biking for many reasons, but in retrospect it makes sense that the humidity index was also exceptionally high. This Google Earth capture of my data point infuses the landscape and memory with a retroactive experience. While the Google Earth spot brings up a memory, I have now taken that memory and given it statistical significance by layering a numerical emotional correlation onto this very spot.

![Google Earth capture of data point](image)

Figure 10. Street view from Figure 9 data point.

The next highly significant hotspot of relative humidity in relation to happiness was outside of the town Mobridge, South Dakota. The Google Earth pinpoint is pictured below in
Figure 11. The street views show the route into Mobridge. The road has cracks and the shoulder and is only about six inches wide on either side. There is no tree cover or protection from the heat. In the street view I have highlighted the road shift in elevation in Figure 12. The vertical climb into Mobridge, South Dakota was incredibly strenuous. Although I remember it was hot it again makes complete sense that the humidity index would add increased hardship for travel this day. Again this data point is given legitimacy by the spatial memory recorded in a numerical value and then remapped into the geographic location.

Figure 11. Mobridge, South Dakota. Highly significant hotspot of relative humidity in relation to happiness index.
Figure 12. Street view from Figure 11 data point.

I also considered a ‘cold spot’ on the OLS report concerning humidity with respect to happiness. One of the cold spots was a data point taken in Astoria, Washington, seen in Figure 13. The street view reveals a variety of positive influences. There is open water in sight and I remember the breeze being welcoming here. One can also make out a bike path on the right side of the road. We were in a beautiful small town and around the corner from us was a conveniently located coffee shop/sandwich shop and incidentally we were on the last day of our trip. Figure 14 shows the street view pictured below. There are things that I remember about this space that are now re-affirmed by my quantitative analysis. The measurement allows me to consider the memory in a pointed way that is contained within the numerical reading of the space.
Figure 13. Astoria, Washington. ‘Cold spot’ on the OLS report concerning humidity with respect to Happiness.

Figure 14. Street view from Figure 13 data point.
It was disappointing to realize that most of my weather data was not more specifically correlated to my happiness index. This close investigation at the quantitative data collected on my trip shed a new light on the holes in my data. There are significant times when the information I collected did not reflect the first hand experience of my day travelling. I wonder if a more accurate consideration of the elevation changes in a single day (a delta altitude variable) would have played more crucial part in my temperament in relation to the happiness index. My weather data took into account wind speed, but this iteration of the project did not consider the direction of the wind i.e. comparing a head wind to a trailing wind. Adding this dimension to the data might lead to more interesting conclusions or even change my results.

I have become more critically informed about the types of information I would attempt to collect about an experience to more specifically measure correlation between internal and external data. This project and analysis has allowed me to consider the more complex variables in relationship to the correlation between weather and altitude data in future projects. As I set up my Reporter application to record data I was unaware of the analytic methods I would use to interpret the data. I now know that it is important to make sure that each data point is collected at the same time every day. I now know that a numerical index for a qualitative experience (my happiness index) is very helpful when attempting to draw conclusions from first hand experiences. In the future I want to collect multiple experience indices numerically: a scale for body pain level, hunger, road condition, and emotional state. This way I would hope to find more specifically correlated information about myself in relation to the landscape and the conditions.

This analysis of quantitative data gave me a chance to look at measured numerical data we collected on this journey. It allowed me to view landscapes with a measured correlation of experience to natural conditions. If we consider Digital Humanities as a realm of scholarship that
allows the researcher to engage with a body of information using analytical methods, this first section of analysis is a geospatial statistical reading of the memory of moving through a certain space. What do we remember about how we know the landscape? Is it purely a survival experience that is related to the environment? We traditionally measure weather, and in turn the landscape, by humidity, temperature, and elevation. These numbers placed into the landscape give us a meter with which to understand our hardships, the hill is high, the wind is fast, and the temperature is hot. These numbers require reading and consideration and while they measure something they do not hold the entirety of an experience. Their collection and their context is changed by the researcher’s mode of questioning and experience.

This first section of this project allowed me to consider the quantitative data I collected and the implications of their spatial statistical analysis. The next sections of this paper will consider ways to measure the qualitative data collected during this journey.

SECTION 2

First Hand Accounts or Textual Account as Evidence

At the end of every day of our journey we journaled and recorded personal experiences. The intent of the journal was to act as a memory device for the events and happenings of the day and to communicate with friends, family and a wider audience of colleagues. Our journaling was recorded live on our WordPress site in order to chronicle our daily activities. The journals lie in the discussion section of our website, each week has a set of journal entries and each journal entry is 200-600 words in length, a dense paragraph. To consider the content of these journals, I coded the content of each journal entry. I read each journal and wrote thematic words that corresponded to the content and literary intent of each paragraph. As I read, certain themes

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appear again, I read back through the journals a second time in order understand and make connections within the terms throughout the text. This process was repeated until the thematically coded list had reached saturation. This process of thematic coding is often used in Social Science research when attempting to analyze qualitative written or verbal responses. Neil Selwyn’s study of distance learners experience with technology in their education used this technique to analyze the written experiences of subjects.\footnote{Selwyn, Neil. “Digitally distance learning: a study of international distance learners’ (non)use of technology,” \textit{Distance Education}, 32, no 1 (2011): 85.}

I practiced this method through the process of coding and recoding thematic elements of the journal texts. I then created a bank of terms that reoccurred most often throughout the text. I then tallied the occurrence of these words to create a list of terms and their frequency.

\begin{center}
\begin{tabular}{ll}
history and emotion, & 30  
weather, & 25  
vio\textbf{lence}, & 25  
hill or flat, & 21  
river, & 21  
hot or cold, & 20  
landscape, & 19  
history, & 14  
tree, & 14  
worry, & 12  
color, & 12  
water, & 11  
time, & 8  
infrastructure, & 7  
conversation, & 7  
forest, & 6  
\textbf{rain}, & 5  
\textbf{space}, & 5  
elevation, & 5  
\textbf{plant}, & 5  
\end{tabular}
\end{center}

\textbf{Figure 15. Word List.}

In Figure 15 the most frequent recurring theme that was coded was “history and emotion.” The term “history and emotion” refers to a time in the journal where we wrote about a historical event that took place in the space we inhabited and then reflected on the way that historical
happening affected us today. It was a process of connecting with the past in a physical space and time and then recoding that memory and the feeling around that experience in a textual form. The terms “violence” and “history” go hand in hand with the practice of historical reflection outlined in the term “history and emotion”. The term “violence” outlines a time when we were overcome with the presence of historical violence in a part of the landscape, and “history” refers to a time when we take note of a historical event without specific emotional reflection. On day three of our journey we write, “We pass through Sinsinawa Mounds. This high mounded landscape was eventually turned into a convent after being wrestled away from the native tribes that inhabited the area. This was where Chief Blackhawk had his last stand as he was eventually driven across the Mississippi. We cross the Mississippi at the end of the day today.”

This reflective moment considers the physical landscape we are experiencing in the present day and attempts to acknowledge the violence that took place in this space and continues to take place in this space when we forget these histories. These occurrences may continue to influence and resonate throughout the environment though we may be unaware of these particular events at any one given moment.

This practice of reflection is an ongoing theme in our journals and it accompanies a few of the other themes of writing practices. All of our journals have references to the weather: the heat of the day, the cool of the morning, the rain endured, or the wind we fought through. This focus on the weather creates an intensity in the writing when the weather we are facing is specifically harsh. Our day nine journal begins, “Last night’s camp in Mankato saw a severe thunderstorm hit about 2 am. The tents took in water and we had to hold down the poles in the

high wind. Everything got soaked so we tried to dry out a bit before we got started.”16 We do not record the sleeping conditions of every day but this particular night was so significant it was important to record in the text. We do not regularly record weather information in our journals when the weather we are enjoying is mild and accommodating. Travel journals include weather because weather faced far from home and without known shelter is always concerning. When in a landscape moving through spaces not previously travelled there is a persistent awareness of vulnerability that is intensified by the unpredictability of the weather. This vulnerability is made apparent in the term “worry” that comes up throughout the journals.

On day fifteen, “Farms seem to be 20 miles set back from the road and we have not been in the shade of a tree all day. This is a space we would not want to be caught in a storm.”17 This worry is not explicitly expressed with the word “worry” but concern is expressed about our safety and about the vulnerability we face while traveling far from personally known paths and spaces. The landscape is the main character throughout our journals. The landscape has color and texture. The landscape has danger in elevation and remoteness. The landscape is the setting of all the themes of our journal. It is the space where we connect with the historical trauma, it is the way we locate time and distance, and it is how we define known and unknown space. In daily travels our local landscapes become invisible because they are such a normalized part of our experience, we do not consider their uniqueness. Once we step outside of our known space and step into a space that we do not normally move, the landscape suddenly becomes a changing character with unknown traits. The journals express the wonder that is possible when experiencing the landscape in a personal direct way. As we move through these landscapes on a

bike we experience every foot of the road, every rock, every tree. The speed with which we move through a landscape determines the time we give ourselves to consider the landscape. As we move in spaces that are unfamiliar we often feel a distance from the landscape. This is distinctively different compared to the way we forget the landscape in our daily routine. When we are outside of our own space we stand back and wonder at the whole vista of every landscape. Travelers look at unknown landscapes and try to absorb all of their features. This act is impossible: a traveler can only understand a landscape from a personal viewpoint of outside experience determined by the mode of travel.

On day 33 we reflect about our experiences in Montana: “The landscape and the mountains have so many faces with the changing weather. Sometimes the area looks as though we are in New Mexico and when cloud cover moves in I could swear we were in Alaska.”

There are many ways to see or know a landscape, in this case we can only reflect on the landscapes that we travelled through as travelers and academics. We also use other travel memories to compare our experiences with the landscape with this instance of travel. While this textual evidence provides reflective data about the experience of a landscape it is not representative of the landscape as a whole. It is a representation of the landscape as seen as a traveler.

A term that stands out as different from the rest of our thematic words in our journals is the word “conversation”. Our experience was significantly changed every time we encountered another person. Often we met travelers like ourselves marveling at the landscape from an outside point of view, but we also met people who lived in the spaces we moved through who would inform us about local road conditions and local histories. On day twelve: “We even had someone

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Snippets of these conversations were represented in our journals. We did not record these conversations or copy them down word for word. We often did not even know the names of people with whom we spoke and encountered. The journals record the memories of interactions that construct specific memories of spaces and experiences. These voices recorded in our journals are forever related to the spaces and experiences documented in this journey. Although the interactions may have been transient, the memories of these voices are preserved in our journal accounts and serve as site specific information about the experience of space and place.

The main recurring themes derived from the terms coded in our journals were “history and emotion,” “weather,” “landscape,” and “conversation”. To double check my own coding of our journals I created a text file of the journals and then used Voyant, a “web-based reading and analysis environment for digital texts” to look at the frequencies of word usage in our text. Access to the text file of our journals is available on Github. Voyant has a built in “Stop Words List” named “English (Taporware)” which disregards the most commonly words used in the English language from the basic counting mechanisms in Voyant. This tool found similar patterns of repeated words in the text which mirrored my own thematic coding process. In Figure 16 a word cloud shows the most frequent words used in our journals emphasizing with size the amount of times the word was used.

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Voyant noted a frequency of the word landscape with 56 mentions. It noted weather words with frequency, wind had 24 mentions. Voyant cannot, however, abstract a theme from textual context. It did not notice the recurring issue of mention of “worry,” or the process of engaging with “history and emotion.” Voyant counted the use of words referring to historical people and Native American tribes. The words Lewis, Clark, Nez Perce, and Sioux were used, but the themes I understood from reading and coding the journals were not necessarily specified. The activity I was recording most acutely was the process of moving through a space and stopping to reflect on the history of the space to try to remember and consider and connect with the historical trauma that took place. Voyant was able to track word frequency that directly mapped our experience of the landscape in Figure 17. Our journal starts with a frequent use of the words “hills” and “valleys” and then makes a transition into the term “flat.” The word “flat” is then superseded by the words “hills” and “valleys” again, only to be replaced by the word “mountains.”
This graph of landscape elevation terms frequency mapped across the text of our journals corresponds to the physical elevation graph represented in Section One, in the mapping of numerical altitude measurements Figure 3. This comparison of a machine reading of our textual evidence and a hand coded thematic reading of our text shows the strength of what is contained in first-hand accounts of textual information as evidence. A journal can capture a complicated experiential emotion that can be read and understood by a reader. The textual work in our project as well as the analytical process in relation to a thematic reading of these texts was inspired by the process of Autoethnography. As defined in the Qualitative Social Research Forum, “Autoethnography is an approach to research writing that seeks to describe and systematically analyze personal experience in order to understand cultural experiences.”

This process of reflective writing as a form of qualitative research revealed the experience of communicating with strangers in passing conversations and in-depth discussions. The text of our journal explored the low lying concern and worry over the safety of our exposed condition as travelers.

This process of journaling about a project is an encouraged practice in the Digital Humanities community. In a DH context journaling is a way to reveal the praxis-based research methods involved in the creation of a digital work. For this project the journal text itself was used as a body of data. The original journals in the context are available online at our website (http://www.crossingthegreatdivide.net/discussion/). The journals exposed our main purpose for initiating this project, to move through the Western United States and consider the historical traumatic events that occurred in the landscape within the 19th and 21st century. This purpose can be obscured when considering only the geospatial data in Section One. The numerical representations of the journey reveal the quantitative experience of hardship as it relates to measured readings of the weather. The textual evidence represented in Section Two complicates the experience portrayed by the geospatial data in Section One. A look at the spatial numerical data collected does not expose the relationship with history that was continually present as we travelled westward through this country. The numerical data informs the text of the journals, allowing the hardships of the physical travel to be measured across a 2,718 mile journey. By engaging with quantitative and qualitative data side-by-side we see how different forms of data tell the story of this journey in very different ways.

SECTION 3

Photography as Evidence

Every day we took photos as we travelled through the landscape. Many of our photos were featured on our website in tandem with our journals; others are not directly being used as a representation of our journey but have been kept for different purposes. All of the photos were taken with iPhone cameras. I have examined every photo and coded each one. I looked at each one and created a list of descriptive words that corresponded with each photo, mirroring this
process after the journal coding mentioned in Section Two. After this extensive word list I looked back through the list to create a few main thematic types of photos. I have narrowed my photographic categories down into four main groups: “end-of-day selfies,” “signs,” “sky and ground landscapes,” and “road perspectives.” All of our travelling photos are available online for download and visual analysis.²³

Figure 18. Array of “end-of-day selfies”.

The “end-of day-selfies” were taken to send back home to family and friends to document and act as proof that I had survived the day. Figure 18 shows an array of “end-of-day selfies.” They act as a kind of personal visual journal. By placing myself in the photo I am adding myself as a framing element in each environment. The end-of-day selfie serves as a direct

proof of my presence in the unknown spaces we traveled through. This form of photo is a documentation process that proves accomplishment on a personal scale. By using the convention of the selfie in a travel space, I am playing with an ability to virtually invite the viewer into a space that they are not physically present. The information gained here is personal, noting an accomplishment and taken with the intent to share the photo and allow the viewer access to the space and state of my mind.

Prof Lev Manovich at the CUNY Graduate Center has looked at the impact of the selfie from a global scale, analyzing the large scale patterns found by analyzing selfies from all of the world. 24 This project's use of photo analysis has done the opposite; as the creator of the selfie, I am conscious of the specific intent and framing of each selfie photo represented. In response to work done in the “Selfiecity project,” Alise Tifentale has looked at the cultural currency of the selfie and explains that, “performing the selfie is at once a private and individual and also a communal and public activity.” 25 The selfie photo is very informative and reveals how a photo is constructed as well as the conditions with which the photographer wishes to be perceived. I attempted to take photos at times in the journey when I was tired or wished to document the end of a long day. They are a way or recording a sense of accomplishment in this sense and act as a kind of humble brag about the enormity of my project of undertaking a cross country bicycle trip.

Figure 19. Custer “sign” photo.

Figure 19 shows an example from the second category of photo we collected. This is a “sign;” the historical sign is a trope of any travel through the American landscape. Informational placards placed on road sides and overlooks populate the American landscape. We encountered signs installed by local groups and signs put up by national park systems. We encountered signs
with contemporary notions of space, and signs condemning native tribes for their violent actions against white settlers in the 19th century. We documented and photographed these signs as a way to look at place-memory. How a specific historical memory inscribed on a space with a sign seemed to change radically as we traveled and it was difficult to predict the temperament a group of authors has decided that a sign is needed and that sign is placed in a space for the consumption of whom? Outsiders? Travelers? Each sign has a visual language and is framed by the landscape and its surroundings. The consideration of the importance of signage has been studied in many disciplines; in the piece “Signs in Motion” Keith A. Sculle writes, “They carry specific messages it is true, but they also serve to contextualize or give meaning to their surroundings, both in ways intended and unintended.”

Figure 20. Array of “sign” photos.

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In Figure 20 I have compiled an array of sign photos taken on our journey. The photos themselves serve as a notational device. We photographed them to record the exact language used to inscribe a specific space with history. Each of these photos is a visual record of that information. Figure 19 reads, “The Yellowstone expedition of 1876 organized to quell the hostile Sioux marched from fort Abraham Lincoln May 17 1876 and passed within three fourths of a mile of this marker on June 3rd 1876.” The sign holds the space for many charged ideas about the presence of history in this space as well as Native American relations. The sign is obviously handmade but carefully maintained, there is no mention to the authorship of the sign. The text of the sign assigns its own truthfulness. The sign states that it is three-fourths of a mile from the actual historical happening it describes. The sign’s language also takes a stance about the conflict between native tribes and westward expansion in the United States often reflected in the 19th and 20th centuries. It states that although Custer’s army is weaponized and marching through the landscape the hostility in this space is created solely by the Sioux. This sign was outside of a small town surrounded by a well kept lawn; the presence of this story of history exists for the people that maintain it and serves as a presentation to newcomers. By capturing photos of these signs we not only gathered site specific historical textual information, but we also charted a language for inscribing history on a given space. Not every space is inscribed with signage by people who want to write the historical memory into a space however it is not always clear what determines historic significance though no space is devoid of history.

The next category of photo taken was “sky and ground landscapes.” This photo convention reflects a framing of the landscape in the way one might frame a ‘color field’ painting. The “sky and ground landscapes” split the photo into two clear spaces: the land and the sky. They do not have people in them and are often devoid of any kind of presence of human
interaction. This is taken in the style of so many great American landscape artists. In the late 1800’s Albert Bierstadt painted the American landscape as an untouched divine landscape ripe for economic expansion. This notion of the American West is captured in the way we take photos of the landscape and mythologize it to this day. In the early 1900’s Ansel Adams followed in Bierstadt’s footsteps creating images of the American landscape that are overwhelming and beautiful and constructed spaces of emptiness. Both of these quintessential American landscape artists from the 19th and 20th centuries respectively created an idealized construction of the American West that taught travelers how to see the landscape in terms of the iconic, scenic vista. This sense of wonder and beauty overcomes a traveler in an unknown space and prompts the traveler to record the experience in a perfectly framed photo, encapsulating a landscape devoid of human presence, although the very presence of the photographer negates this emptiness. By constructing this pristine landscape photo, the traveler is creating a visual narrative that implies that this landscape is being discovered by the viewer for the first time and thus reinforcing the original mythology that created this gaze.

These photos are arguably a representation of a reenactment of the cycle of Western colonization. The idea that the landscape is somehow empty or devoid of life is a false conception of the landscape. This concept, along with the ideals of Manifest Destiny created a moral imperative for western settlers to conceive of the American West as empty and available. The American landscape has been inhabited by peoples long before white European settlers

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began traveling to the continent in the 1600’s. This construction of emptiness or search for emptiness is a process of trying to reclaim a vision of space and purity in a postmodern landscape. This instinct informs the “sky and ground landscapes.” This photo convention persists in contemporary travel photos and shows a perpetual reenactment of settling in the West. Reanalyzing these photos and realizing that we had practiced this form of documentation has lead me to consider the meaning of these photos. What is understood about their production, and what purpose do they serve for the photographer?

Figure 21. “Sky and ground landscapes”.


In Figure 22, this array of photos shows the repeated pattern of landscape and sky photo evidence. They all have a constructed viewpoint: they are each empty. In that perceived emptiness there is a sense of abstraction when the images are seen together. The land is below and the sky is above, this split photo creates a kind of abstracted ideal of landscape with this horizon line presenting an impression of infinite space. They serve as a memory-project that places the viewer and the photographer back in the most idealized of spaces. They are potentially harmful photographic evidence if used to describe the landscape, using an abstracted ideal to imply emptiness and infinite space. These representations can potentially be used to practice continued colonization of the landscape.

In contrast to the sky and ground landscapes the next photographic type that we identified was the “road perspectives.” This type of photo features the road as a defining character that...
stretches through the landscape. The road landscapes feature the road as a human made tool that
cuts through the landscape, allowing for travel. These images follow some of the same patterns
of the “sky and ground landscapes.” They usually carry the same tropes of abstraction and
perceived emptiness. As a photographer of the “road perspectives” I would wait until cars and
trucks were out of the way before I captured the image. This editorializes the real experience of
road travel which is seriously impacted by the presence of cars. The “road perspectives” were
taken in areas with little or no traffic. The road in these pictures tracks through the landscape and
inscribes itself into the space as if it is a natural element. These road shots inform us about many
ways of perceiving the landscape. The quality of the road informs the value and the purpose of
the landscape on either side. In these photos the land merely acts a space to pass through and not
a location or destination in and of itself. The road divides the natural landscape in order to make
it a useful and productive space for economy. Figure 23 shows a “road perspective” whereby the
road rolls up and down revealing contour and the elevation, the road is gravel not made for heavy
traffic or machinery, there is a far off farm field, and a closer group of grazing cattle. This photo
brings another element to the landscape photo in that it gives body to the person who might
travel in this road: a farmer or rancher, perhaps. The road could only be used easily by a truck or
ATV. The road is constructed so as to suggest that only a few people use this route of travel,— it
is a space that is marked off from season to season and constructed perhaps only for private
ownership.
Figure 23. South Dakota “road perspective” landscape photo.

The array of “road perspectives” also show a pattern of embodied use. The empty road photos imply use as many of our road photos feature a member of our traveling team as a point of reference. These “road perspectives” with a person give the road details and locates it in time and space. The scope, the length, the smoothness of the road are made apparent when a person with a vehicle is positioned in that space. The road is a penetrating visual element that cuts through the landscape. The road photo complicates the “sky and ground landscape” previously described. While the “sky and ground landscapes” create a perceived pristine land, the road photo drives a human made element through each photo. It does, however, naturalize the idea that a road is the only way to traverse a space. Roads are a major conquering power for traveling
technology. Roads allow a traveler to move through a space with the knowledge that the space has been mapped and measured by another who has come before. It provides a kind of traveling communication that is available to those deemed acceptable by the power structures that created the road, it reinforces and suggests its use.

Figure 24. Array of “road perspectives” photos.

The thematic coding of our photographic evidence gives body to the previous forms of data collected about our travel. The geospatial data and the textual journaling data shed light on measured experiences and thematic emotional experiences. Both the geospatial data and the textual data are using the “landscape” as the topic of discussion. By looking at the photographic evidence as a representation of landscape and experience and only one form of many kinds of data we have about a space we can consider the cultural context of the information collected in the photo. We use photography as a means of recording proof, flawed though it may be, of an
experience, but when it is laid side-by-side with many other aspects of truth collection we arrive at a more complete picture of the constructed nature of the photo. A photo of the landscape lends memory to a data point, a description of a conversation is colored by the photo of that space. The creation of history involves a complex process of recording, documenting, and experiencing multiple truths. Many forms of data recording, journaling, and construction are used to construct a narrative. Digital Humanities engages with humanities practices using new digital tools and processes of analysis. This engagement with new tools and new points of view seeks to complicate traditional notions and stratify new notions of history, geography, social science, and statistics to see Humanities scholarship in innovative ways.

CONCLUSION

This project was initially inspired as a participatory way to engage with the history of the American West. We sought to find a way to complicate the story of exploration laid down by Lewis and Clark and the mythology of the American landscape. We wanted to keep an open mind as we travelled, knowing that we bring our cultural bias and contextual knowledge with us wherever we move. We wanted to collect and construct a memory of our own westward movement with a conscientious awareness of ourselves as outsiders. With this in mind we chose to collect as many different forms of data and evidence that would could carry with us. Our initial mode of questioning was an attempt to represent a more complex notion of the American West with a first hand experience of the incongruencies of our notions of the land itself. We collected quantitative geospatial data and qualitative data in the form of journals and photographs. Each of these data forms required their own specific model for analysis. In future iterations of this project I would like to consider how different kinds of information can shed
light on an experience. How can quantitative and qualitative data collection methods assist each other in representing and event and translating that to an audience?

These investigatory practices were outlined so as to share the ways in which other researchers may choose to engage with seemingly disparate forms of information. Each data form served as a kind of evidence, outlining an aspect of the experience of our journey travelled. Each form of data had strength of information dependent on the parameters of its measurement. The numerical data showed proof of correlation between experience and recorded measure, the journaling data showed intent and experiential representation of history and space, and finally the photographic data showed a persistence an awareness of history in our contemporary notions of landscape. Each of these data forms have their own strengths and weakness, and theories that may be brought to the forefront along with its own biases and obfuscations. By placing them together we may see a more complex structural use of each. This project is meant to serve as a model for analysis and data collection. As Digital Humanities scholars venture into unknown spaces of research it is not only important to be informed about the traditions and conceptions of the field in which they originate but it becomes useful to see a myriad of other methods of investigation and documentation. By modeling this whole process in an open web format I hope to create a reference point for my own multimodal humanities investigation and encourage other researchers to take what I have outlined and use it as a way to enhance their own process.
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