

“This Prodigious Frightful Fall”:

An Exploration of Tourist Images of Niagara Falls in Stereography and on Instagram

by

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ABSTRACT

“This Prodigious Frightful Fall”: An Exploration of Tourist Images of Niagara Falls in

Stereography and on Instagram by Victoria Grace Abel, Master of Arts, 2017

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This thesis explores the development of tourist photography through stereography and Instagram utilizing Niagara Falls stereographs from three collections ranging in date from 1850-1905 and Instagram images geotagged to Prospect Point, Niagara Falls, New York, all posted in the same twenty-four hours from August 6-7, 2016. First, a literature survey explores the history of photography at Niagara Falls, the circulation of tourist imagery, and social media and the networked image. It then moves on to an early history of photography at Niagara Falls with an emphasis on stereographs. It continues into a brief history of social media and an explanation of the inner workings of Instagram. Finally, it concludes with comparisons of aesthetic choices, access, and circulation in stereographs and Instagram, all using the case study images. This thesis argues that Instagram follows the same photographic tradition as stereographs and serves many of the same purposes in tourist photography.

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INTRODUCTION

When Louis Hennepin, a Franciscan monk, arrived at Niagara Falls in the late 1670s, he was the first European to lay eyes upon it.¹ Indigenous people who guided his group in 1603 had told Samuel de Champlain about the Falls, but he did not see fit to visit them himself.² The first thing that Hennepin wrote about the Falls was that he wished that someone had been there who could have described them in a way that would give the reader “as just an Image of it” as possible.³ For his book on the matter, *A New Discovery of a Vast Country in America*, Hennepin commissioned an anonymous artist to create prints of his experience.⁴ (Fig. 1) This shows that the first drive of Europeans visiting the Falls was not only to create images of it, but to create images that would give the viewer a “just and natural Idea of it [...] An Admiration of this Prodigy of Nature as great as it deserves.”⁵

Over the course of the past hundred and fifty years, tourist photography has moved out of the hands of professional photographers and into the handheld camera of the average consumer. This thesis seeks to trace the developments in tourist photography across these changing technologies by looking at stereograph and Instagram images of Niagara Falls. In order to do this, it uses case studies of stereographs sourced from a group on loan to the Royal Ontario Museum courtesy of Conrad Biernacki and Brian Musslewhite, the Royal Ontario Museum’s permanent and study collections, and the

¹ Linda L. Revie, *The Niagara Falls Companion: Explorers, Artists, and Writers at the Falls through the Twentieth Century* (Waterloo: Wilfrid Laurier University Press, 2003), 17.

² Adam Hallett, “Made of the Mist: Nineteenth-Century British and American Views of Niagara I,” *Literature Compass* Vol 11 No 3 (2014): 162-163.

³ Revie, *The Niagara Falls Companion*, 17.

⁴ *Ibid*, 25.

⁵ *Ibid*, 17.

Archive of Modern Conflict's collection, all ranging in date from about 1850 to 1905 and Instagram images geotagged to Prospect Point, Niagara Falls, New York, all posted in the same twenty-four hours from August 6-7, 2016. It starts with a literature survey that explores the history of photography at Niagara Falls, the circulation of tourist imagery, and social media and the networked image in order to outline the existing literature on those subjects and to place this research in context. It then moves on to explain an early history of photography at Niagara Falls, with an emphasis on the development of the trade in stereographs. This chapter explores the long connection between photography and tourism at Niagara Falls and starts to detail the ways that tourist infrastructure developed to facilitate photography. This is followed by a brief history of social media and an explanation of the inner workings of Instagram, as well as an explanation of modes of circulation on Instagram. This chapter discusses the ways that the Instagram app influences posting habits and encourages circulation. Finally, this thesis concludes with comparisons of each technology, including aesthetic choices, methods of access and usage, and the differences and similarities in how these images are circulated, all using the case study images.

This thesis argues that Instagram follows the same photographic tradition as stereographs and serves many of the same purposes in tourist photography. The stereograph division at Keystone View Company closed almost fifty years before the Instagram app became available, and many modes of picture-taking bridged the gap between the two. Despite this, the formats and circulation levels of Instagram images and stereographs are very similar. Both have fixed ratios, organize images based on theme, content, and location, and provide images that purport to be authentic and realistic.

Additionally, both stereograph companies and Instagram collected nearly unfathomable amounts of images for their time, with Keystone having at least two million negatives in 1935 and Instagram users today adding eighty million images per day on average.⁶ This discussion about the similarities in these media has not been broached before, but certainly the question of how people today access, view, and create tourist photography and how that relates to historical media like the stereograph bears scrutiny. The Instagram post, while being technologically light-years from the stereograph, often reveals many of the same goals of the photographer, such as curating an authentic circulated presence, creating human scale when portraying natural tourist sites, placing their images within a wider context through mapping, and circulating their images as widely as possible. This thesis addresses these goals and the means of achieving them in detail using case studies from Niagara Falls.

⁶ William Culp Darrah, *Stereo Views: A History of Stereographs in America and their Collection*, (Gettysburg: Times and News Publishing Co, 1964), 113, Katy Elle Blake, "The 2016 Instagram Statistics that you Need to Know- Updated!" LinkedIn, November 9, 2016, <https://www.linkedin.com/pulse/2016-instagram-statistics-you-need-know-updated-katy-elle-blake>, Max Eddy, "Artist Prints Out 24 Hours of Flickr Uploads, Over One Million Photos," The Mary Sue, published November 13, 2011, <https://www.themarysue.com/million-flickr-uploads/>, Paul Frosh, "Inside the Image Factory: Stock Photography and Cultural Production," *Media Culture & Society* No 23, Vol 5 (2001): 329. As a mode of comparison, Erik Kessel's *24 Hrs in Photos*, where he printed off all of the photographs posted to Flickr in a day included just over one million images. It was first shown in 2011, and was last exhibited in 2015, and was a representation of the sheer numbers of photographs that viewers are exposed to, but has already been far outstripped. Stereograph companies were the forerunners for later photo agencies, and there is not a comparable deposit of imagery until much later.

CHAPTER ONE: LITERATURE SURVEY

This literature survey is organized into three sections. The first section discusses sources outlining and explaining the photographic trends established early in Niagara Falls' relationship with photography. This offers a general overview of the development of visual trends and technologies being used to capture images at Niagara Falls. The second section addresses critical papers and books pertaining to the circulation of tourist photography in multiple contexts. This offers a wider perspective of the ways that viewers access tourist photography historically and today while focusing on Instagram and stereographs. Finally, the third section offers a discussion of the literature on, and projects dealing with, how images are viewed and interacted with on social media and how those factors contribute to circulation. These sections provide the reader with an overview of the existing sources that contribute to research on tourist imagery at Niagara Falls. They also provide the reader with a background on the environment in which the stereograph developed, the modes of circulation of stereographs and Instagram images, and the social and cultural environments in which Instagram images exist. This is essential to be able to approach the development of both stereographs and Instagram and in order to discuss the commonalities that exist between both media.

History of Photography at the Falls

In order to discuss tourist photography at Niagara Falls, it is essential to understand the broader history of visual culture at Niagara Falls and at other sites that developed tourism at around the same time. To discuss this history, this section explores the material history of photography at Niagara Falls through Anthony Bannon's work,

but also discusses the influences of literature and other visual culture on the photograph at the Falls through Adam Hallett's work. Finally, it closes with an external perspective from Emily Greenwald's exploration of photography at Yellowstone National Park.

Dr. Anthony Bannon, a critic and cultural theorist with an interest in photography and education, wrote *The Taking of Niagara: A History of the Falls in Photography* in 1982.⁷ This catalogue accompanied an exhibition at the Buscaglia-Castellani Art Gallery in the same year and offers a material-based perspective on the history of Niagara Falls in photography. Bannon chooses to explore photography at the Falls through a technology-driven history, tracing camera and studio changes in photography at Niagara Falls. Bannon discusses the first individuals who established studios at the Falls, and explains how camera technology allowed those businesses to succeed and then offer space for new types of photography to flourish. He starts with the studios of Saul Davis and Platt D. Babbitt who sold souvenir photography directly to the subjects of the images and then discusses the rise of the stereograph trade through the studios of Barker, Curtis, and Bierstadt.⁸ This narrative is followed in the collection of images from the exhibition that is shown later in the catalogue.⁹ Bannon uses those means to understand various aesthetic choices, such as the fact that Davis only took studio images whereas Babbitt took candid images of tourists from Prospect Point.¹⁰ He does not give a great deal of consideration to how these photographers and their studios affected the creation of photographic norms or standards, but this is a question that arises through the analysis of later imagery of the

⁷ Anthony Bannon, *The Taking of Niagara: A History of the Falls in Photography*. (Buffalo: Media Study, 1982)

⁸ Ibid, 10-12.

⁹ Ibid, 25-43

¹⁰ Ibid, 10-11,14-15.

Falls. He does, however, give a brief timeline of the building of infrastructure and tourist destinations at Niagara Falls, which gives perspective on his discussion of developing camera technologies, but he presents these sections separately and does not discuss them as histories that may affect each other.¹¹ Though Bannon was writing before the rise of social media, this exhibition and catalogue shows a huge number of scenes familiar from Instagram and so the question of how these early photographers affected later imagery of the Falls is possible to investigate.

While Bannon's discussion is based around technology, Dr. Adam Hallett's focuses on the literary history of descriptions of Niagara Falls. Hallett, an English and literature researcher formerly at the University of Exeter, wrote the two-part paper "Made of the Mist: Nineteenth-Century British and American Views of the Niagara" in 2014.¹² This paper offers an analysis of the importance of point of view in depictions of Niagara Falls for tourist consumption. Hallett offers a perspective on how earlier writers, photographers, and illustrators had to completely reconsider how to depict nature in respect to the Falls because the Old World had no equivalent. Hallett almost strictly considers very early cultural factors in his discussion of depictions of Niagara Falls. This includes the very first description of Niagara Falls, written by Louis Hennepin, heavily reliant on nineteenth-century guidebooks, and American cultural critics such as Sydney Smith and Herman Melville.¹³ Hallett focuses on the similar language that is used across several hundred years to describe Niagara Falls, drawing attention to phrases like "this prodigious, frightful Fall," and "stupendous spectacle," and the fact that many authors

¹¹ Bannon, *The Taking of Niagara*, 44-46.

¹² Hallett, "Made of the Mist."

¹³ Ibid, 163-167.

claim to be unable to describe the Falls at all, although they all try.¹⁴ Hallett's work focuses on the early portrayal of Niagara Falls in Western literature, and this is essential to this discussion because it gives the reader an understanding of the literary needs that were being met with stereographic illustrations and the environment in which the photographers of the mid 1800s to early 1900s were producing their work. It also illustrates the expectations of the individuals purchasing imagery of the Falls in this period.

Finally, there is the question of how space forces the photographer's hand. Dr. Emily Greenwald, an associate historian at the Historical Research Associates Inc., wrote "On the History of Photography and Site/Sight Seeing at Yellowstone" in 2007.¹⁵ This paper discusses the physical constructs that shape the tourist images that can be taken at Yellowstone National Park and how the popularity of taking photographs in certain location has lead to the erection of fences and lookout points in those locations.¹⁶ Greenwald explores the repetitious nature of tourist photography through the lens of the physical places that tourists can explore and the construction that facilitates that exploration. She illustrates this point with one case study from 1890, one from 1922, and one from 2001, all of which are taken from the same point and are compositionally very similar.¹⁷ Greenwald asserts that this relationship goes both ways: that construction happens in order to allow these photogenic spaces to be accessible and that those spaces

¹⁴ Hallett, "Made of the Mist," 163, 165.

¹⁵ Emily Greenwald, "On the History of Photography and Site/Sight Seeing at Yellowstone," *Environmental History* Vol 12 (2007).

¹⁶ Ibid, 654.

¹⁷ Ibid, 654-655.

in turn become popular to photograph because of their accessibility.¹⁸ To show this, Greenwald discusses the building of roads, paths, and fences throughout Yellowstone that create a climactic experience and that follow guidebooks.¹⁹ This discussion also questions the wide-ranging influences of circulation of tourist photography through the discussion of guidebooks and the drive to imitate not only the images in them but also their language when visitors wrote on their own experiences in the park.²⁰ Through these examples, Greenwald asserts that the existing photography in physical spaces influences not only future photographers, but also the future infrastructure of that space, which can also be seen in the building of tourist infrastructure at Niagara Falls, a subject which will be discussed in more depth in chapter two.

Through these discussions of the development of the tourist trade at natural marvels, this section shows the importance of technological changes and visitor expectations when visiting a tourist site. Bannon's work provides a thorough early history of photography at Niagara Falls and a timeline of the infrastructure and tourist developments there, although he draws very few lines between the two. This discussion is helpful to this thesis because it provides an understanding of the pioneers of the photographic field in Niagara as well as what kinds of studios and attractions that existed there early on. Hallett, on the other hand, discusses how Niagara Falls existed in the thoughts of visitors to the space and how guidebooks created a certain expectation about Niagara Falls. Finally, Greenwald shows through a case study at Yellowstone how photographs and guidebooks can not only create a standard for discussion around natural

¹⁸ Greenwald, "Site/Sight Seeing at Yellowstone," 654.

¹⁹ Ibid, 658.

²⁰ Ibid.

sites, but can also create a visual language and influence infrastructure there. Through these sources, the reader can see some of the ways that early photography has heavily influenced many aspects of contemporary interactions with natural tourist wonders.

Circulation of Tourist Imagery

Widespread image circulation is one of the main factors that draws the technologies of the stereograph and Instagram together. Marie-Ève Bouillon's paper on the tourist photograph market in France discusses the ways that professional photographers boosted the circulation of images by invoking a strong narrative message rather than just presenting the site as an object. John Plunkett's work on the selling of stereographs in North America at the turn of the century explains in-depth how stereograph publishers sold their wares to wide audiences in the late 1800s and early 1900s. Finally, a group of researchers from Universidade Federal de Minas Gerais produced a data driven paper about user practices on Instagram, which reveals how images are widely circulated.

Dr. Marie Eve Bouillon, a French scholar of photographic history and history of tourism working at le Centre D'Histoire et Théorie des Arts at L'Ecole de Haute Etudes en Sciences Sociales, writes about the development of commercial tourist photography at a religious site in France. Her article, "The Market of Tourism Images", offers a historical perspective on how tourist photography at Mont-Saint-Michel, France has stylistically been shaped by a relatively small group of early image producers and sellers,

usually as postcards.²¹ Mont-Sainte Michel offers a closed system for the study of tourist photography from the mid 1800s to the early 1900s because it was a monastery that only allowed the monks living there to sell photographs of the space on location until 1879.²² After that point and until 1917, the Neurdein Frères produced most tourist images.²³ Bouillon compares the kinds of images produced by the monks and the Neurdiens, with the monks producing empty, alienating images and the Neurdiens creating professionally staged vignettes to make the space appealing.²⁴ Near the end of this article, Bouillon argues that this early visual culture has influenced the way that people photograph Mont-Sainte-Michel today through their circulation, but does not further illustrate her point. She does discuss in depth, however, the far greater success of the postcards created by the Neurdiens, which show a more realistic version of what a visitor's time at Mont-Saint-Michel would be like.²⁵ Bouillon argues that tourist images that portray certain narratives are more successful than ones that just show the tourist site, for example showing the approach to a site, or what one might buy while there. This relates to this thesis because it discusses how certain types of tourist imagery are far more successful than others, and that makers of heavily circulated images must discover what their public desires.

In North America, one of the most popular modes of tourist photography at the turn of the last century was the stereograph. Dr. John Plunkett, a historian and professor at the University of Exeter specializing in the Victorian Era, wrote "Selling Stereoscopy,

²¹ Marie-Ève Bouillon, "The Market of Tourism Images: Mont Saint-Michel at the End of the Nineteenth Century," *Études Photographique* No 30 (2012).

²² Ibid, 2.

²³ Ibid, 1.

²⁴ Ibid, 3-5.

²⁵ Ibid, 6-7.

1890–1915: Penny Arcades, Automatic Machines and American Salesmen" in 2008.²⁶

This article explores the methods of circulation of stereographs at the end of their popularity from 1890-1915 in the U.S.A., the packages that they were sold in, and the ways that salespeople were encouraged to sell them. Plunkett explains that in North America the most effective way to sell stereographs in the late 1800s was to send out door-to-door salesmen with one hundred card tours.²⁷ In this way, stereograph publishers were able to target rural audiences that were likely to make large orders because they did not often access cities where stereographs were sold freely.²⁸ Plunkett argues that this mode of circulation allowed for the widest distribution of stereographs in history and the highest sales.²⁹

“It is not just a picture: Revealing some user practices in Instagram” by Camila Souza Araújo et al. is a 2014 article by a group of Brazilian computer scientists from the Universidade Federal de Minas Gerais.³⁰ It offers information about when people tend to post on Instagram and which images tend to get the most likes. This explores which images tend to get seen the most and thus which ones have the highest circulation. The writers argue through this data that there are certain user practices that apply to most Instagram users, including posting on weekends and later in the day, and the rich get

²⁶ John Plunkett, “Selling Stereoscopy, 1890-1915: Penny Arcades, Automatic Machines and American Salesmen,” *Early Popular Visual Culture* Vol 6 No 3 (November 2008).

²⁷ Ibid, 241.

²⁸ Ibid.

²⁹ Ibid, 239.

³⁰ Camila Souza Araújo et al, “It is not just a picture: Revealing Some User Practices in Instagram,” *Conference Publishing Services: 2014 9th Latin American Web Congress* (2014)

richer model for likes.³¹ Through this, the authors show how certain images can become very widely circulated while others can be passed over. This shows how the Instagram community encourages certain aesthetic and posting choices.

These articles discuss how stereographs and Instagram images are circulated to wider audiences. The fact that both are publically circulated is a key similarity between the two media and is explored further in chapter four.

The Networked Image

Social media has existed since the introduction of SixDegrees.com in 1997, but became a popular platform for posting and discussing photography in 2004 through platforms like Flickr and Piczo, something that is still true today.³² This topic has been analysed by a range of scholars. Lauren Rabinovitz and Abraham Geil edited a book that discusses the changes that photography has undergone in the era of the networked image by looking at the history of technology through the lens of digital culture. Andrew Smock wrote an article on photographic critique and learning through Flickr, and how certain aesthetic choices are encouraged through online communities. José Van Djick wrote a book on the changing cultures of community and connectivity that discusses user expectations and social media. Finally, Lev Manovich creates works that question aesthetic choices and posting habits on Instagram through articles, books, and exhibitions.

³¹ Araujo, “It is not just a picture,” 19. This model refers to the likelihood that once an image already has likes, it will gain more, meaning that users more often like posts that have likes already.

³² Danah M. Boyd and Nicole B. Ellison, “Social Network Cites: Definition, History, and Scholarship,” *Journal of Computer Mediated Communication* Vol 13 (2008): 214.

Dr. Lauren Rabinovitz, a film and cinema historian at the University of Iowa, and Dr. Abraham Geil, also a film and cinema historian at the University of Amsterdam, edited the 2004 book *Memory Bytes: History, Technology, and Digital Culture*, a collection of essays from scholars in multiple fields, primarily discussing the multitude of ways that media and technology have changed.³³ Rather than framing these changes as ahistorical or as a break with what has come before, Rabinovitz and Geil present the continuities that can be seen from before and after the advent of the digital era. For example, one section of this book focuses heavily on the legacy of the stereograph, written by Dr. Judith Babbitts.³⁴ Babbitts argues that the stereograph in North America created a visual culture that persists today, a perspective that is also discussed in this thesis.³⁵ Rabinovitz and Geil's work discusses not only the scope of current digital technologies, but also the precedents that helped to create the shape of those technologies, for example, Victorian illustrations of the human body and the Genome Project and the development of simulated reality from *Hale's Tours* to IMAX.³⁶

Dr. Andrew Smock is a new media production and theory professor and researcher at University of Wisconsin who takes a specific interest in social media and wrote "Leveraging Social Media for Learning: Communities of Practice on Flickr" in 2012.³⁷ This article looks at how interactions on and use of Flickr influences the ways

³³ Lauren Rabinovitz and Abraham Geil eds, *Memory Bytes: History, Technology, and Digital Culture* (Durham: Duke University Press, 2004).

³⁴ Judith Babbitts, "Stereographs and the Construction of a Visual Culture in the United States," in eds Lauren Rabinovitz and Abraham Geil, *Memory Bytes: History, Technology, and Digital Culture* (Durham: Duke University Press, 2004): 126-149.

³⁵ Ibid, 126.

³⁶ Rabinovitz and Geil, *Memory Bytes*, 47, 99.

³⁷ Andrew Smock, "Leveraging Social Media for Learning: Communities of Practice on Flickr," Order No. 3524007, Michigan State University, 2012.

that people take photographs. His research is primarily based around interviews with users in which they discuss the ways that they learned to make images through the use of social media.³⁸ Smock discusses people who actively seek and give advice on composition and other aspects of photographic processes.³⁹ This research is essential to understanding the role of social media in the creation of specific aesthetics and in the drive of the user of social media to create content that will be widely circulated.

Dr. José van Dijck, president of the Royal Netherlands Academy of Arts and Science and a scholar of comparative media, wrote *The Culture of Connectivity: A Critical History of Social Media*, and it published in 2013.⁴⁰ It looks at the history of and the social practices associated with social media using different websites as case studies, such as Facebook, Twitter, and Flickr, and often relies on user comments.⁴¹ For example, Van Dijck explores how Flickr users dealt with the platform owner's goal to become more profitable while they desired to maintain the site on a more user driven level.⁴² Van Dijck offers insights into community versus corporate development of social media websites and how the different kinds of usage become imbued with meaning, for example using a platform to resist the corporatization of that platform.⁴³ He also discusses the huge differences perceived by users of social media between organic development of websites and web presence by users and those that are driven by companies, corporations

³⁸ Smock, "Leveraging Social Media."

³⁹ Ibid.

⁴⁰ José Van Dijck, *The Culture of Connectivity: A Critical History of Social Media* (New York: Oxford University Press, 2013).

⁴¹ Ibid.

⁴² Ibid, 89.

⁴³ Ibid, 91-92. The author discusses this on specifically on Flickr, saying that users resisted certain additions and changes made to the website to make it more corporately successful by avoiding those additions, refusing to use them, and openly opposing the changes in posts on the site.

or other organized groups.⁴⁴ This source gives a background for the development of websites like Instagram, as well as on the different kinds of celebrity that users can achieve or aim for, which causes the wider circulation of their images.

The development of software for, and the use of, Instagram is very specialized, and so Manovich offers research specific to Instagram. Dr. Lev Manovich, who holds a PhD in Visual and Cultural Studies from University of Rochester and is now a professor at City University of New York and the director of Software Studies Initiative, has carried out a great deal of research on Instagram, published through papers, books, exhibitions, and online projects.⁴⁵ His writings *Instagram and Contemporary Image* (2016) and “Selfiecity: Exploring Photography and Self Fashioning in Social Media” (co-written by Alise Tifentale, art historian and PhD candidate at CUNY, 2014) offer information about data collection and applicable data about Instagram itself.⁴⁶ These works are based on analytic projects about Instagram. For example, Selfiecity is a project where Manovich and his lab, Software Studies Initiative, analyzed 3,200 selfies from 6 city centres of comparable size from December 5-11, 2013.⁴⁷ Manovich tackled the issue of huge groups by working within very specific time lines, geotags, and types of photographs (for example, selfies).⁴⁸ In addition to offering one method of selection of images from Instagram, Manovich's work gathers actual data.⁴⁹ This image data is

⁴⁴ Van Dijck, *The Culture of Connectivity*, 89.

⁴⁵ “Manovich,” Cultural Analytics Lab, accessed June 30, 2017, <http://manovich.net/>.

⁴⁶ Lev Manovich and Alise Tifentale, “Selfie City: Exploring Photography and Self-Fashioning in Social Media,” in *Postdigital Aesthetics: Art, Computation and Design* edited by David M. Barry and Michael Dieter (UK: Palgrave Macmillan, 2015) and Lev Manovich, *Instagram and Contemporary Image*, Manovich.net, 2016.

⁴⁷ Manovich and Tifentale, “Selfie City,” 109.

⁴⁸ Ibid, 110-111.

⁴⁹ Ibid.

analyzed first through software, then by researchers, and finally by the public online. This three layer analysis provides a less biased view than if the data were provided by any single source.⁵⁰ This data offer the reader information about aesthetics, posting trends, and a general starting point to understand images being posted on Instagram by compressing the huge amount of information from the huge number of posts each day into usable data and analysis.

This section gives a wide perspective on the changing relationship of photography and the Internet, while specifically discussing how users interact with their social media presences.

* * *

These sources create an intellectual framework from history to contemporary critique and analysis through which one can understand and question the relationships between stereograph and Instagram use at Niagara Falls. By discussing the history of photography at the Falls, the modes of circulation of tourist imagery, and the connections and changes in tourist photography created by social media and the internet, this thesis can begin to question the function of Instagram as a tool for publicly sharing and circulating tourist imagery, and how this platform has changed the face of tourist photography from the time of the stereograph. None of the above sources directly address this question, however, and so the primary research presented in this paper will explore this thoroughly. Specifically, this thesis will examine the ways that the nearly simultaneous development of photography and tourism at Niagara Falls created certain expectations for taking photographs at Niagara. It also explores how the iOS Instagram

⁵⁰ Manovich and Tifentale, "Selfie City," 111.

app encourages users to increase their images' searchability and circulation through embedding metadata. It goes on to explore aesthetic connections between stereographs and Instagram images and whether aesthetic choices at Niagara Falls can be traced to certain intentions in the creation of tourist photography, while connecting these photographs to wider contexts. The timeline of the development of tourism and photography at Niagara Falls lays the framework for these discussions, and is explored in chapter two.

CHAPTER TWO- THE EVOLUTION OF TOURISM AND PHOTOGRAPHY AT NIAGARA FALLS

Niagara Falls's popularity as a tourist site started in earnest in 1801 when the daughter of Aaron Burr, Thomas Jefferson's first Vice President, went there on her honeymoon, and was solidified when only three years later Napoleon I's youngest brother also went there on his honeymoon.⁵¹ Both of these hallmark visits occurred before the completion of the Erie Canal in 1825, or the rail line from the canal to the Falls in 1836, meaning that the route must have been long and difficult.⁵² The Erie Canal allowed Niagara Falls to become truly accessible to visitors and pushed the surrounding frontier town to become a tourist hotspot.⁵³ The textual record shows this popularity, with Niagara Falls appearing in three quarters of all travel books about America.⁵⁴ Louis Hennepin was the first European to describe Niagara Falls during the LaSalle Expedition in 1678-79.⁵⁵ This fact is also seen in the visual record, with an image of the Falls being published as early as 1697 or 1698 in Hennepin's work *A New Discovery* or *A New Discovery of a Vast Country in America*.⁵⁶ (Fig. 1) Niagara Falls was depicted in print, painting, and drawings throughout the 1700s and 1800s.⁵⁷ With this in mind, the building of the Erie Canal came only fourteen years before the invention of photography, and so photography and Niagara Falls as a subject developed together.

⁵¹ "Historical Information on Niagara Falls," Niagara Falls Tourism, accessed May 26, 2017, <https://www.niagarafallstourism.com/about/city-of-niagara-falls/history/>.

⁵² Hallett, "Made of the Mist," 163.

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Ibid, 162-163.

⁵⁶ Revie, *The Niagara Falls Companion*, 25 and Bannon, *The Taking of Niagara*, 9. These sources disagree on the year and title of the publishing of the account in English

⁵⁷ Hallett, "Made of the Mist," 163.

This chapter will address the significant relationship between Niagara Falls and early photography, exploring the connections between changing infrastructure, tourism, and the development of photography, focusing on the stereograph. The stereograph was a hugely popular medium from the 1850s until the 1930s and was largely used for tourist imagery. As a medium, it was one of the primary ways that photographs of Niagara Falls were circulated, and helped to create the visual rhetoric for depictions of the Falls. The early history of tourism and photography at Niagara Falls contributed greatly to the development of the stereographic form there.

Early Photography at the Falls

In 1839, when photography was invented, Ontario as a province did not exist and the New York village of Niagara Falls would not be incorporated for another nine years.⁵⁸ Despite these facts, the need for easy transportation and access to Niagara Falls had already been expressed and fulfilled with a rail line being built between the Erie Canal and Niagara Falls in 1836.⁵⁹ This timeline shows the alert reader that photography and Niagara Falls as a tourist site, if not born simultaneously, were incredibly close in their inception. This fact can be seen in the historical record: in 1997, the Newcastle University Library discovered eight daguerreotypes of Niagara Falls in their special collections that were taken only nine months after Arago announced the invention of the daguerreotype to the French Academy of Sciences and the Académie des Beaux-Arts.⁶⁰

⁵⁸ Bannon, *The Taking of Niagara*, 10.

⁵⁹ Ibid, 9.

⁶⁰ “Daguerreotypes- Press Release 14 October 1997,” Newcastle University Library, updated October 23, 2013, <http://www.ncl.ac.uk/library/special-collections/collections/daguerreotypes/press>.

(Fig. 2) Hugh Pattinson, an English businessman, took these photographs during a trip to America and they represent the earliest photographs taken of Canadian soil, even if they are earlier than confederation.⁶¹ In 1853, Saul Davis built a hotel called Table Rock House, and there his son also ran a photography studio where visitors to the Falls could have their pictures taken.⁶² The sites from which pictures were taken were quickly defined and claimed by photographers and studios with Davis claiming Table Rock in Ontario and Platt D. Babbitt claiming Prospect Point, New York.⁶³ Babbitt was known for setting up his camera and surreptitiously taking photographs of tourist groups, then offering the images to the group for purchase, but was also lauded for his artistic ability, whereas the Davises were known for being conmen and ne'er-do-wells.⁶⁴ Their photographic studio had an interior set-up at Table Rock House, a site where there was also a bar and hotel.⁶⁵ From there, George Barker, George Curtis, and Charles Bierstadt established the best-known stereograph studios at Niagara Falls in the 1850s and 1860s.⁶⁶ All of these men also produced portraits and sold stereographs from around the world, but are best known for their stereographs of Niagara Falls.⁶⁷

Tourism at Niagara Falls has always been controlled by the physical realities of the space. This includes the ability to physically get there and gain access to where the visitor can actually stand; photographers and businessmen defined those spaces early.

⁶¹ Ibid.

⁶² Bannon, *The Taking of Niagara*, 10-11 and "The Front," Niagara Falls Info, accessed May 28, 2017, <https://www.niagarafallsinfo.com/niagara-falls-history/niagara-falls-tourism-history/table-rock/the-front/>.

⁶³ Bannon, *The Taking of Niagara*, 12.

⁶⁴ Ibid, 10-11, 14-15.

⁶⁵ Ibid, 14-15.

⁶⁶ Ibid, 17.

⁶⁷ Ibid.

These spaces were chosen and developed by photographers because of the nearly concurrent development of the tourist trade at the Falls and photography. This relationship can be seen at Niagara in the early building of vantage points that allowed for wider views of the Falls to be captured.⁶⁸ Pagodas were built on the American and Canadian sides of the Falls where Hennepin supposedly stood when he first saw them, marking the place and providing a photo op, in 1845.⁶⁹ The photographic experience was further embraced with the creation of a camera obscura on the Canadian side in 1854.⁷⁰ A camera obscura is a room without any sources of light except a small hole fitted with a lens in a wall which projects an inverted projection of the world outside on the opposite wall. This one projected an image of America Falls opposite.⁷¹ While a camera obscura could be used to create a photograph, it is actually giving the visitor an opportunity to stand inside of a giant camera. This shows that Niagara Falls tourists were interested in interacting with the Falls through photographic experiences, and that the tourist trade there gave them such opportunities.

Niagara Falls is a key example of an instance when the tourist trade and the photographic trade were not separate for very long. As a result, Niagara Falls influenced the development of tourist photography in Canada, being the first photographic subject in Canada, and photography likewise informed the evolution of the Falls as a tourist destination. The popularity of Niagara Falls as a tourist destination and the early presence of photography there led to stereograph studios being established at the Falls very early in the trade.

⁶⁸ Bannon, *The Taking of Niagara*, 44.

⁶⁹ Ibid.

⁷⁰ Ibid, 45.

⁷¹ Ibid.

A History of Stereography

The photographic stereograph has no clear single inventor. The concept of recreating the three dimensional appearance of the world around us through the use of two images reproducing the slightly different perspectives from each human eye was invented by Sir Charles Wheatstone in 1838 to be used with illustration.⁷² He also invented a tool with two lenses with which to view these pieces, but his invention did not become popular until it was adapted for photography by several photographers nearly simultaneously: Antoine Francois Claudet, Richard Beard, and David Brewster and Jules Dubosq, among others.⁷³ Antoine Francois Claudet and Richard Beard applied themselves to creating stereographs from daguerreotypes as early as 1842. They faced two main issues: finding the correct spacing in the two cameras that they used, and the fact that the daguerreotype must be viewed in specific ways.⁷⁴ Because the background is reflective and white mercury deposits on the surface of the silver plate create the highlight, they must be viewed with partial light hitting the surface and with a dark material in front of them to make the mirror surface appear dark. This issue was resolved by David Brewster's invention of a closed box viewer for the daguerreotypes, a mock-up of which was created by Jules Dubosq to be displayed at the Crystal Palace during the Great Exhibition in 1851, and apparently favourably looked upon by Queen Victoria herself.⁷⁵ Claudet, Beard, and many other photographers used the two-camera method to

⁷² Darrah, *Stereo Views*, 3-4.

⁷³ Ibid, 5.

⁷⁴ Ibid.

⁷⁵ Darrah, *Stereo Views*, 5, and Plunkett, "Selling Stereoscopy," 239.

photograph the exhibition.⁷⁶ (Fig. 3-4) J. F. Mascher invented a camera in 1853 that took two daguerreotypes simultaneously of one subject with two lenses horizontally spaced, but seems to have primarily used it to produce multiples of portraits rather than for the production of stereographs.⁷⁷ The stereoscopic camera followed soon after with a spacing of two and half inches between the lenses horizontally.⁷⁸

With the development of negative-based photography and paper positives in the mid 1850s, the stereograph became more and more affordable and successful.⁷⁹ The prints created from the two negatives would be mounted on cardboard very close or touching, with the print captured by the left lens placed on the right side of the card and vice versa to amend the lateral reversal of the negatives, and the card would be placed in the holder to be viewed.⁸⁰ Over time, the stereograph would be produced in cyanotype, salted paper, albumen, collodion, gelatin, and half tone, and the prints would be monotone, hand tinted, and later multi-coloured lithographs.⁸¹ The lithograph truly allowed the stereograph to boom in affordability, but the variety of production continued throughout the stereograph's lifespan.

The stereograph was already hugely popular in the 1850s and 1860s being available in many countries providing a range from expensive luxury good to an affordable diversion, but underwent huge changes in the 1870s and 1880s, in part due to the financial depression that started in 1873 and ran until about 1878 in Europe and North

⁷⁶ Darrah, *Stereo Views*, 5.

⁷⁷ Ibid, 5-6

⁷⁸ Ibid.

⁷⁹ William C. Darrah, *The World of Stereographs*, (Gettysburg: W. C. Darrah, 1977), 45.

⁸⁰ Darrah, *Stereo Views*, 6.

⁸¹ Ibid and Plunkett, "Selling Stereoscopy," 241

America.⁸² The stereograph market had to change to stay afloat: luxury cards with well made prints and heavy card weights sold at 25 to 35 cents and at 50 cents for larger prints, making them unaffordable for the average consumer.⁸³ The price of cards dropped to 10-15 cents in the wake of the Depression for true photographic stereographs and as low as two for 5 cents for mechanical reproductions of dubious legitimacy and copyright.⁸⁴ As a result, the stereographs of this time are difficult to find today because most collectors did not buy them and the poor quality of the card certainly did not contribute to them lasting for posterity. William Culp Darrah, one of the earliest and most vocal collectors of stereographs discouraged collectors from buying Depression-era stereographs, saying that they “have only trifling value” but acknowledging their ability to betray the interests of people at the time.⁸⁵

This flooding of the market and devaluing of the stereograph ended in the 1880s with the end of the depression and the creation of American stereograph producers.⁸⁶ Underwood and Underwood Publishers was established in 1882, although business really boomed in the 1890s with the added competition from the founding of the Keystone View Company in 1892 in Pennsylvania.⁸⁷ These companies invented the most essential tools to spread the Niagara Falls stereograph: the tour set and the door-to-door

⁸² Darrah, *Stereo Views*, 17, Plunkett “Selling Stereoscopy,” 240, and Mike Barga, “The Long Depression (1873-1878),” Social Welfare Library, Updated 2013, <http://socialwelfare.library.vcu.edu/eras/civil-war-reconstruction/the-long-depression/>.

⁸³ Darrah, *Stereo Views*, 17.

⁸⁴ Ibid.

⁸⁵ Ibid, 17-18.

⁸⁶ Plunkett, “Selling Stereoscopy,” 240 and “A Guide to the Keystone View Company “Tour of the World” Stereographs, ca. 1892-1933”, Briscoe Centre for American History, Accessed May 1, 2017, <http://www.lib.utexas.edu/taro/utcah/02182/cah-02182.html>.

⁸⁷ Plunkett, “Selling Stereoscopy,” 240 and “A Guide to the Keystone View Company.”

salesman.⁸⁸ Gone were the days of the affordable and shoddily produced stereograph. Underwood and Underwood and Keystone replaced the regional producers that formerly serviced small locales with polished and well produced collections of images delivered to even the rural buyer's door for two-thirds of the average middle class man's weekly pay.⁸⁹ The key to these new publishing companies' success was in convenience and marketing, and the key to their production success was in the volume.⁹⁰ As time went on, Keystone bought nearly all of the negatives from nearly all competitors, Underwood and Underwood included.⁹¹ Their collection in 1935 included at least two million negatives and dated back to 1860.⁹² This was the power and the beauty of their system: they could guarantee customers quality and range because they could afford to buy out all competitors.

By 1920, Keystone was the only large producer of stereographs.⁹³ They continued to employ photographers to travel the world and photograph events and places, including World War I, but stereographs declined in popularity, forcing Keystone to sell its assets in 1963 and close the stereograph division.⁹⁴

The tour sets of stereographs were some of the most important money-makers for Keystone and Underwood and Underwood.⁹⁵ The set came with the cards, a map with points on it to show where the images were taken, and a travel guide written by famous

⁸⁸ Plunkett, "Selling Stereoscopy," 241.

⁸⁹ Ibid, 242.

⁹⁰ Ibid.

⁹¹ Darrah, *Stereo Views*, 112-113.

⁹² Ibid, 113.

⁹³ Darrah, *The World of Stereographs*, 50.

⁹⁴ Ibid and "A Guide to the Keystone Company."

⁹⁵ Plunkett, "Selling Stereoscopy," 241-243.

travel writers such as Burton Holmes.⁹⁶ These tours usually included 100 cards, but some were available with adjustable numbers of cards to be tailored by the buyer.⁹⁷ It was through these sets that salesmen were guaranteed a decent sale and thus a decent commission, and so they were heavily encouraged to sell the pre-packaged tours over anything else.⁹⁸ In this way, stereographs started to influence the views that people associated with destinations like Niagara Falls, and their knowledge of what to do while there.

This history serves to provide the reader with a basic understanding of the spread and method for the production of stereographs and how stereograph images were constructed in different times: the later stereographs were created to be included in packages and were not intended to be stand-alone images, while earlier ones often were. Additionally, the use of travelling salesmen in the later years ensured that stereographs could be found in many households, even those outside of cities. Finally, the availability of tours and tour books to go along with the packages of images created a narrative structure through which to view the images, and thus influenced the ways that viewers interacted with these images.

Tourist Photography Beyond the Stereograph

Tourist photography changed forever with the introduction of the Kodak Camera in 1888 because the enterprising explorer no longer had to rely on an enormous, complicated camera and the accompanying photographer to operate it and then develop

⁹⁶ Darrah, *The World of Stereographs*, 50.

⁹⁷ Plunkett, "Selling Stereoscopy," 241-243.

⁹⁸ Ibid.

the negatives and print the images.⁹⁹ The Kodak Camera was a huge development over the stereographic camera because it used flexible roll film and was printed and reloaded at the Kodak plant.¹⁰⁰ While there was still a market at Niagara Falls for professional images ranging from postcards to the stereograph's child, the View-Master, the type of photography that grew the most in the 1900s was the snapshot.¹⁰¹ The snapshot is a centerpiece in the homes of many families, a way to access and discuss histories and stories. The importance of the snapshot can be seen in the growing focus on them in institutions, including but not limited to exhibitions at the San Francisco Museum of Modern Art, the National Gallery of Art, Washington, the Royal Ontario Museum, and even a travelling show from the Thunder Bay Art Gallery.¹⁰² These shows, especially in Canada, focus on the creation of family, home, and belonging through imagery.¹⁰³ At Niagara Falls, snapshots are often used to capture the family holiday in a personal way.¹⁰⁴

As time has gone on, cameras have grown lighter and cheaper, and vantage points for photography at Niagara Falls have grown more accessible and more voluminous in

⁹⁹ Todd Gustavson, *500 Cameras: 170 Years of Photographic Innovation*, (New York: Sterling Signature, 2011), vii, 96, and "Kodak Brownie Camera," The Franklin Institute, accessed May 27, 2017, <https://www.fi.edu/history-resources/kodak-brownie-camera>.

¹⁰⁰ Gustavson, *500 Cameras*, 96.

¹⁰¹ Bannon, *The Taking of Niagara*, 11.

¹⁰² Douglas R. Nickel, *Snapshots: The Photography of Everyday Life, 1888 to the Present* (San Francisco: San Francisco, 1998), "The Art of the American Snapshot: 1888 to 1978," The National Gallery of Art, accessed June 21, 2017, <https://www.nga.gov/exhibitions/2007/snapshot/>, Rebecca Baird and Richard William Hill, *Everyday Light: Family Photographs Selected by Contemporary First Nations Artists* (Thunder Bay: Thunder Bay Art Gallery, 2005), and "The Family Camera," Royal Ontario Museum, accessed June 21, 2017, <https://www.rom.on.ca/en/exhibitions-galleries/exhibitions/the-family-camera>.

¹⁰³ Baird and Hill, *Everyday Light*, 3-5 and "The Family Camera."

¹⁰⁴ Baird and Hill, *Everyday Light*, 72 and "The Family Camera."

number.¹⁰⁵ This includes the multiple incarnations of the Maid of the Mist as well as the Skylon Tower and the Oneida Tower, the tallest open steel observation tower in Canada, both opening in 1964, among many, many other attractions.¹⁰⁶ These types of vantage points provide visitors with a wide variety of viewpoints to capture their images and still keep people in the picture-making business. For example, an adult ticket for the Maid of the Mist costs \$18.25 and the Journey Behind the Falls, \$17.30.¹⁰⁷ In this way, the views at Niagara are still claimed by certain groups; the visitor can simply use their own camera now to interact with them.

Stereographs of the Falls: Case Study Images

This history provides the reader with a basic overview of the stereograph at Niagara Falls. The stereograph was an early 3D technology that allowed for a wide circulation of tourist imagery and served as an early precursor to Instagram. These comparisons will be made in more depth in chapter four using a specific group of stereographs. The group that will be used to support this discussion includes 15 stereographs of Niagara Falls from three collections: the Royal Ontario Museum (ROM), a group on loan to the ROM from a private collector, and the collection of the Archive of Modern Conflict Toronto (AMC). (Fig. 5-19) These institutions have been chosen because of their range of commercial photographic collections and their accessibility to the author. While these institutions have the largest publically available collections of

¹⁰⁵ Gustavson, *500 Cameras*, vii-viii, and Bannon, *The Taking of Niagara*, 44-46.

¹⁰⁶ Bannon, *The Taking of Niagara*, 46.

¹⁰⁷ "Schedule and Pricing," Maid of the Mist, accessed June 21, 2017, <https://www.maidofthemist.com/schedule-pricing/> and "Journey Behind the Falls," Niagara Parks, accessed June 21, 2017, <https://www.niagaraparks.com/visit/attractions/journey-behind-the-falls/>.

stereographs in Toronto, these still represent a small selection of all the stereographs taken at Niagara Falls.

As discussed above, the stereograph was widely circulated and was one of the earliest modes for viewing the Falls, and thus has influenced the ways that people photograph them.

Chapter four will address the questions of authenticity, framing, using mapping in understanding images, and the circulation of Instagram images and stereographs using the case study images. This discussion will show that, while the invention of the stereograph and the launch of Instagram are separated by at least 150 years, they serve similar purposes for sharing tourist photography through similar means such as framing, mapping, and circulation. Chapter three explores how Instagram came to be in the context of social media, how to use the iOS app, and how images are circulated.

CHAPTER THREE: INSTAGRAM AND THE NETWORKED IMAGE

It seems obvious to a point of redundancy to state that photography and the process of taking photographs is a huge part of most people's lives today. The ease of taking photographs has only increased, causing the numbers of photographic images of all kinds in the world to increase as well.¹⁰⁸ This can be seen in a 2005 Internet survey that showed that at least 37% of respondents had between 1,001 and 10,000 digital images.¹⁰⁹ One effect of this increase is that our relationship to tourist photography has changed dramatically since the introduction of the Internet. People no longer need to purchase images to look at faraway places, and platforms like Flickr, Tumblr, and Google Maps make it easy to explore photographs taken by strangers from nearly anywhere in the world.¹¹⁰ While Facebook still serves as a photo album for most, allowing users to explore friends' and family's images, Instagram bridges the gap between the public and the private with some using the social media platform to circulate images publicly and others catering to only people that they know. Whether one's profile is public or private, however, the viewer can still interact with any public account and the images posted on it.¹¹¹ This chapter will begin with a brief history of social media and Instagram specifically and then move into an overview of how to use Instagram. (Fig. 20) It concludes with an introduction to the Instagram case study images discussed in more depth in chapter four. This chapter aims to provide context for the environment that

¹⁰⁸ Bannon, *The Taking of Niagara*, 46, Nickel, *Snapshots*, 9-10, and Daniel Rubinstein and Katerina Sluis, "A Life More Photographic: Mapping the networked image," *Photographies* Vol 1 No 1 (2008): 13.

¹⁰⁹ Rubenstein and Sluis, "A Life More Photographic," 13.

¹¹⁰ Anja Dinhopf and Ulrike Gretzel, "Conceptualizing Tourist Videography," *Information Technology and Tourism* Vol 15 Iss 4, 356.

¹¹¹ Instagram, "FAQ", Copyright 2017, <https://www.instagram.com/about/faq/>.

Instagram images exist in and to explain how the app encourages certain user practices, such as hashtagging and geotagging, and how those contribute to higher circulation.

Development of Photography for Social Media

Many consider the social media website to have risen with the advent of Web 2.0 in 2008, a somewhat nebulous term that describes when the production and development of accessible web-based applications for the Internet became possible.¹¹² This concept was created to discuss new uses of the Internet after a huge number of websites and Internet companies declared bankruptcy in the dot-com crash in 2000.¹¹³ While the term has essentially fallen into obscurity today, it describes the way that web developers were approaching how they could use and create for the Internet, with Web 2.0 putting heavy emphasis on interactions online and the democratizing potential of the Internet.¹¹⁴ Despite Web 2.0 being a reaction to the dot-com crash, the first recognizable social media site actually arose, however briefly, in 1997 with the launch of SixDegrees.com, a site that encouraged users to meet friends of friends and interact with new people.¹¹⁵ (Fig. 20)

By late 2006, Facebook was available to everyone, paving its path to becoming the ubiquitous site that it is today.¹¹⁶ Facebook now allows people to create public pages

¹¹² Tim O'Reilly, "What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software," O'Reilly, updated September 30, 2009, <http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html> and Van Dijck, *The Culture of Connectivity*, 5.

¹¹³ Mike Wolcott, "What is Web 2.0?" CBS MoneyWatch, updated May 1, 2008, <http://www.cbsnews.com/news/what-is-web-20/> and Jonathan Strickland, "How Web 2.0 Works," How Stuff Works, Updated December 28, 2007, <http://computer.howstuffworks.com/web-20.htm>.

¹¹⁴ O'Reilly, "What is Web 2.0."

¹¹⁵ Boyd and Ellison, "Social Network Sites," 214.

¹¹⁶ Ibid, 218-219.

for mutual interests, business, events, and people, as well as private groups, profiles, and events.¹¹⁷ Facebook has 1.94 billion monthly users as of March 31, 2017, and now it has started to explore its place in other kinds of social media, having purchased Instagram in 2012 and launching numerous other platforms and variations since then.¹¹⁸

For many, one of the draws of using social media is the ability to share images and interact with other people's images, something that was a huge part of Flickr's early success, and is a service that nearly all sites provide today.¹¹⁹ Instagram has fulfilled this desire for photograph-driven spaces in connection with social behaviours since the decline of Flickr. Kevin Systrom and Mike Krieger launched Instagram in 2010 as a mobile app that intended to help people create beautiful digital images.¹²⁰ In their FAQ page, Instagram states: "Mobile photos always come out looking mediocre. Our awesome looking filters transform your photos into professional-looking snapshots," focusing on allowing users to produce aesthetically pleasing images with ease.¹²¹ Within the first twenty-four hours after the app's launch, 25,000 people had downloaded it.¹²² Much like Flickr, the app allowed for tagging of images to create a system of searchability, but unlike Flickr, did not allow for any privacy settings at the time of launch; if it was posted,

¹¹⁷ Facebook, "Facebook," 2017,

https://www.facebook.com/facebookcanada/?brand_redir=20531316728.

¹¹⁸ Facebook Newsroom, "Statistics," 2017. <https://newsroom.fb.com/company-info/> and Facebook Newsroom, "Our History," 2017. <https://newsroom.fb.com/company-info/>.

¹¹⁹ Boyd and Ellison, "Social Media Sites," 211-214, Rubenstein and Sluis, "A Life more Photographic," 14-15 and Van Dijck, *The Culture of Connectivity*, 91-92.

¹²⁰ Instagram Press, "Our Story," 2017. <https://instagram-press.com/our-story/> and Instagram, "FAQ."

¹²¹ Instagram, "FAQ."

¹²² Daniel Roberts, "How Kevin Systrom got started," Fortune Magazine, published October 10, 2014, <http://fortune.com/2014/10/10/how-kevin-systrom-got-started/>.

it was public.¹²³ While this prevented some from joining, this allowed Instagram to become the chosen website for the promotion of celebrities and businesses, but also for the creation of the online celebrity; the “Instagram famous”.¹²⁴ Today, Instagram has 700 million users and 80 million posts are added each day on average.¹²⁵

How the Instagram iOS App Works

Instagram is a mobile-based app, meaning that it is intended to be used on a mobile phone with the phone’s camera, and can be viewed, but not posted on, through a laptop or PC. This means that while one can access the Instagram website through a web browser, one must upload one’s images through the app. (Fig. 21 and 22) Once an image is uploaded to the app, one can edit the image using filters and basic other adjustments such as colour, warmth, and contrast. (Fig. 23 and 24) In the past, Instagram allowed users to upload only square images, but today users can upload images with multiple aspect ratios, as well as videos.¹²⁶ After performing any editing that suits the user, they can choose to geotag their image, which allows viewers to see on a map where the image was taken and to create a caption. (Fig. 25) Users can now choose to make their accounts public or private, and if they choose to be private, they must approve potential followers before they can access their images. If the account is private, only followers can see their own geotags, but if an account is public, then any user can search a location and see any images geotagged there. The caption section can be used to add hashtags to the images, adding to this searchability. Hashtags add metadata, imbedded information, to increase

¹²³ Van Dijck, *Culture of Connectivity*, 107.

¹²⁴ Ibid.

¹²⁵ Blake, “The 2016 Instagram Statistics that you Need to Know- Updated!”

¹²⁶ Instagram, “Our Story.”

searchability and predictive text appears below the text box to suggest existing hashtags and showing how many other posts use that tag. (Fig. 26) This is a method to increase traffic in public accounts; when individuals use more hashtags or highly explored hashtags, their posts tend to get more likes and thus to show up more in the Instagram Explore bar.¹²⁷ The Explore bar is where Instagram suggests profiles and posts to the user based on posts that they have liked in the past, profiles that they follow, what they like, and otherwise popular posts. Through this, users can promote their public posts to gain followers and likes, which then contributes to them becoming more visible and gaining even more followers and likes.¹²⁸

Circulation on Instagram

Posting an image on a public Instagram account is not a guarantee of wide circulation despite the fact that it offers this possibility.¹²⁹ Circulation on Instagram relies on the algorithm used by the platform that controls which images appear first on each user's newsfeed and explore bar.¹³⁰ This feature was introduced in April of 2016 and was created to help prevent users from flooding the Explore bar and Newsfeed by posting several times a day.¹³¹ The algorithm now shows users content based on what they have liked in the past, similar accounts to those they already follow, and posts that have been

¹²⁷ Araujo, "It is not just a picture," 22.

¹²⁸ Ibid.

¹²⁹ Ibid, 19.

¹³⁰ Instagram Press, "See the Moments that You Care About First," posted March 15, 2016. <https://instagram-press.com/blog/2016/03/15/see-the-moments-you-care-about-first/>.

¹³¹ Ibid and Phil Laboon, "Capitalizing On Instagram's New Algorithm," Forbes, posted September 6, 2016, <https://www.forbes.com/sites/forbesagencycouncil/2016/09/06/capitalizing-on-instagrams-new-algorithm/#4a42727f1dbc>.

liked by accounts that they already follow.¹³² Following this and a principle studied by researchers at the Universidade Federal de Minas Gerais, posts on Instagram tend to follow a “rich get richer” principle where posts with more likes are more heavily circulated and thus receive even more likes, leading to higher circulation.¹³³ Higher circulation leads to more users being able to see the account in question, which then leads to more followers, which also contributes to higher circulation.¹³⁴ In a general sense, the algorithm suggests similar posts to those already liked by users by looking at the hashtags in the posts that the user has already liked and showing more posts with those hashtags in the Explore bar to said user.¹³⁵ In this way, posts with more hashtags tend to hedge their bets, receive higher circulation, and thus more likes, however, this rule does not apply to hugely popular Instagram accounts.¹³⁶ Most users will see posts from accounts with large followings in their Explore bars because it is likely that they follow someone who interacts with those popular account’s posts, regardless of whether they include hashtags.¹³⁷ This can be seen in one of the most liked Instagram posts of all time, Beyoncé’s official announcement that she would be having twins: without the use of any hashtags, the image received over eleven million likes between the time of posting on February 1st, 2017 and the time of writing, June 2017.¹³⁸ (Fig. 27) All of this shows that

¹³² Laboon, “Capitalizing On Instagram’s New Algorithm.”

¹³³ Araujo, “It is not just a picture,” 19.

¹³⁴ Ibid, 22.

¹³⁵ Ibid, 22-23 and Laboon, “Capitalizing On Instagram’s New Algorithm,” and Blake, “The 2016 Instagram Statistics that you Need to Know- Updated!”

¹³⁶ Araujo, “It is not just a picture,” 22-23, Laboon, “Capitalizing On Instagram’s New Algorithm,” and Blake, “The 2016 Instagram Statistics that you Need to Know- Updated!”

¹³⁷ Instagram Press, “See the Moments.”

¹³⁸ “beyonce,” Instagram, posted February 1, 2017, <https://www.instagram.com/p/BP-rXUGBPJa/?taken-by=beyonce&hl=en>.

while Instagram offers the opportunity for wide circulation of images, the use of a public account is not a guarantee of it due to the algorithm and the user culture of the platform.

Instagram at the Falls: Case Study Images

Instagram is a very popular mode for the dissemination and viewing of tourist photography today, as discussed above. In many ways, it is the logical next step in providing to users what the stereograph did between 1850 and 1963: a realistic-feeling mode of interaction with tourist spaces and public circulation of those images all within a very specific format. This will be discussed in more depth in chapter four using a group of Instagram images from the Falls in combination with the stereographs outlined in chapter two. The second group for analysis is sixty-nine Instagram images posted on August 6, 2016.¹³⁹ These images all clearly show the American Falls from Prospect Point. This date was chosen because it is the most popular time for tourism to the Falls, and Prospect Point was chosen because it appears in more of the stereographs above than any other view point.¹⁴⁰ (Fig. 6-7, 11, 15-16)

Chapter four unites the information provided in the above chapters to discuss the ways that stereographs and Instagram images use perceived authenticity, framing, and image mapping to create tourist photography. It then goes on to discuss how these factors can effect circulation. While the technologies used to create each are worlds apart, the stereograph and the Instagram image allow users to fulfill and explore similar desires while sharing tourist photography.

¹³⁹ Selected images from this group are located in the figures page, but all can be viewed in appendix one

¹⁴⁰ “Best Times to Visit Niagara Falls,” U.S. News and World Report, accessed May 1, 2017, http://travel.usnews.com/Niagara_Falls_Canada/When_To_Visit/.

CHAPTER FOUR- ANALYSIS: CONNECTING VIEWS OF THE FALLS FROM STEREOGRAPHS TO INSTAGRAM

This chapter analyses the similarities and differences between stereographs and Instagram images in order to discuss how and why Instagram images fit within the wider context of the evolution of the tourist image, and how they relate to the earlier technology of the stereograph. This chapter discusses how stereographs and Instagram images both use embedded concepts of reliability and authenticity to promote their presentation of tourist spaces as honest. One of the tools used by both media to create specific narratives and impressions of spaces is framing, often used in the case of Niagara Falls to make the space digestible and easily fit into one image. Mapping of the photographer's place while they took their image is also a tool used by both stereographs and Instagram to control how viewers access the space of Niagara Falls. Finally, the modes of circulation of stereographs and Instagram images help to promote these conventions to wider audiences.

The Honesty of Images

Underwood and Underwood and Keystone View Companies were pioneers in promoting the use of photographs for educational purposes.¹⁴¹ These companies used the contemporary fascination with hard science and the movement to privilege new information over old to promote themselves as objective sources.¹⁴² This is exemplified in Underwood and Underwood's slogan "To see is to know," which was used to convey

¹⁴¹ Babbitts, "Stereographs," 127-128.

¹⁴² Ibid, 127.

to people the value of these “truthful” images.¹⁴³ Through this premise, the stereograph created a world that people believed in, a world where the intrepid travellers came out on top of nature and more civilized than other cultures.¹⁴⁴ An example of this narrative of civilization can be seen in an Underwood and Underwood stereograph copyrighted to 1901. (Fig. 8) This image shows the Whirlpool, a site further down the Niagara River from the Falls where a curve in the river creates a natural whirlpool. Despite being named as such, the whirlpool cannot be seen from the stereograph: all that the viewer can see is an underexposed stretch of river taking up about half of the frame vertically. The river is hemmed on both sides and the bottom by tree and rock, and at the top by sky. The composition is dominated by a figure of a man in the fore- to mid-ground in the bottom left quadrant of the image. Despite being apparently in the wilderness, he is wearing a light coloured suit and straw hat. He is lounging on the edge of a rock overlooking the river, legs casually hanging over the edge and leaning back. He is tidy and neat, and firmly the master of the image, being the only subject with clear details. This type of image was used to promote the Underwood and Underwood worldview of the composed and all-knowing traveller, a common colonial narrative, and to make that worldview accessible to their audiences. The concept that stereographs were windows to the real world (and thus helped users construct their perspective on the real world) is also supported by the guidebooks that would come with the tour series mentioned in chapter two. These guidebooks, while being specific to each location, made general statements in their introductions about the use and benefits of stereography. They made it clear that through stereography, the viewer *was experiencing* whatever the photographer and writer

¹⁴³ Babbitts, “Stereographs,” 128.

¹⁴⁴ Ibid, 129.

had experienced while there.¹⁴⁵ This is seen in an Underwood and Underwood publication from 1901 where the author writes: “What we hold in our hand is not, properly speaking, a work of art at all but a key to everyday reality.”¹⁴⁶

Instagram posts are often expected to provide evidence that the photographer’s lived experience is true or authentic, as is often the case with media that uses snapshot aesthetics.¹⁴⁷ Snapshot aesthetics are used by photographers to create a sense of believability because it makes the viewer trust that the photographer is not framing or composing the scene, but rather that they came upon it and present it as it exists.¹⁴⁸ Douglas Nickel says that snapshots are “unmotivated, unauthoritative, nondidactic, and, for this reason, no matter how staged, will pass for authentic,” in his catalogue *Snapshots: The Photography of Everyday Life, 1888 to the Present* for the 1998 exhibition at SFMoMA of the same name.¹⁴⁹ This expectation is also seen in viewers’ reactions to Instagram images. Instagram images are usually accepted to be a true portrayal of the world, and viewers become angry when they are proven to be otherwise.¹⁵⁰ This can be seen in a recent Instagram Photoshop scandal. Kim Kardashian, an Instagram mogul, was recently photographed on a beach in Mexico and the images

¹⁴⁵ Babbitts, “Stereographs,” 132.

¹⁴⁶ Underwood and Underwood, *Stereoscopic Photograph*, (New York: Underwood and Underwood, 1901): 58.

¹⁴⁷ Allan Stuart, *Online News: Journalism and the Internet* (Maidenhead: Open University Press, 2006), 152, Tara Marie Mortensen, “Blurry and Centered or Clear and Balanced?” *Journalism Practices* Vol 8, No 6 (2014): 707-708 and Eddy Borges-Rey, “News Images on Instagram The Paradox of Authenticity in Hyperreal News Reportage,” *Digital Journalism*, Vol 1, No 4 (2015): 573-574.

¹⁴⁸ Stuart, *Online News*, 152, Mortensen, “Blurry and Centered or Clear and Balanced?” 707-708, and Borges-Rey, “News Images on Instagram,” 573-574, and Nickel, *Snapshots*, 7, 13-14.

¹⁴⁹ Nickel, *Snapshots*, 14.

¹⁵⁰ Eddy Borges-Rey, “News Images on Instagram The Paradox of Authenticity in Hyperreal News Reportage,” *Digital Journalism*, Vol 1, No 4 (2015): 573-574.

were published without Photoshopping, which caused her followers to take to Twitter to express their rage upon realizing that her Instagram images have been Photoshopped after comparing them to these new images.¹⁵¹ This anger indicates that her viewers expected her content to be authentic, a concept that is popular on Instagram and promoted through casually “unposed” images. This type of Instagram authenticity can be seen in photographs that flout the standards of photo-taking, for example images where the viewer is turned away, the frame is crooked, or the subject is cropped, among other signs of casual snapshotting. This can be seen in an image on Instagram posted by the user emily.n.s where the figure is facing away from the camera and overlooking Niagara Falls with her arms outstretched. (Fig. 28) These types of images seem to express truth or honesty because they seem un-posed or quickly taken, simulating a type of photojournalistic or documentary style where the photographer does not have time to compose the image.¹⁵² These types of images are strongly desired and aimed for in the Instagram community, as is shown by emily.n.s’s 1,506 followers on the platform.¹⁵³ It is through these images that Instagram users express their mastery of their environment; not only do they seem to be enjoying themselves spontaneously, but they also look good and utilize the aesthetic conventions expected of them.¹⁵⁴ (Fig 29-31)

¹⁵¹ Radar Staff, “Kim Kardashian Loses 100k Followers Over Photoshop Fakery on Infamous Butt,” Radar Online, published April 28, 2017, <http://radaronline.com/photos/kim-kardashian-butt-photoshop-followers-lost-pics/>.

¹⁵² Nickel, *Snapshots*, 7, 13-14.

¹⁵³ emily.n.s, Instagram account, accessed June 28, 2017, <https://www.instagram.com/emily.n.s/?hl=en>.

¹⁵⁴ Borges-Rey, “News Images on Instagram,” 574, Stuart, *Online News*, 152, Mortensen, “Blurry and Centered or Clear and Balanced?” 707-708, and Celeste Moure, “Instagram Stars Share the Secrets to Take Amazing Photos,” *Vogue*, posted March 11, 2016. <http://www.vogue.com/article/how-to-take-great-pictures-instagram-star-secrets>.

As most viewers know today, photographs are not inherently trustworthy. Many articles have been written revealing the sometimes grueling ways that the perfect Instagram photograph is taken in order to achieve high circulation on the media, leading to breakdowns, both psychologically and in social standing.¹⁵⁵ As seen in the discussion of Photoshop above, images can be easily manipulated, and often it can be difficult to detect those changes. Despite this, and the fact that Instagram comes with built in modes of manipulation, (Fig. 23-24) viewers want to believe in these images and users present their images as carefree and authentic on Instagram. This desire is actually sometimes fulfilled by the use of filters; while they are manipulation, they are intended to simulate the look of analog cameras and film.¹⁵⁶ This makes Instagram posts look more like traditional snapshot photography, which enhances their believability.

In short, Instagram images and stereographs have another thing in common: they often display an idealized version of reality that does not exist. However, the desire to believe in images is also seen in the promotion of the stereograph discussed above. One of the reasons why it is so important for tourist images to be trustworthy or believable for viewers is because they can sometimes be the only way that people interact with a site.

¹⁵⁵ Alexandra Daluisio, "Lele Pons Said She Cut and Donated Her Hair to Charity, But Fans Say She Lied," Teen.com, posted July 7, 2017, <http://www.teen.com/2017/07/07/celebrities/lele-pons-lies-cutting-donating-hair-extensions/#1>, and Elle Hunt, "Essena O'Neill quits Instagram claiming social media 'is not real life'," The Guardian, posted November 3, 2015, <https://www.theguardian.com/media/2015/nov/03/instagram-star-essena-oneill-quits-2d-life-to-reveal-true-story-behind-images>.

¹⁵⁶ "FAQ," Instagram, Michael Zhang, "How to Recreate the Look of Instagram Filters with Vintage Cameras and Film," PetaPixel, published September 29, 2011, <https://petapixel.com/2011/09/29/how-to-recreate-the-look-of-instagram-filters-with-vintage-cameras-and-films/>, Allyson Koerner, "What Filter Does Kim Kardashian Use For Her 2017 Instagram Pictures? The Vintage Look Has Everyone Talking," Bustle, published March 13, 2017, <https://www.bustle.com/p/what-filter-does-kim-kardashian-use-for-her-2017-instagram-pictures-the-vintage-look-has-everyone-talking-44195>.

For example, if an individual bought the Underwood and Underwood guide set of Niagara Falls, they needed to be able to trust that set, to complete the fantasy of armchair travel. Tourist photography demands believability because it serves as proof that someone's story or experience is true. This is the core tenet that stereographs tapped into and that many Instagram users seek to imitate. Framing of these images can also contribute to creating a believable and accessible way to access tourist imagery.

Framing

Framing is an essential tool in photography, especially when the photographer must present their work with a specific aspect ratio. In scenarios where this is the case, such as pre-2016 Instagram images, being square, and stereographs, usually close to square, the photographer must be able to consider how they will portray their image to the viewer within the designated shape and size of the given format.¹⁵⁷ What the photographer chooses to show and what portion of the frame that subject occupies indicates the importance of that object.

Niagara Falls is enormous, with the Horseshoe Falls alone measuring at 670 metres across the brink and 57 metres down.¹⁵⁸ With this in mind, it seems nearly impossible to be able to capture the Falls in their entirety. To combat this, photographers at the Falls will often use natural gaps or breaks in the formation to seemingly present the entire Falls in one accessible piece. This can be seen in multiple stereographs, but

¹⁵⁷ Instagram Press, "Our Story," and Darrah, *Stereo Views*, 30. While stereographs have variation in their aspect ratios from company to company, each image is close to square and often have rounded tops.

¹⁵⁸ "Niagara Falls Geology: Facts and Figures," Niagara Parks, accessed June 2, 2017, <https://www.niagaraparks.com/visit-niagara-parks/plan-your-visit/niagara-falls-geology-facts-figures/>.

especially in ones taken from Prospect Point, still a popular overlook today. (Fig 6-7, 11, 15-16) At this point, the Falls are very curvy, snaking across the landscape, and so with the compression created by a camera, they can fit within a frame. (Fig. 33-34) Additionally, this space can be further trimmed to suit the photographer because the presence of Goat Island provides a centre point where the image can be cropped to and still appear whole.

Images taken from this point provide the photographer with a special opportunity; the photographer can fit the entirety of the Falls into one image. This allows the Falls to be condensed into one digestible, pocket-sized section. This supports the promotion tactics used by Underwood and Underwood and Keystone: to see an image like this was to truly know the Falls. This sentiment is seen in the 1905 Underwood and Underwood publication, *Niagara Through the Stereoscope*, which states: “It is the first time in all the ages when it has been made possible for persons living in any part of the world to see this most famous waterfall in the whole earth with the full effect of being present, themselves, right on the spot,” in reference to their stereographic tour of the Falls.¹⁵⁹ Stereograph tours often included as many as one hundred photographs, each one showing a different vantage point or region of the area in the tour.¹⁶⁰ (Fig. 35-36) While each image had to stand alone, it leaned on images of surrounding areas to create a complete feeling version of the space, even though the sets were highly selective. Additionally, this concept of the single image being able to stand in for a whole experience or object suits Instagram perfectly. Until recently, with the addition of a swiping gallery approach to images,

¹⁵⁹ Underwood and Underwood, *Niagara Through the Stereoscope*, (New York: Underwood and Underwood, 1905), 5.

¹⁶⁰ Ibid, 3 and Babbitts, “Stereographs,” 132.

uploading multiple images to Instagram to illustrate one trip was clunky and clogged up follower's feeds.¹⁶¹ Therefore, the practice of choosing one image to express an entire experience was desirable. The recent addition of the swiping gallery on Instagram has enabled users to seamlessly use multiple images to explore portray an experience, making the Instagram experience even closer to stereograph tours. Each image must be viewed one at a time in both scenarios, but can work together to illustrate an experience.

These factors lead to an approach to Niagara Falls that cuts it up and compresses it for easy viewing and that truly makes it something that is more valued when it is accessible and usable by the photographer. Rather than attempt to express its massiveness or its inability to be portrayed in just one image, these photographers instead make it their own, a human-scaled object that fits neatly into a stereoscope or iPhone. This compression can be seen clearly in a George E. Curtis stereograph made between 1860 and 1900. (Fig. 13) This image shows the American Falls from below, and using multiple negatives, Curtis makes it appear as though the image shows the Falls in entirety. There are at least two negatives in this piece, with at least one for the Falls and foreground and a second for the clouds and sky, diagnosable by the fact that the Falls and the sky are both perfectly exposed, with the clouds visible in the sky. This was an impossibility at the time, and is still difficult today, leading many photographers to the use of multiple negatives to achieve their desired effect.¹⁶² In this way, Curtis has forced the Falls to fit within one stereograph, with the false sky hemming the Falls on one side. This trick of

¹⁶¹ Instagram Press, "Our Story."

¹⁶² "Gustave Le Grey: Sea and Sky Photography," Victoria and Albert Museum, Accessed June 25, 2017, <http://www.vam.ac.uk/content/articles/s/gustave-le-grey-exhibition/>.

presenting the American Falls as though they represent the whole can also be seen on Instagram today, for example in a post by mercurymaiden314 on August 7, 2016. (Fig. 37) Instead of using multiple negatives, however, this mercurymaiden314 uses Goat Island to create a visual end-point to the Falls, cropping the Horseshoe Falls out entirely. These two photographers, working more than one hundred years apart, use very similar framing tools to present the Falls the way that they want them to appear.

Furthermore, nearly all images show some sign of human contact with the space. In stereographs, this is often expressed with an actual figure or several in the image, but in Instagram images, this is often shown through the photographing of the fence within the shot, the backdrop of the city of Niagara Falls, or some other artifact of human existence, such as the Maid of the Mist. (Fig. 32-34) These inclusions show that the Falls not only exist in a space that can fit in a photograph, but that they also exist on a human scale, one where humans can perceive and understand the size of the space. This is an important aspect of tourist imagery because scale in photography can be confusing and difficult to determine without a recognizable figure.¹⁶³ Both stereographs and Instagram photographs create a relatable scale with the inclusion of human figures and recognizable objects. Compression of the Falls is necessary because these objects for scale must be able to fit in a fixed ratio image that also shows the subject of the tourist image, in this case, Niagara Falls. Panoramas are excellent examples of what photographers can do when not limited by aspect ratio. (Fig. 38) A digital panorama taken by Stefano Bittante in 2007 of Niagara Falls shows the Horseshoe and American Falls, Goat Island, and tourists at the site. Panoramas, however, have the issue of creating distortion, causing

¹⁶³ Underwood and Underwood, *Niagara Through the Stereoscope*, 9.

Goat Island in this situation to look very large. This image does not follow the usual framing rules of Instagram and stereographs because it does not have to: its medium allows it to show the entire environment of the Falls. Stereographers and Instagram photographers do not have this same freedom.

Mapping the Image

As mentioned in chapter two, all stereograph tours came with a map and guidebook to make clear to the user where the image was taken.¹⁶⁴ (Fig. 36-37) In one of their 1903 guidebooks for China, Underwood and Underwood warned against viewing stereographs without knowing where exactly they were made, saying that the viewer could be left in the “helpless condition of a man who has been carried somewhere blindfolded or asleep, and who opens his eyes on a place whose identity is unknown-.”¹⁶⁵ A similar emphasis can be seen today on Instagram in the push to geotag one’s images. Like the map that came with the stereograph tour, Instagram supplies maps so that viewers can see where an image was geotagged and discover what other images were geotagged there. (Fig. 39) Judith Babbitts argues that the importance of the maps in stereographs was likely the publisher’s assertions that information and experiences gained vicariously through the use of stereographs are just as important, real, and reliable as those gained through real life experiences.¹⁶⁶

This drive to map imagery connects those images to real physical spaces, making them windows on the world rather than documents of an experience there. Knowing the

¹⁶⁴ Plunkett, “Selling Stereoscopy”, 241-243

¹⁶⁵ James Ricalton, *China through the Stereoscope* (New York: Underwood and Underwood, 1903) 58.

¹⁶⁶ Babbitts, “Stereographs,” 133.

area that the photograph was taken in makes it a portal, and this aspect of the viewing experience is strengthened by how individuals view stereographs and Instagram images. Because stereographs are three dimensional, they simulate the experience of existing in a space. In the guidebook for Niagara Falls published by Underwood and Underwood to accompany their 1905 Falls tour, the author likens looking at a stereograph to looking out of a window, claiming that the depth perception that the stereograph provides actually creates an identical experience.¹⁶⁷ Because when one used a stereograph, one was supposed to also use the maps and the guidebook description of the space, the viewer could neatly slip themselves into the geographical position, even knowing what direction they were facing.

The mapping/geotagging option on Instagram offers a similar experience, gathering all the images from one location into an easily searchable page. (Fig. 39) The similarity does not end there, however. In order to access Instagram, one must be on a screen-based technology, whether that be a computer, phone, iPod, or other technology that can access the Internet. In this way, Instagram also creates a window effect with nothing but a backlit screen separating the viewer from the view. The backlighting is an essential aspect of this realism, simulating the experience of looking out of a window upon a well-lit vista. The mapping technology used on Instagram also collects a multitude of images in one place, giving the viewing the sensation of seeing that space in a real way, where scrolling replicates turning one's head to view that space from a new angle.

¹⁶⁷ Underwood and Underwood, *Niagara Through the Stereoscope*, 8-9.

Through mapping the images that they present, stereograph companies and Instagram create an ultra-real window experience while viewing those images. This also contributes to the feeling that these images are experiential and true.

Circulation

Mont-Saint-Michel, France, discussed in chapter one, provides a case study for the differing levels of success that can be experienced in creating and selling tourist photography based on how it interacts with and portrays the space.¹⁶⁸ What this example shows is how images with a certain look that evoke a certain feeling can be far more widely circulated than others, even if all are available publically. Public availability is not a guarantee of circulation. This fact can also be seen in stereographs and in Instagram images of Niagara Falls.

One of the major differences between the stereograph and Instagram images is that one circulates on the market and one is functionally free. The stereograph represents a wider business, so stereograph publishers were interested in creating objects that people would buy, whereas the majority of Instagram users are not paid for what they post, so why should they be interested in creating content that is popular or that circulates at all beyond their group of friends or family? While likes are a method for determining how largely circulated a post is, they are also motivation for many people to create images that are more likely to be liked.¹⁶⁹ Psychological research shows that receiving a like on social media triggers reward centres in the brain similar to eating a favourite food, so while

¹⁶⁸ Bouillon, “The Market of Tourism Images,” 2-4.

¹⁶⁹ “Social Media ‘Likes’ as Yummy as Chocolate,” *The Science Teacher* Vol 83 No 6 (2016): 20.

there is no monetary reward for receiving likes, users are still motivated to create posts that people will engage with and circulate.¹⁷⁰ Circulation on Instagram now has another motivator: companies often will sponsor highly successful accounts so that those accounts will promote their goods. An example of this can be seen in the Instagram yogi, Dana Falsetti, known on Instagram as nolatrees, who has worked with the lingerie company Aerie. Falsetti would wear and promote Aerie on her Instagram and Aerie would discuss this partnership in their promotions, such as blog posts.¹⁷¹ This creates a financial reason to pursue circulation as well.

As is shown in the Mont-Saint-Michel example, not all tourist images are created equal: people viewing these images want to see what the experience of being at the tourist site is like. This need is seen in the choice of stereograph publishers to insert a person into their images of Niagara Falls, creating scale and giving the viewer an entry point into the card. (Fig. 5-12, 14-18) Additionally, many stereograph sets will show famous or interesting events, such as Samuel J. Dixon's tightrope walks across the Niagara River in 1890 and 1891.¹⁷² These help to fill in the experience for viewers, and so make the sets more appealing. Publishers who mastered these tactics soon put the other companies out of business, with Keystone being the only major stereograph distributor by 1920.¹⁷³

¹⁷⁰ "Social Media 'Likes' as Yummy as Chocolate," 20-21.

¹⁷¹ "nolatrees," Instagram, November 30, 2016, <https://www.instagram.com/p/BNdWzTIIOfn/?taken-by=nolatrees&hl=en> and "Follow Her Friday: Dana Falsetti," Aerie, posted January 22, 2016, http://blog.ae.com/2016/01/22/follower-her-friday-dana-falsetti/?cid=Aerie_Facebook_sf19392645.

¹⁷² Underwood and Underwood, *Niagara Through the Stereoscope*, 50.

¹⁷³ Darrah, *The World of Stereographs*, 50.

As discussed above, while there are certain aesthetics that people can imitate in their Instagram feed in order to get more followers, more likes, and so more circulation, it can be difficult to achieve popularity on Instagram because of how the algorithm can create a closed environment.¹⁷⁴ There are several articles that advise users on how to achieve more appealing Instagram pages ranging from business articles to more art-driven articles, showing that there is an interest in achieving higher circulation for at least some Instagram users and a lack of understanding of how this can be achieved.¹⁷⁵ This is complicated by the fact that the posts that are most likely to get more likes are those that already have a large number of likes, forcing Instagram to follow a “rich get richer” model.¹⁷⁶ This means that the people who are most likely to be heavily circulated are the ones who are already Instagram famous and have already mastered the desired aesthetics.

The trend in both stereograph and Instagram circulation is that the creator must cater towards popular desire to be circulated, but also that both of these tend towards fewer creators with huge followings and wide circulation.

* * *

¹⁷⁴ Laboon, “Capitalizing On Instagram’s New Algorithm,” and Instagram Press, “See the Moments.”

¹⁷⁵ Laboon, “Capitalizing On Instagram’s New Algorithm,” Moure, “Instagram Stars Share the Secrets to Take Amazing Photos,” Kyli Singh, “29 Instagram Hacks From People Who Take Really Good Photos,” Huff Post, posted 13 November, 2015, http://www.huffingtonpost.ca/entry/instagram-hacks-from-people-who-take-really-good-photos_us_563a8148e4b0411d306f8393, Tiffany Kim, “How Hipsters Make Their Instagram Photos Look So Damn Good,” BuzzFeed, posted June 27, 2015, https://www.buzzfeed.com/tiffanyrkim/instagram-tips-every-hipster-should-know?utm_term=.uw72Rnm8Y#.mm7go260K.

¹⁷⁶ Araujo, “It is not just a picture,” 19.

Tourist imagery on Instagram is, in many ways, the logical extension of the stereograph, and each technology fits within very similar conceptual frameworks. This can be seen in the way that both utilize the assumed authenticity of experience with images that are portrayed as casual or unposed. It can also be seen in the methods of framing and cropping that are used to photograph Niagara Falls as a digestible site, one that can be expressed and experienced through one image. Instagram and stereograph publishers both heavily encourage the use of mapping technology to place images on the geographical plane, which allows viewers to understand and interact with those images as windows into the world. Finally, the circulation of both shows how certain types of images are prized over others and thus are more available for consumption, creating a self-proliferating visual culture. In these ways, Instagram, while technologically incredibly different from stereographs, still fulfills a similar desire in viewers.

This research allows us to begin to understand social media images and place them within the larger context of the history of non-art photography. Aesthetics of social media photography have not been widely discussed in a critical manner, especially images from Instagram because it is such a new platform. Lev Manovich, discussed in chapter one, is leading in this research, but has not discussed behaviours at tourist sites. While I do not feel that it can be concluded from the research conducted here whether stereographs have directly influenced the modes used by social media photographers, I do believe that this research shows that stereography and Instagram offer similar challenges, such as their fixed aspect ratios, and that these challenges have forced photographers working technological lightyears apart to use similar tools, outlined above, to meet those challenges.

CONCLUSION

This thesis has discussed the development of publically circulated tourist photography through changes in technology, using the stereograph and Instagram image from Niagara Falls as case studies. The stereograph and Instagram image share traits that caused the author to focus on them for this analysis: both have fixed aspect ratios, are grouped by subject and location, and are successful when widely circulated. While stereography and Instagram have developed so far apart from one another in time, users and viewers of both betray similar interests, for example in portraying Niagara Falls on conquerable scales, understanding three-dimensional tourist spaces through photography, and reaching high levels of circulation with their images. These goals are met with similar methods, such as through framing, associating images with maps, and promoting their images by making them publically available and searchable. While stereography may or may not directly influence image makers today, Instagram users have certainly applied similar methods to overcome similar barriers.

This thesis aims to fill a gap in social media research that may be becoming increasingly difficult to fill as time goes on. In the 1960s, a problem occurred for photography collectors: stereographs were now old enough to be interesting to them, but still new enough that a hierarchy existed among them.¹⁷⁷ Collectors remembered seeing stereographs at grandparents' homes and had used them before, so they connected with them as nostalgic objects, and had interest in them as beautiful objects, but less so as objects worthy of historical study.¹⁷⁸ As a result, writers, critics, and collectors recommended only purchasing stereographs from the early days of stereography before

¹⁷⁷ Darrah, *Stereo Views*, 17-18.

¹⁷⁸ *Ibid*, vi.

the Depression in the 1870s.¹⁷⁹ As a result of this choice, researchers today find huge gaps in the eras and types of stereographs that they can now view to the point where research on post 1870 stereographs is very thin.¹⁸⁰ This not only provides some insight into the values of collectors in the 1960s, but also creates a real problem: how can we learn more about later stereographs if no one kept them? Researchers, such as Dr. John Plunkett, can reconstruct some aspects of the stereograph trade from sales manuals from the time, but image based analysis is difficult to come by.¹⁸¹ In some ways, we are rehashing the 1960s mentality towards collecting but on a different topic- the social media image. Newspapers will work with social media of high cultural importance, preserving images like the goodbye messages coming out of Aleppo in late 2016.¹⁸² These images, however, are not among the majority that appear on social media, and institutions are starting to question how we should be treating the multitudes of other images.¹⁸³ How do we preserve the everyday goings on when the record is born digital? Google's CEO, Vint Cerf described his anxieties about the possibility of losing everything that we have entrusted to the Internet, saying, "We are nonchalantly throwing all of our data into what could become an information black hole without realising it. We digitise things because we think we will preserve them, but what we don't understand is that unless we take other steps, those digital versions may not be any better, and may

¹⁷⁹ Darrah, *Stereo Views*, 17-18.

¹⁸⁰ Plunkett, "Selling Stereoscopy," 239.

¹⁸¹ Ibid, 239-240.

¹⁸² Barbara Tasch, "People in east Aleppo are posting harrowing goodbye messages on social media," Business Insider, posted December 13, 2016, <http://uk.businessinsider.com/people-in-east-aleppo-say-goodbye-on-social-media-2016-12>.

¹⁸³ "Family Camera."

even be worse, than the artefacts that we digitised.”¹⁸⁴ The Royal Ontario Museum is an institution that is fighting against this with the Family Camera exhibition and Family Camera Network.¹⁸⁵ These projects are collecting family photographs directly from the individuals who own them, and so are also collecting the stories surrounding who took the images, why, and who appears in them.¹⁸⁶ While their collection is by and large physical at the moment, they are increasingly collecting born digital images and downloading them into the most secure storage that they can.¹⁸⁷ As has been discussed throughout this thesis, born digital and social media images follow a long photographic heritage, and thus firmly belong in the discussion and narrative of the creation of visual culture. If Vint Cerf is correct in saying that we will lose our digital knowledge from this era, then researchers and institutions must find other ways to make this material available than to rely on corporations like Instagram to preserve it.

¹⁸⁴ Vint Cerf in discussion with Ian Sample, published in “Google boss warns of ‘forgotten century’ with email and photos at risk,” The Guardian, posted February 13, 2015, <https://www.theguardian.com/technology/2015/feb/13/google-boss-warns-forgotten-century-email-photos-vint-cerf>.

¹⁸⁵ “Family Camera.”

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

FIGURES



Figure 1: Anonymous, *The Falls of Niagara*, engraving, from Louis Hennepin's *A New Discovery*, 1697.



Figure 2: Hugh Pattinson, *The Horseshoe Falls*, 1840, daguerreotype. Newcastle University Library.



Figure 3: An example of a daguerreotype stereograph taken at the Crystal Palace in 1851, London Stereoscopic Company, [*Stereograph, Crystal Palace, John Bell's Una and the Lion*], 1851, daguerreotype. Held at the Metropolitan Museum.

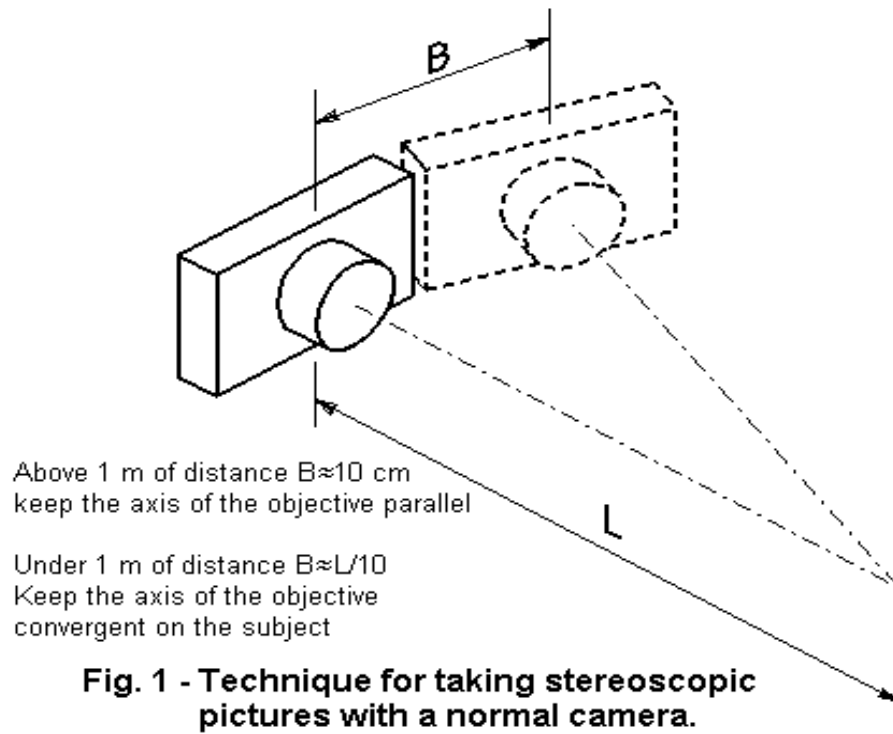


Figure 4: Giorgio Carboni, *Technique for taking stereoscopic pictures with a normal camera*, 1996, drawing. Available at http://www.funsci.com/fun3_en/stscp/stscp.htm.



Figure 5: H.C. White CO., *Superbly Beautiful- The Horseshoe Falls and its Cloud of Mist from the Rocks below the Steel Arch Bridge, Niagara Falls, U.S.A*, 1903, albumen stereograph. Royal Ontario Museum.

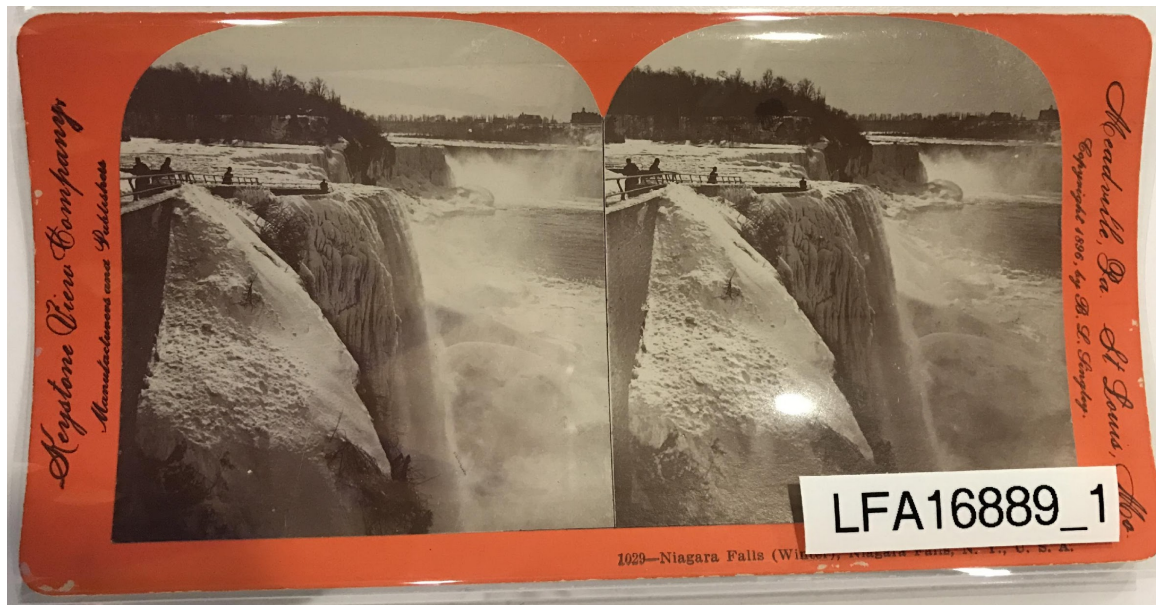


Figure 6: B. L. Singley, Keystone View Company, *Niagara Falls (Winter)*, 1896, photochemical stereograph. Archive of Modern Conflict.



Figure 7: Underwood and Underwood Publishers, *Admiring Tourists Viewing the Falls from Prospect Point, Niagara, U.S.A.*, 1901, albumen stereograph. Courtesy of Conrad Biernacki and Brian Musslewhite.



Figure 8: Underwood and Underwood Publishers, *Looking over the "Whirlpool" and Down the River- From the Canadian Side- Niagara, U.S.A.*, 1901, albumen stereograph. Royal Ontario Museum.



Figure 9: Underwood and Underwood Publishers, *On the Great Ice Mountain, Niagara Falls, U.S.A.*, 1893, albumen stereograph. Courtesy of Conrad Biernacki and Brian Musslewhite.

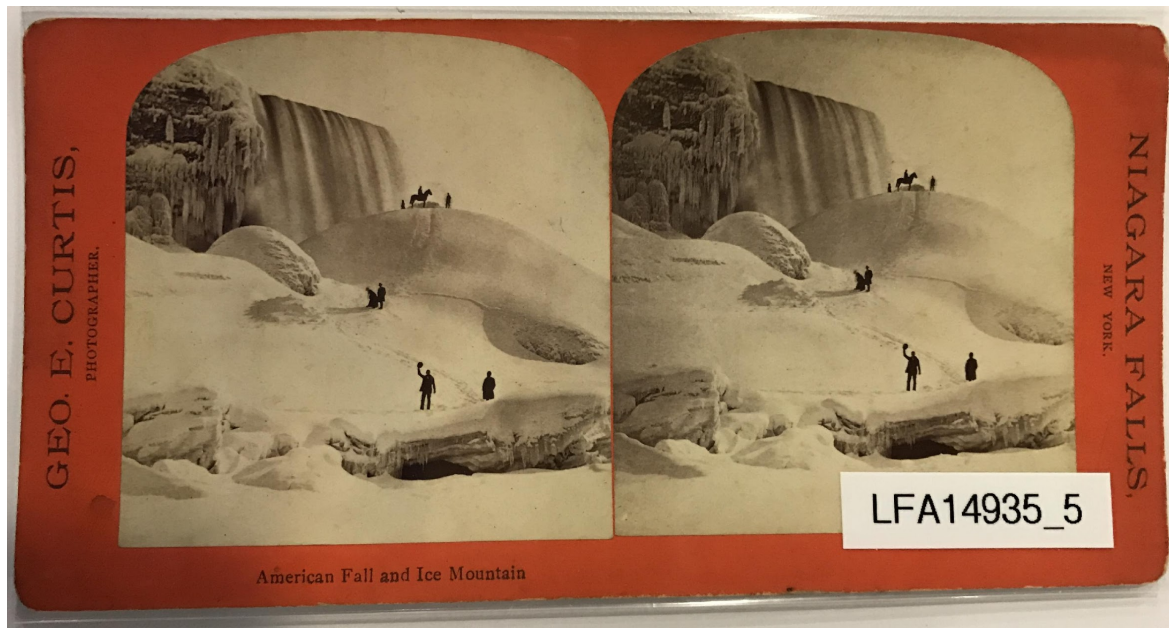


Figure 10: George E. Curtis, *American Fall and Ice Mountain*, photochemical stereograph, 1860-1900. Archive of Modern Conflict.

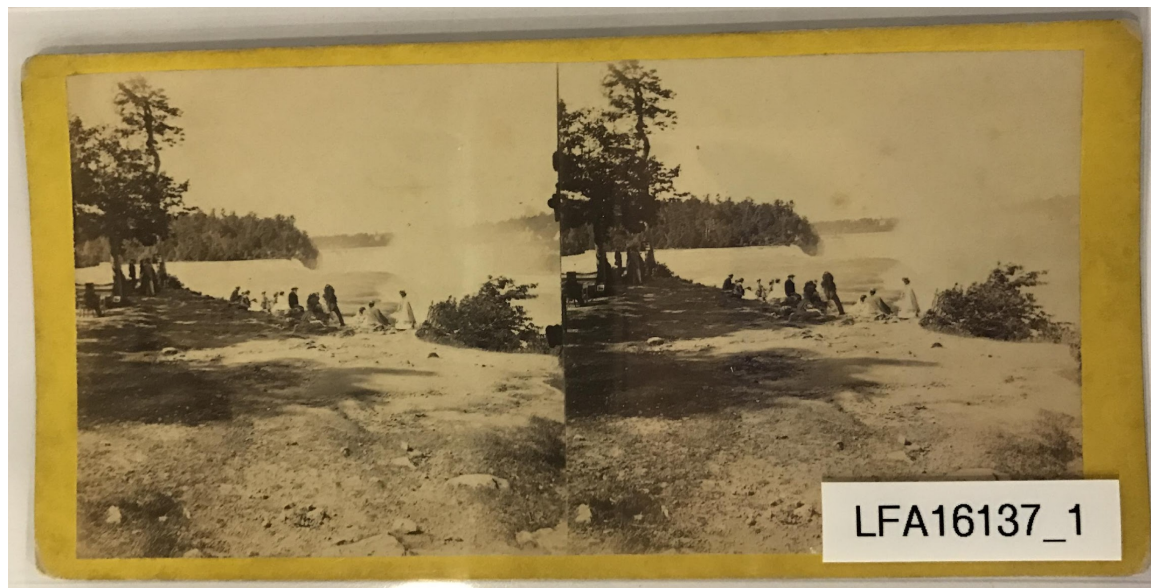


Figure 11: E. & H. T. Anthony and Co., *Niagara Falls, from Viewpoint, American Side*, 1862-1902, photochemical stereograph. Archive of Modern Conflict.



Figure 12: Unknown, [Untitled], photochemical stereograph. Archive of Modern Conflict.



Figure 13: George E. Curtis, *American Falls From Below*, 1860-1900, photochemical stereograph. Archive of Modern Conflict.



Figure 14: George Barker, *Niagara- Winter Sporting on the Ice Mountain*, 1863-1894, photochemical stereograph. Courtesy of Conrad Biernacki and Brian Musslewhite.



Figure 15: Charles Bierstadt, *Point View, Niagara Falls, N.Y.*, 1866-1896, photochemical stereograph. Courtesy of Conrad Biernacki and Brian Musslewhite.



Figure 16: E.M. Buckley, *Point View- Summer*, photochemical stereograph. Courtesy of Conrad Biernacki and Brian Musslewhite.

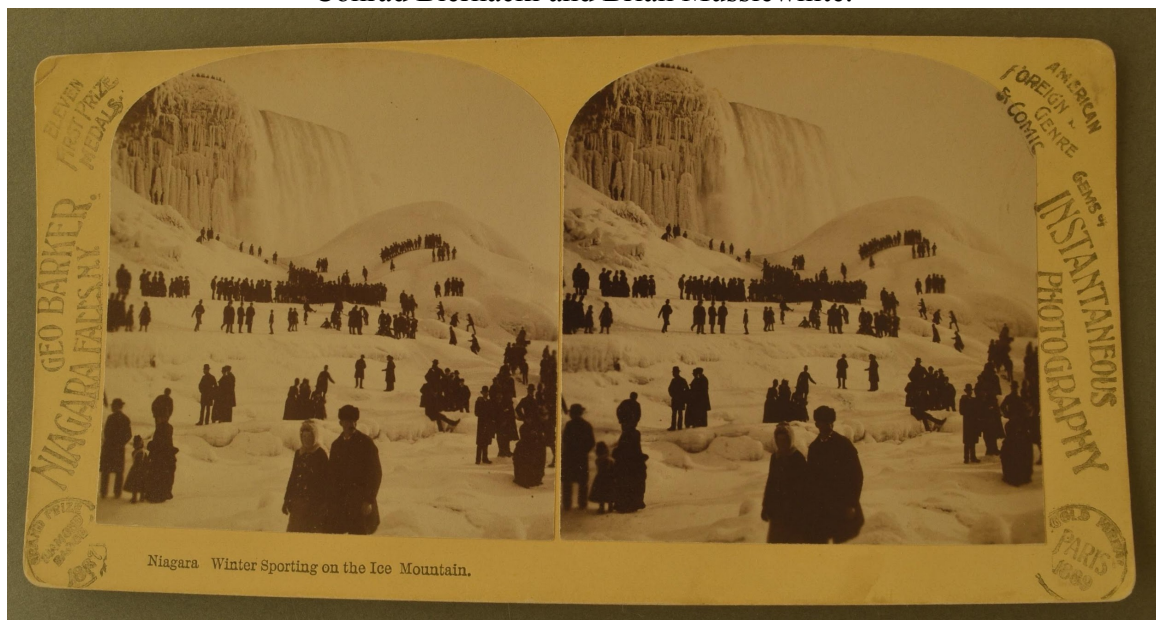


Figure 17: George Barker, *Niagara Winter Sporting on the Ice Mountain*, 1860-1900, photochemical stereograph. Courtesy of Conrad Biernacki and Brian Musslewhite

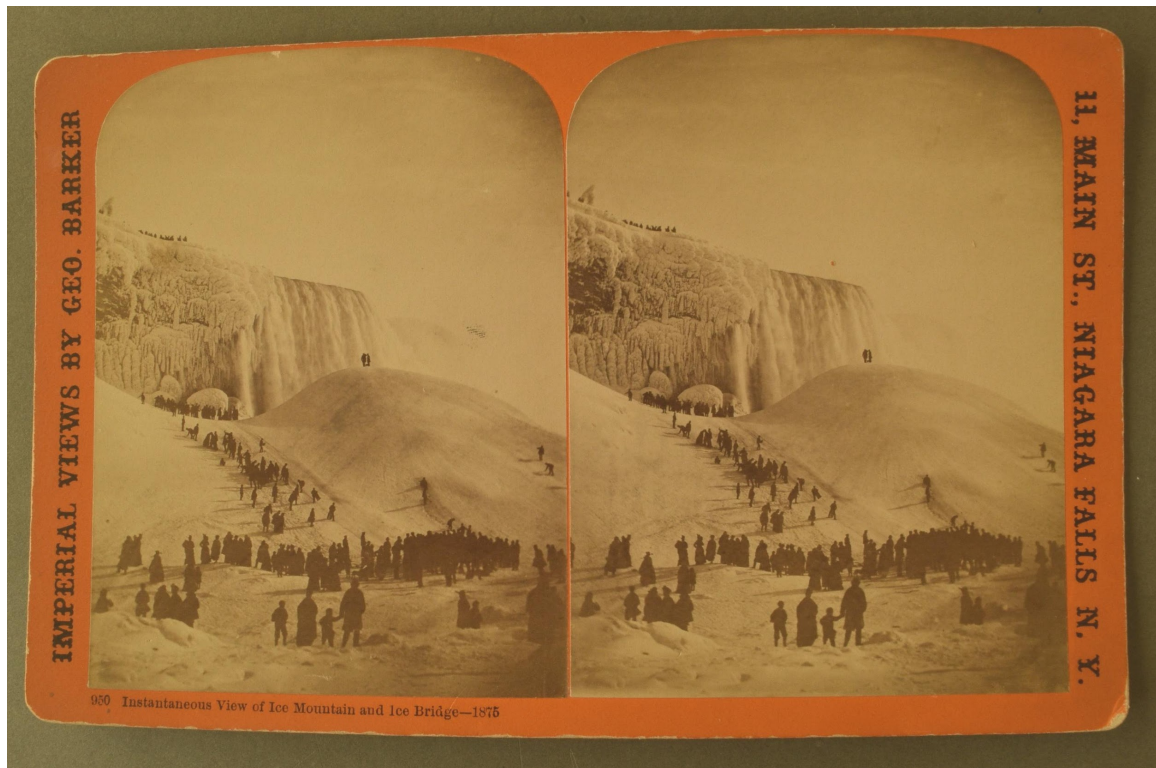


Figure 18: George Barker, *Instantaneous View of the Ice Mountain and Ice Bridge*, 1875, photochemical stereograph. Courtesy of Conrad Biernacki and Brian Musslewhite

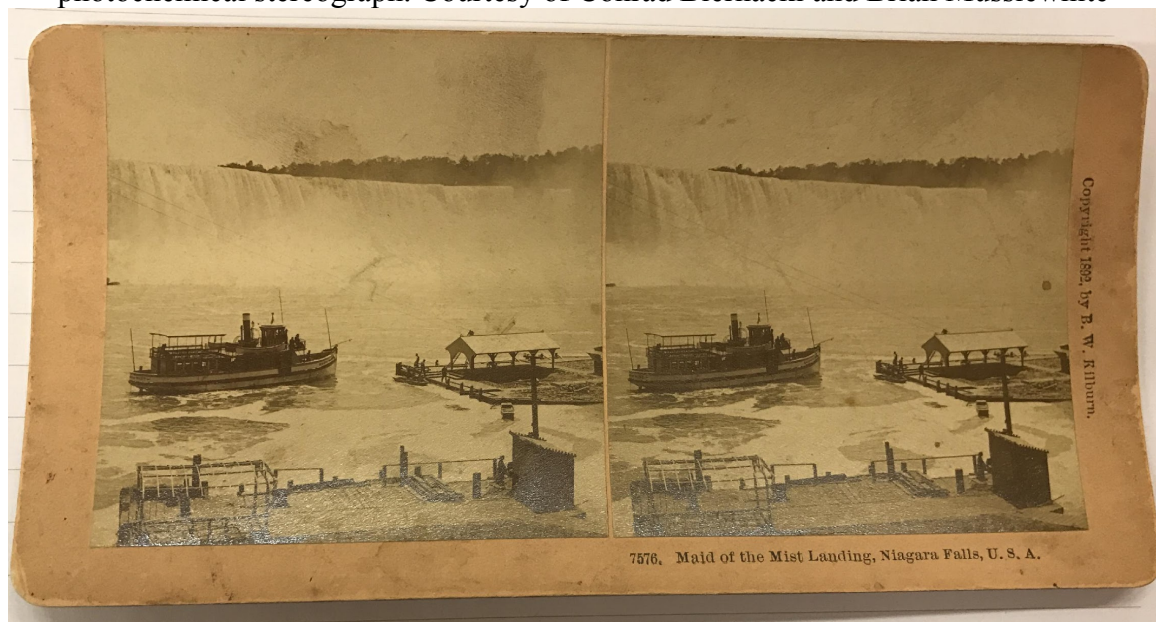


Figure 19: R. W. Kilburn, *Maid of the Mist Landing, Niagara Falls, U.S.A.*, 1902, albumen stereograph. Royal Ontario Museum.

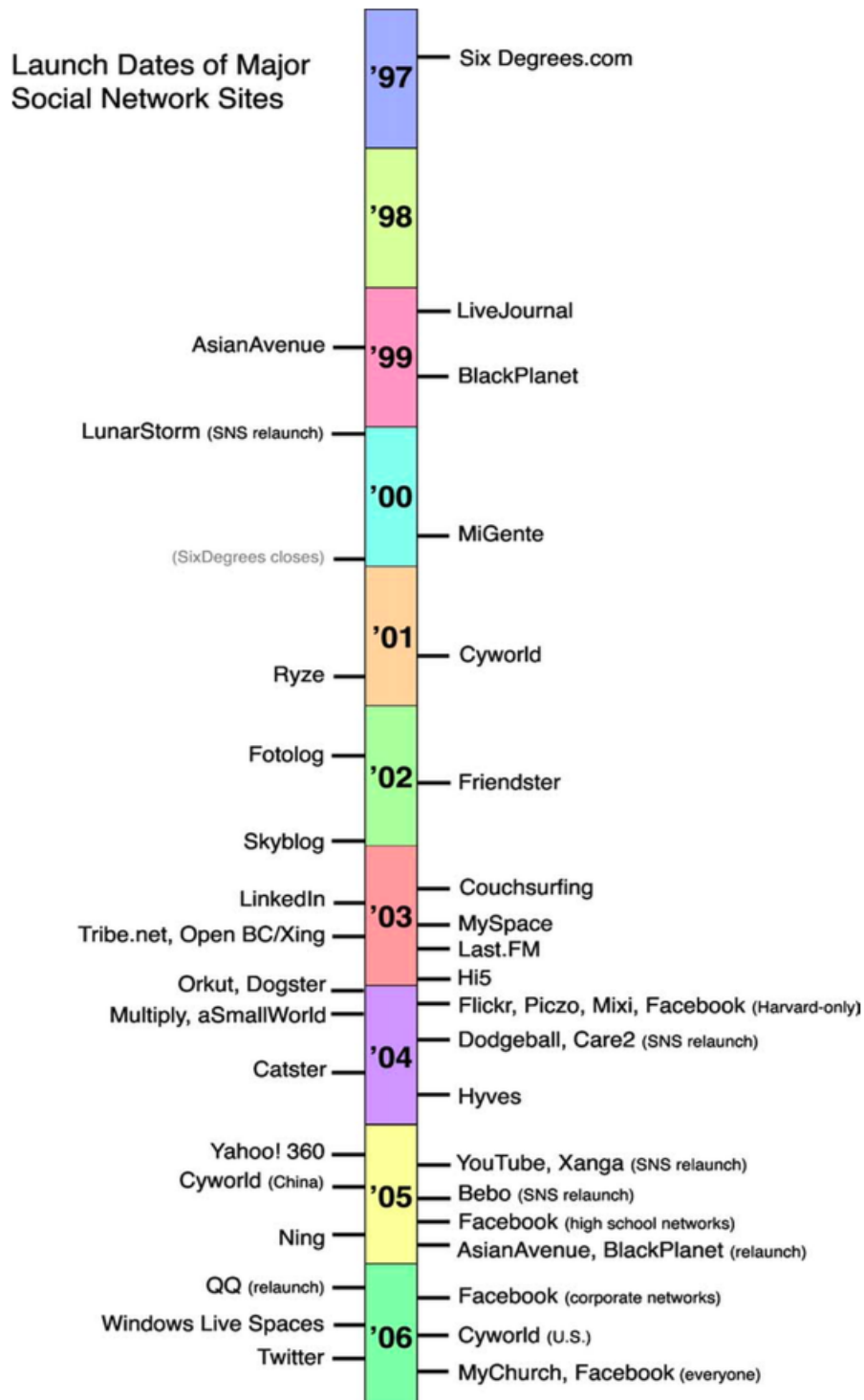
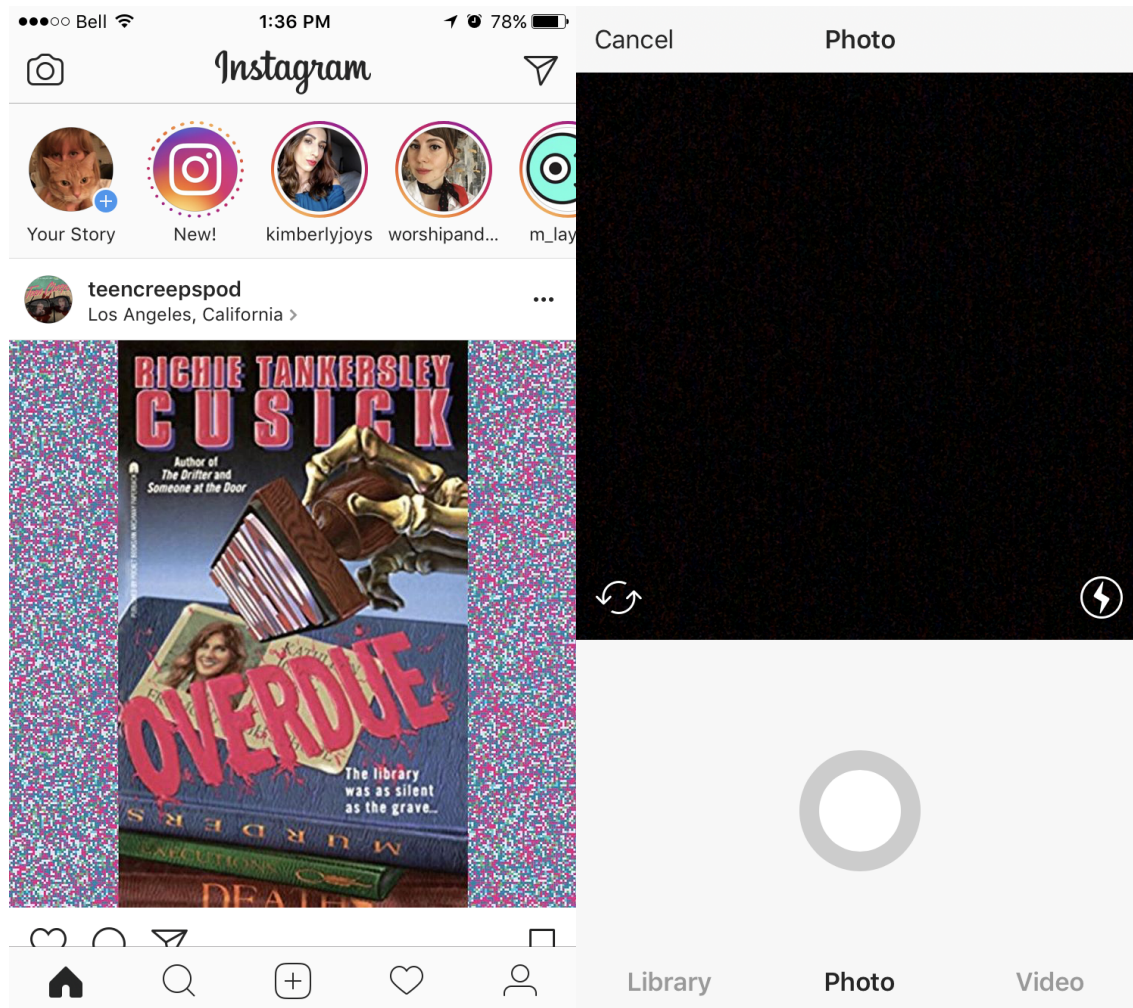
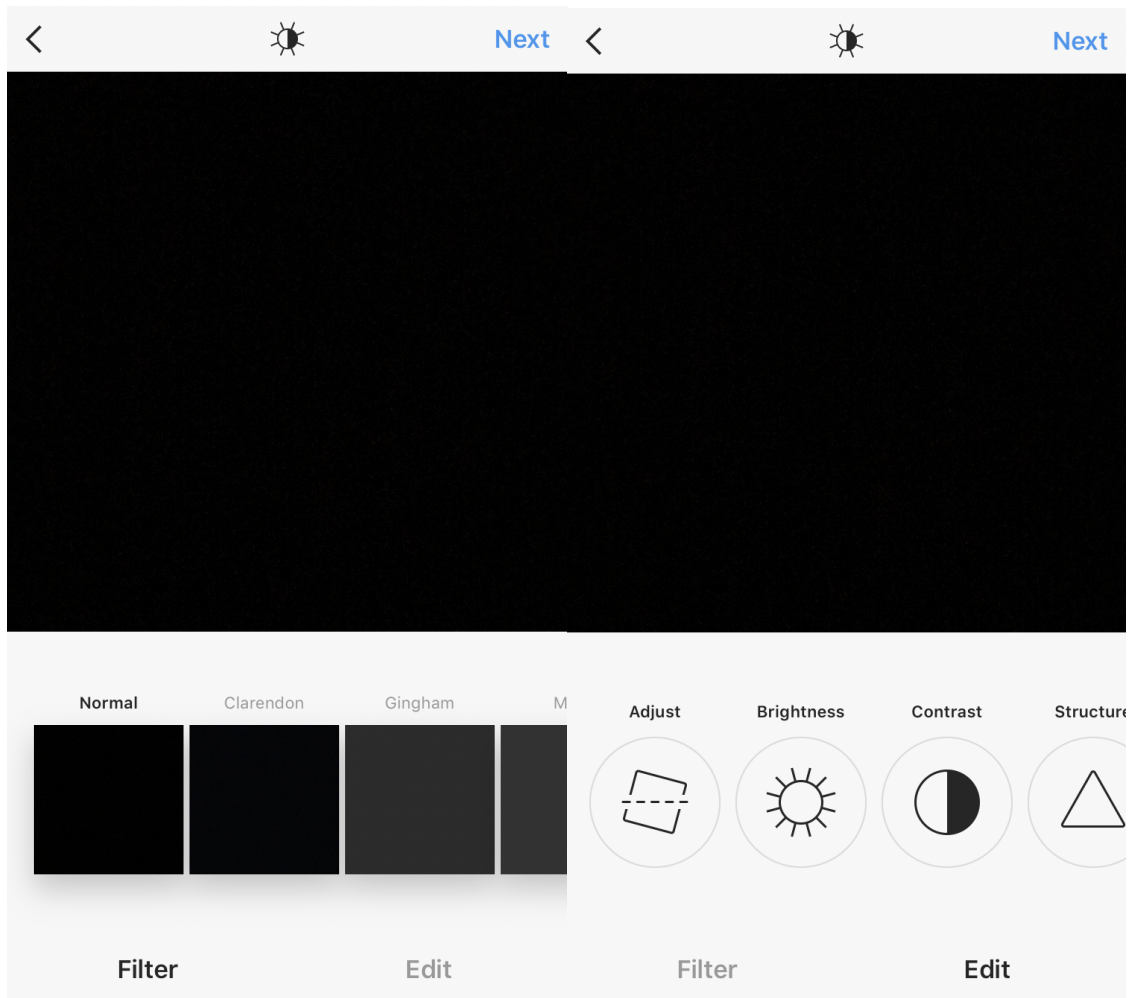


Figure 20: Danah M. Boyd and Nicole B. Ellison, “Timeline of major social media websites,” from “Social Network Sites: Definition, History, and Scholarship”, *Journal of Computer Mediated Communication*, Vol 13, 2008. 212.

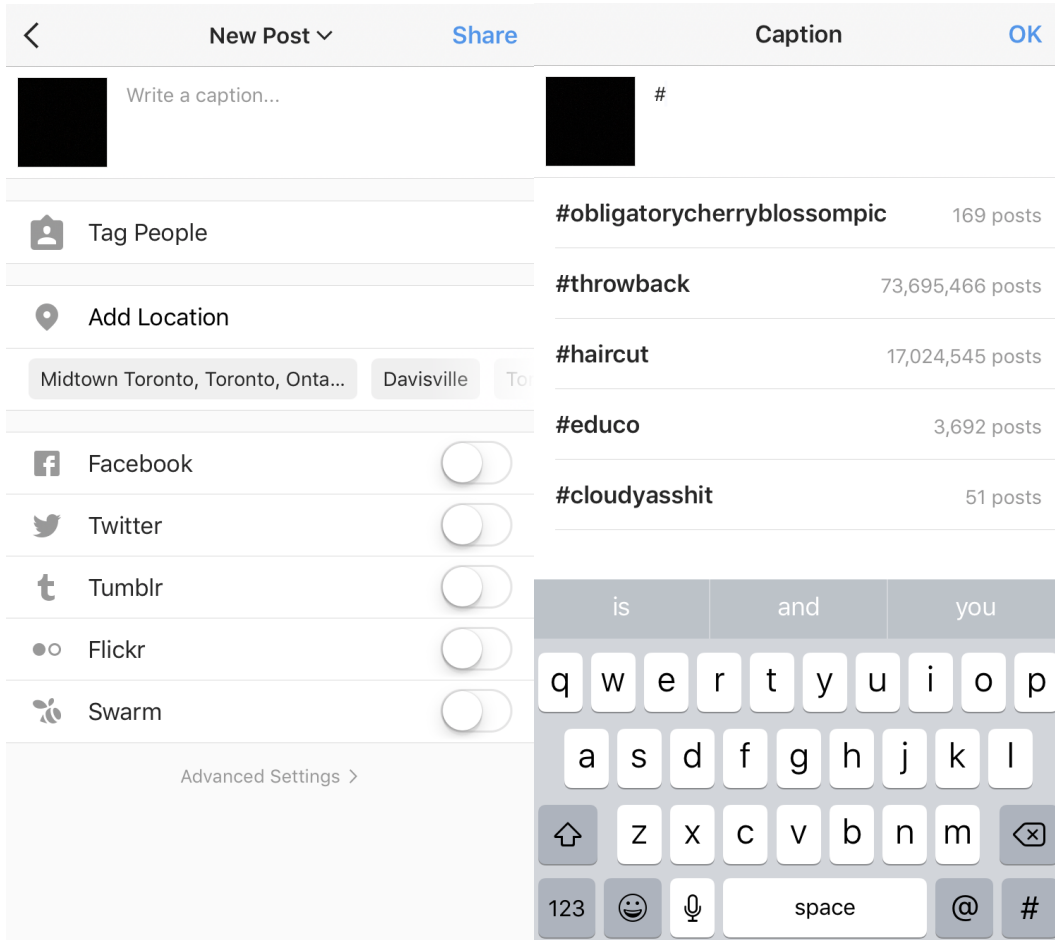


Left: Figure 21: Newsfeed of author's Instagram iOS app

Right: Figure 22: First screen after selecting the add photo option on author's Instagram iOS app



Left: Figure 23: Built in filters shown from the author's Instagram iOS app
Right: Figure 24: Built in image editing shown from the author's Instagram iOS app



Left: Figure 25: The prompts to caption, tag, and share images from the author's Instagram iOS app

Right: Figure 26: Suggested hashtags for images and the number of images with those hashtags already existing from the author's Instagram iOS app

Figure 21-26: The process of adding a picture on the Instagram app, shown from the author's profile.



Figure 27: Beyoncé's pregnancy announcement on her Instagram, February 1, 2017



Figure 28: emily.n.s showing the unposed aesthetic, August 7, 2016



Figure 29: lydiaruizaguilera showing the unposed aesthetic, August 6, 2016



Figure 30: jusiajustyna showing the unposed aesthetic, August 6, 2016



Figure 31: viktor_yalovoy showing the unposed aesthetic, August 6, 2016

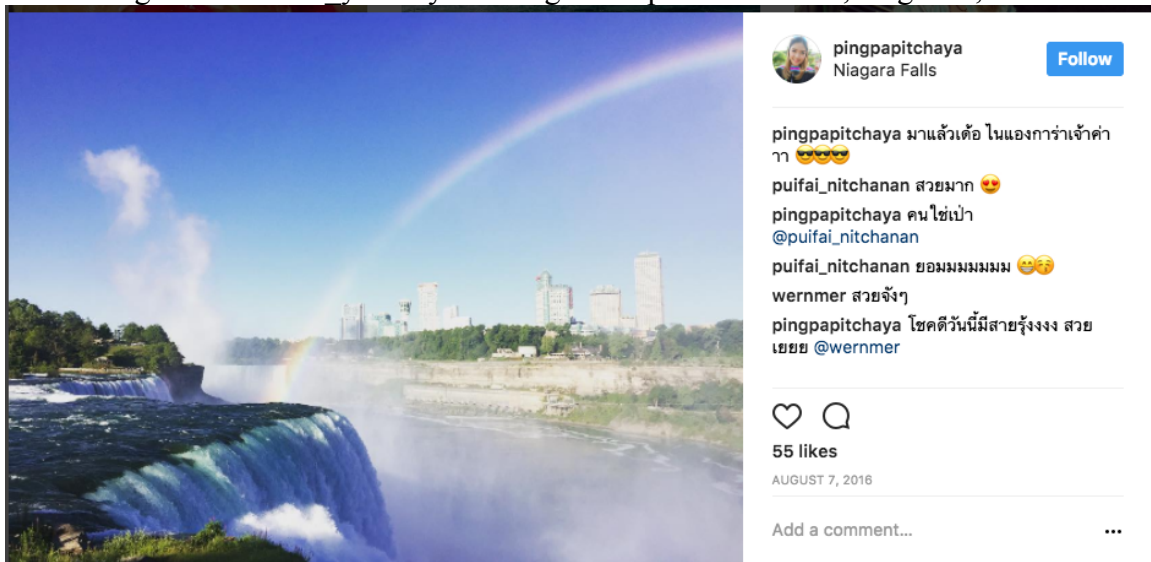


Figure 32: pingpapitchaya showing the compression of the possible from Prospect Point and the inclusion of human artifacts, August 7, 2016



Figure 33: tubachick56 showing the compression of the Falls possible from Prospect Point and the inclusion of human artifacts, August 6, 2016



Figure 34: drhernandez28 showing the compression of the Falls possible from Prospect Point and the inclusion of human artifacts, August 7, 2016

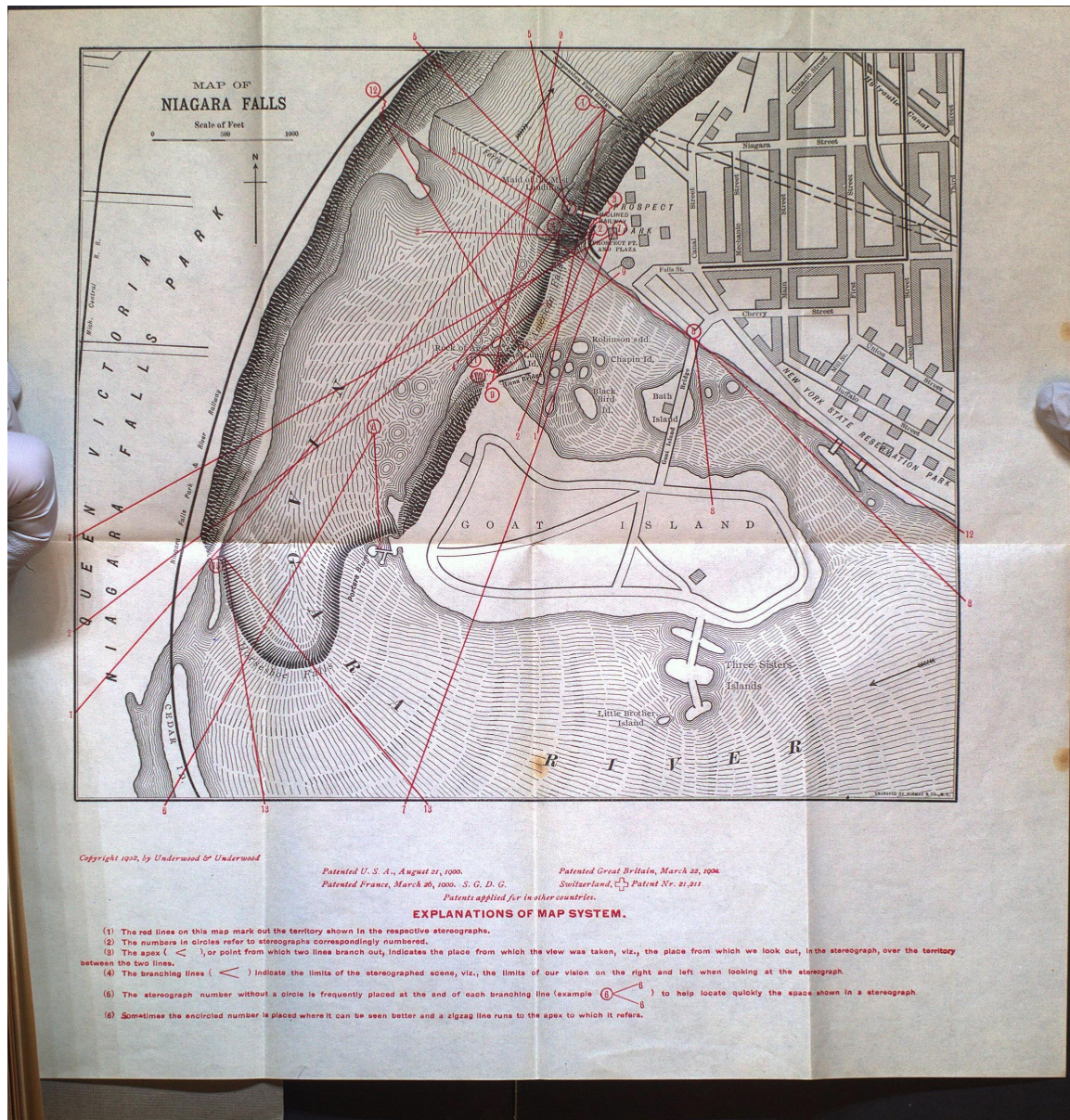


Figure 36: Map showing the directions that the photographer was facing to create the Underwood and Underwood stereographic tour of Niagara Falls, from Underwood and Underwood's *Niagara Through the Stereoscope*, 1905.



Figure 37: mercurymaiden314 the use of Goat Island for framing. August 7, 2016



Figure 38: An example of a panorama, Stefano Bittante, *Niagara Falls panorama from Canadian Side*, 2007, digital image. Courtesy of Wikimedia Commons

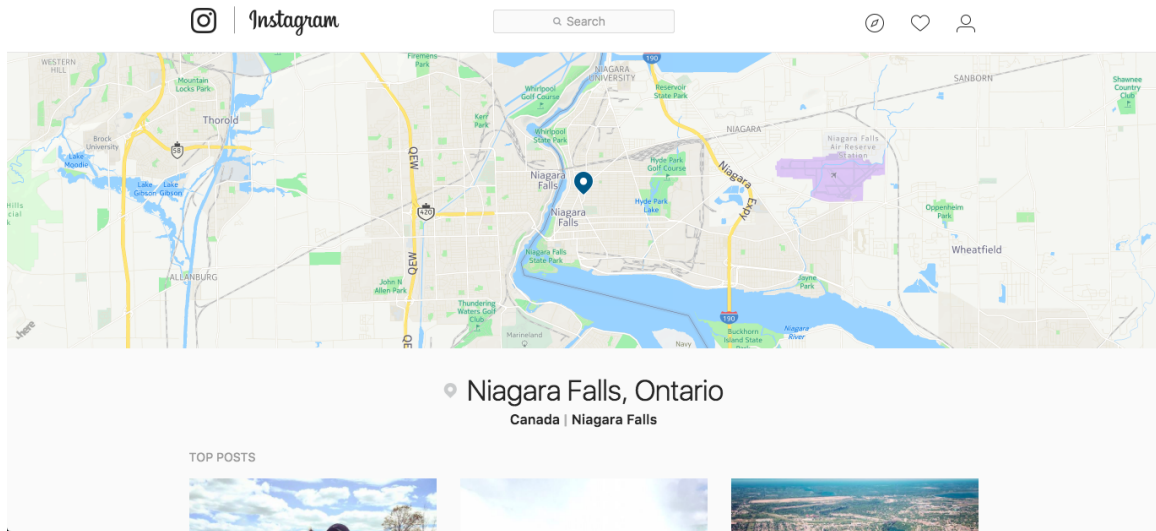








Figure 39: The screen when one searches a geotagged location on the browser version of Instagram, taken from the author's account

APPENDIX ONE

 <p>annikapfeil Niagara Falls</p> <p>59 likes AUGUST 6, 2016</p> <p>Add a comment...</p>	 <p>angarone Niagara Falls State Park...</p> <p>michaelajahn Yer in me ole stomping grounds like missy</p> <p>14 likes AUGUST 6, 2016</p> <p>Add a comment...</p>
<p>annikapfeil, August 6, 2016</p>	<p>angarone, August 6, 2016</p>
 <p>daabrams1 Maid Of The Mist Niagr...</p> <p>1 like AUGUST 6, 2016</p> <p>Add a comment...</p>	 <p>daabrams1 Niagara Falls</p> <p>1 like AUGUST 6, 2016</p> <p>Add a comment...</p>
<p>daabrams1, August 6, 2016</p>	<p>daabrams1, August 6, 2016</p>
 <p>daf_valencia Niagara Falls State Park...</p> <p>daf_valencia #niagarafalls #sheishappy #lifeisbeautiful #nature larlu20</p> <p>25 likes AUGUST 6, 2016</p> <p>Add a comment...</p>	 <p>davecast33 Niagara Falls</p> <p>davecast33, milagrosdiazwright, tiffanyblueyes, tnc331, imbrendalmi, udvich13, hotelcilling, and mother_gala, like this</p> <p>1 like AUGUST 6, 2016</p> <p>Add a comment...</p>
<p>daf_valencia, August 6, 2016</p>	<p>davecast33, August 6, 2016</p>



ham sammich, August 6, 2016



faisal_196710, August 6, 2016



hermak10, August 6, 2016



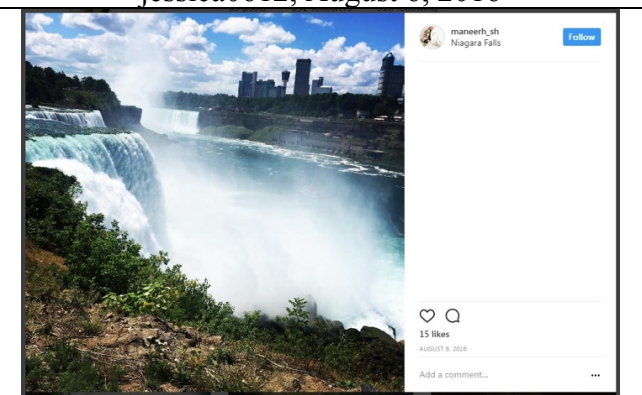
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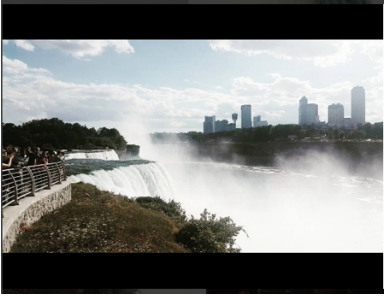







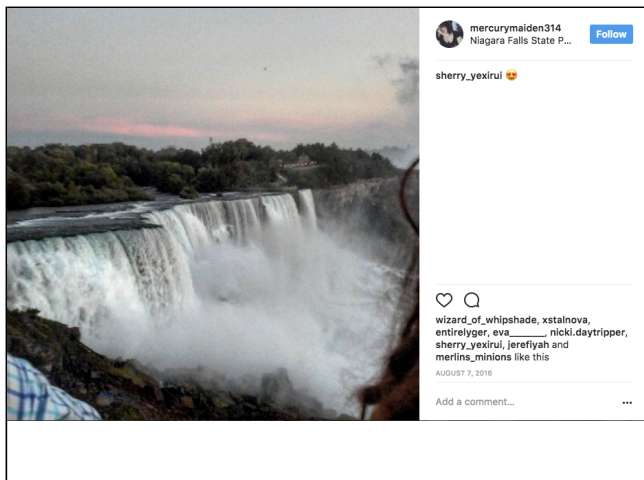
kerimacarturk, August 6, 2016



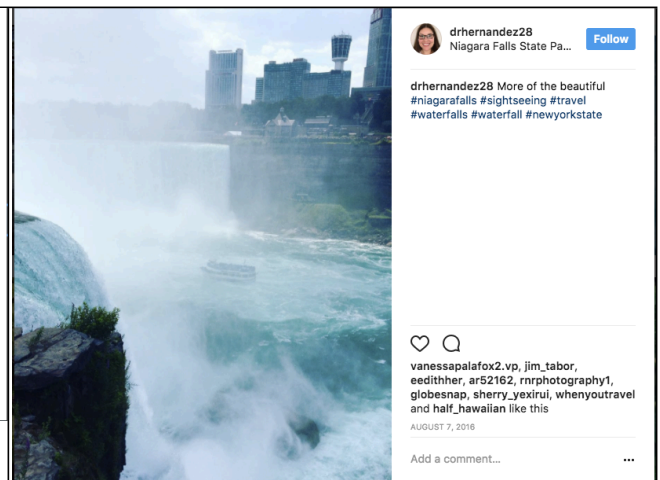
jessica0612, August 6, 2016



<p>lonnelb, August 6, 2016</p>  <p>mimputhita Niagara Falls State Park... Follow</p> <p>mimputhita #niagarafalls</p> <p>26 likes August 6, 2016</p> <p>Add a comment...</p>	<p>maneerh_sh, August 6, 2016</p>  <p>mnoward Niagara Falls State Park... Follow</p> <p>mnoward So excited to watch @sabsdangelo play in the olympics tonight. You know I have my Canada shirt on today #yesyou ☺</p> <p>45 likes August 6, 2016</p> <p>Add a comment...</p>
<p>mimputhita, August 6, 2016</p>  <p>padelgadam Niagara Falls Follow</p> <p>megplo, dperdomo16, kokoleung... firstadiesclub.co and tatiprada66 like this August 6, 2016</p> <p>Add a comment...</p>	<p>mnoward, August 6, 2016</p>  <p>music2205 Niagara Falls State Park... Follow</p> <p>music2205 #niagarafalls #water #waterfalls #iphone</p> <p>16 likes August 6, 2016</p> <p>Add a comment...</p>
<p>padelgadam, August 6, 2016</p>  <p>paulineunjin Niagara Falls Follow</p> <p>jwc_c 우왕 rainbowww</p> <p>42 likes August 6, 2016</p> <p>Add a comment...</p>	<p>music2205, August 6, 2016</p>  <p>pani_dziobak Niagara Falls State Park... Follow</p> <p>pani_dziobak Ukradliśmy samochód i pojechalimy na Niagarę 🇵🇱🇺🇸 #niagarafalls #waterfalls #couplegoals</p> <p>31 likes August 6, 2016</p> <p>Add a comment...</p>
<p>paulineunjin, August 6, 2016</p>	<p>pani_dziobak, August 6, 2016</p>



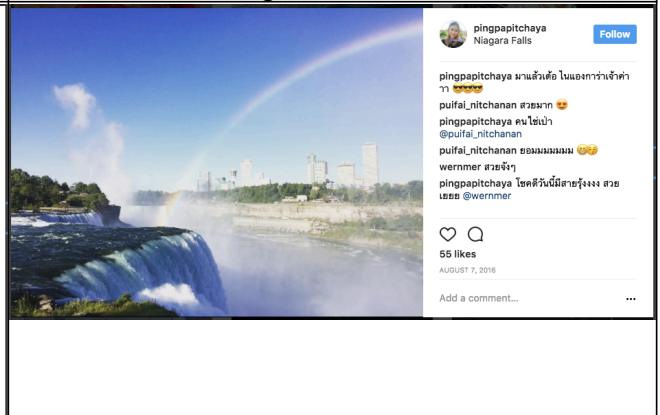
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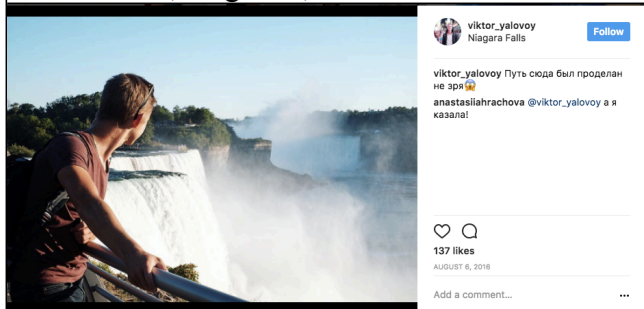
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jusiajustyna, August 6, 2016



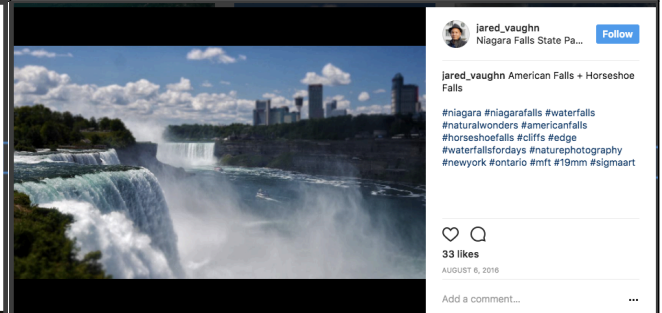
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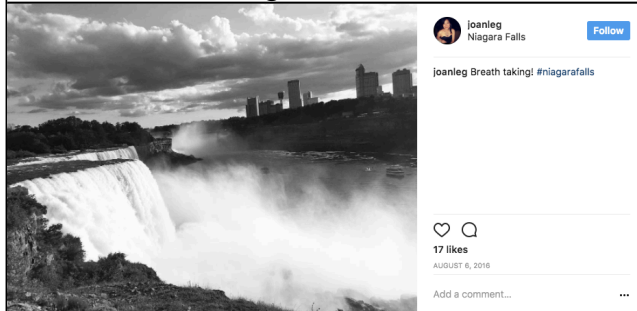
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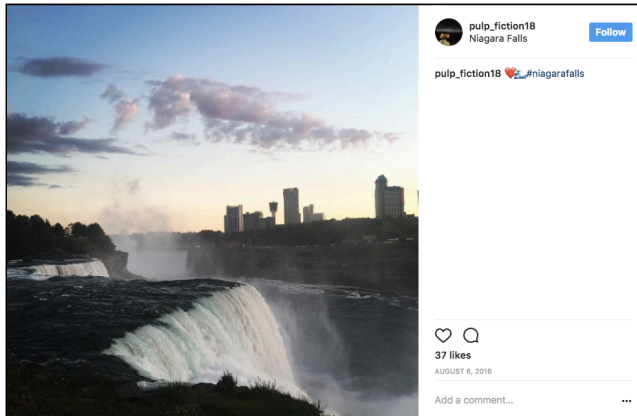
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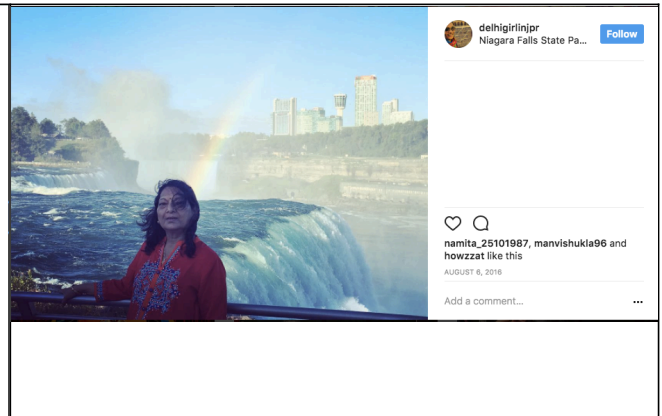
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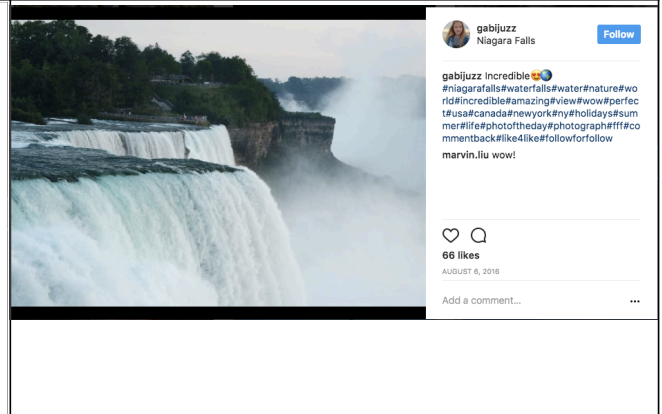
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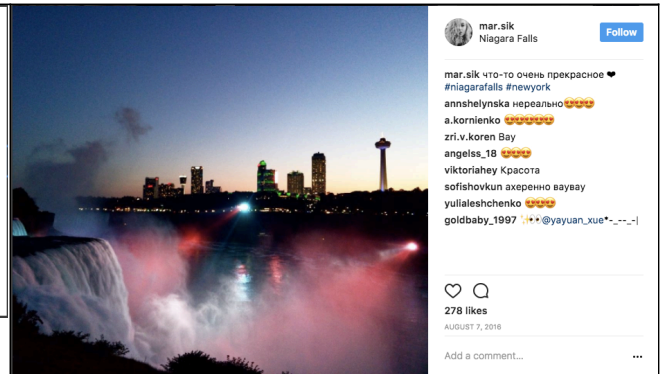
patrik_kerekes
Niagara Falls State Pa... Follow

patrik_kerekes Fall down👉#niagarafalls
sherry_yexirul My Goodness!

20 likes
AUGUST 7, 2016

Add a comment...

patrik_kerekes, August 7, 2017



mar.sik
Niagara Falls Follow

mar.sik что-то очень прекрасное ❤️
#niagarafalls #newyork
annshelynska реально 🤔🤔🤔
a.kornienko 🤔🤔🤔🤔🤔
zri.v.koren Bay 🤔🤔🤔
angelss_18 🤔🤔🤔
viktoriahuey Красота
sofishovkun ахерено ваувау
yulialeshchenko 🤔🤔🤔
goldbaby_1997 🤔🤔🤔@yayuan_xue*~_~_~!

278 likes
AUGUST 7, 2016

Add a comment...

mar.sik, August 7, 2016



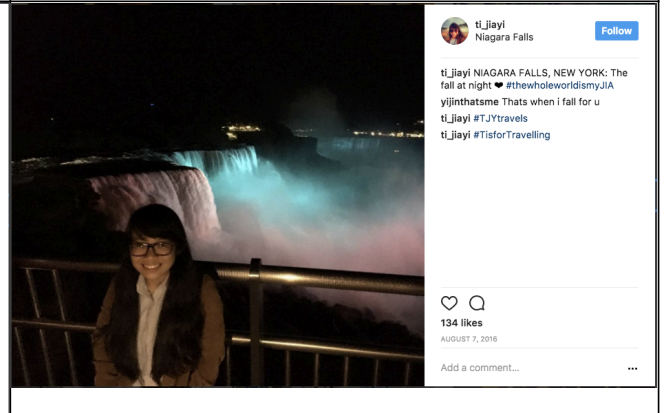
twrkntvrl
Niagara Falls Follow

twrkntvrl A nice spot to finish the U.S.A.
#roadtripl But 11 more days to go in
#Canada. @regdelrosario is the man! We
are happy that we meet you in
#SanFrancisco! See you soon in #Germany
bro!! #niagarafalls #usa #20000km
#boarder #buffalo #roadlife #hotel
#alotoffun #ntmy #beautiful #waterfalls
#nature #niagara #newyork #mist
#workandtravel #twrkntvrl
nelsoncarvalho Very cool!
regdelrosario Its my pleasure bro. I had s
great time with you guys in SF and NYC.
See you again.

38 likes
AUGUST 7, 2016

Add a comment...

twrkntvrl, August 7, 2016



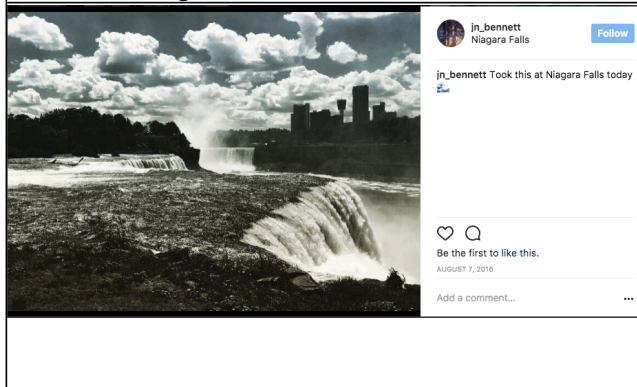
ti_jiayi
Niagara Falls Follow

ti_jiayi NIAGARA FALLS, NEW YORK: The
fall at night 🤔 #thewholeworldismyJIA
yijinhatsme Thats when i fall for u
ti_jiayi #TJYtravels
ti_jiayi #TisforTravelling

134 likes
AUGUST 7, 2016

Add a comment...

ti_jiayi, August 7, 2016



jn_bennett
Niagara Falls Follow

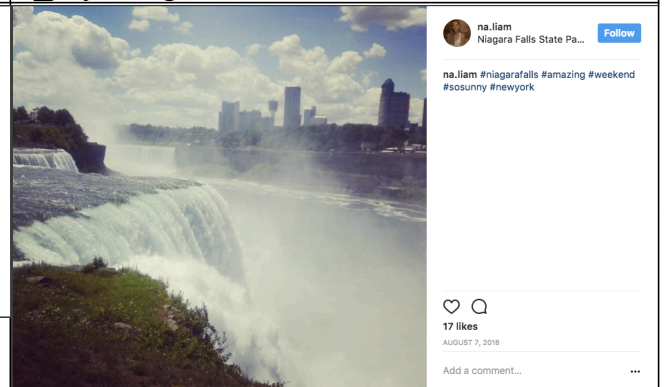
jn_bennett Took this at Niagara Falls today

Be the first to like this.

AUGUST 7, 2016

Add a comment...

jn_bennett, August 7, 2016



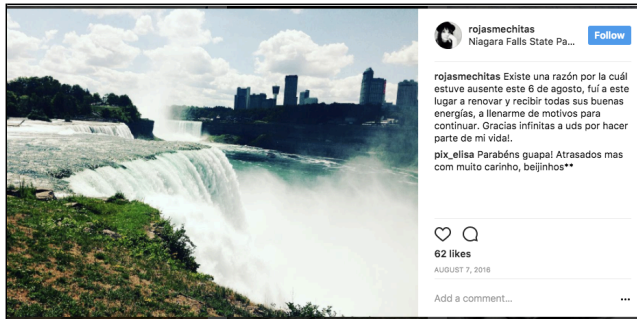
na.liam
Niagara Falls State Pa... Follow

na.liam #niagarafalls #amazing #weekend
#sossunny #newyork

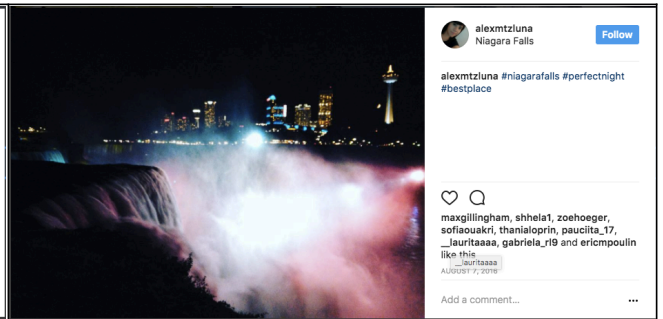
17 likes
AUGUST 7, 2016

Add a comment...

na.liam, August 7, 2016



rojasmechitas, August 7, 2016



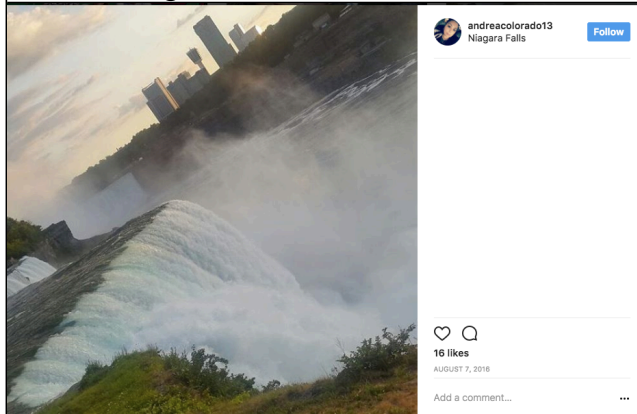
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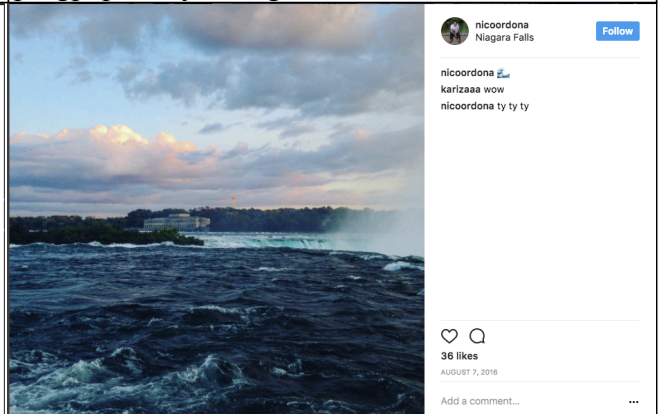
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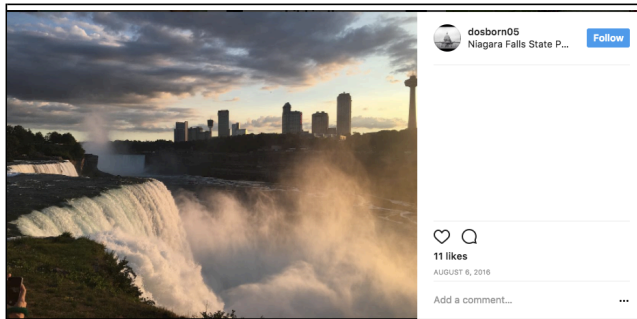
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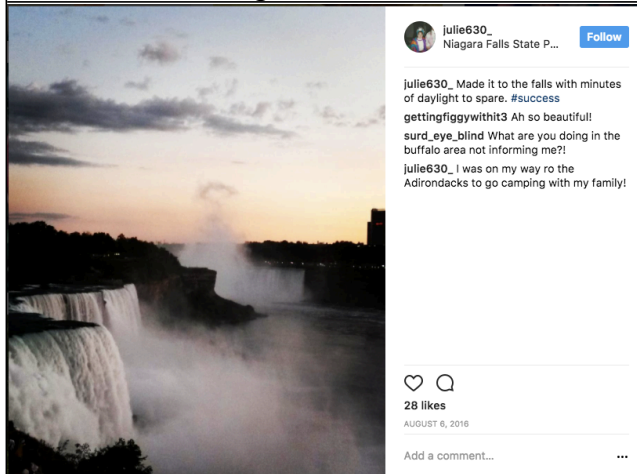
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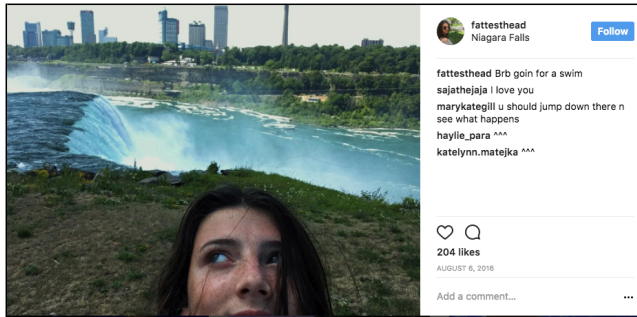
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chichomotta, August 6, 2016



fattesthead, August 6, 2016



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prettystunningx, August 6, 2016



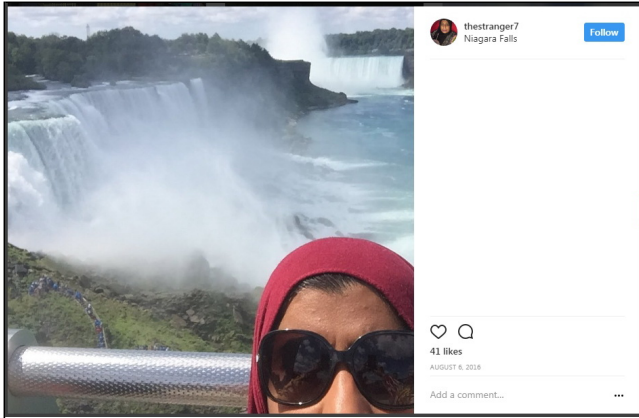
regdelrosario, August 6, 2016



rowlaustin, August 6, 2016



thechocolatebarr, August 6, 2016



thestranger7, August 6, 2016

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http://blog.ae.com/2016/01/22/follower-her-friday-dana-falsetti/?cid=Aerie_Facebook_sf19392645.
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