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Footprints & Photographs : The Selection Of A Visual Story, A Study Of The Apollo 11 Photographs In The Illustrated Press

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Ryerson University

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Footprints & Photographs: The Selection of a Visual Story
A Study of the Apollo 11 Photographs in the Illustrated Press

by
Chantal Wilson
BA Honours University of Saskatchewan, 2009

A thesis presented to
Ryerson University
and
the George Eastman House, International Museum of Photography & Film
in partial fulfillment of the requirements for the degree of

Master of Arts
in the Program of
Photographic Preservation and Collections Management
Toronto, Ontario, Canada, 2011

AUTHOR'S DECLARATION PAGE

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ABSTRACT

Footprints and Photographs: The Selection of a Visual Story; A Study of the Apollo 11 Photographs in the Illustrated Press

Master of Arts

2011

Chantal Wilson

Photographic Preservation and Collections Management

Ryerson University and the George Eastman House

Footprints and Photographs is a preliminary investigation of the selection process photographs undergo from production to eventual publication in the illustrated press. The analysis considers the roles and selection choices made by a photographic producer, a photo-agency, and picture-editors in two separate groups of Apollo 11 photographs and a selection of published Apollo 11 images.

This argument presents a comparative analysis of nine illustrated publications with photographs of the Apollo 11 moon landing published between July and December 1969. The comparison is completed in conjuncture with 2,124 original Apollo 11 photographs in NASA's Online Image Library and 149 press photographs in the Black Star Collection held at Ryerson University. A literature survey and methodology section provides historical context and explanatory research methods employed throughout this paper. Chapters 4, 5, and 6 are dedicated to the categorical analysis of each group of Apollo 11 photographs and outline the selection of imagery available for depiction of the event's narrative. By analyzing these three bodies of work as a whole, this thesis examines the narrowing perspective of the Apollo 11 photographs as they move through the stages of selection, concluding with their published accounts, and highlights the role this selection plays in building the visual narrative surrounding the first manned moon landing.

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1. INTRODUCTION

The Apollo 11 space flight was launched from Cape Kennedy, Florida on July 16, 1969 for a 9-day lunar landing mission. On July 20th, 1969, Apollo 11 landed the first humans on Earth's Moon.¹ The mission, carried out by the United States National Aeronautics and Space Administration (NASA), is considered a major accomplishment in the history of space exploration and represented a victory for the U.S in the Cold War Space Race with the Soviet Union.² In addition to the myriad of press photographs taken before and after the shuttle launch, photography during the mission was accomplished from the Apollo 11 command module and on the surface of the moon by the mission's astronauts. The dissemination of this event through the images taken during the mission contributed to the success of this historical victory. The published Apollo 11 images played a role in the development of the visual narrative highlighting the success and victory of the United States, NASA, and the three astronauts who completed the mission, which was deemed the most significant exploratory adventure undertaken to date.

The Apollo 11 mission images are frequently cited as the most watched, pondered-over icons of the modern age; approximately 600 million people, one fifth of the world's population in 1969, tuned in to the live broadcast transmitting the astronauts landing on the lunar surface on July 20.³ The illustrated press was aware of the popularity of the black and white broadcast transmission, and utilized NASA-released still photographs in special colour editions, supplements and cover stories surrounding the event several weeks after the astronauts returned to Earth.

¹ For a full account of the history of the Apollo missions see Courtney G. Brooks, James M. Grimwood and Loyd S. Swenson Jr., *Chariots for Apollo: A History of Manned Lunar Spacecraft* (Washington: National Aeronautics and Space Administration, 1979).

² Colin Burgess, "Prologue: Realization of a Dream of Ages," in *Footprints in the Dust: The Epic Voyages of Apollo, 1969-1975*, ed. Colin Burgess (Lincoln: University of Nebraska, 2010), 1-5. The *Soviet Union* is the common term used for the *Union of Soviet Socialist Republics* (also known as U.S.S.R) which was the constitutionally socialist state that existed in Eurasia between 1922 and 1991. Currently the same body of states is referred to as the Russian Federation.

³ David D. Perlmutter and Nicole Smith Dahmen, "(In)visible evidence: pictorially enhanced disbelief in the Apollo moon landings," *Visual Communication* 7 (2008): 229-251; see also, Robert Hariman and John Louis Lucaites, *No Caption Needed: Iconic Photographs, Public Culture, and Liberal Democracy* (Chicago: The University of Chicago Press, 2007). Hariman and Lucaites definition of a photographic icon is four-fold: (1) Easily recognized by many people of varied backgrounds. (2) Reproduced widely and placed prominently in both public and private settings. (3) Represents large swaths of historical experience. (4) Are objects of veneration and other complex emotional responses. Throughout the essay, the term *icon* shall refer to this defined description.

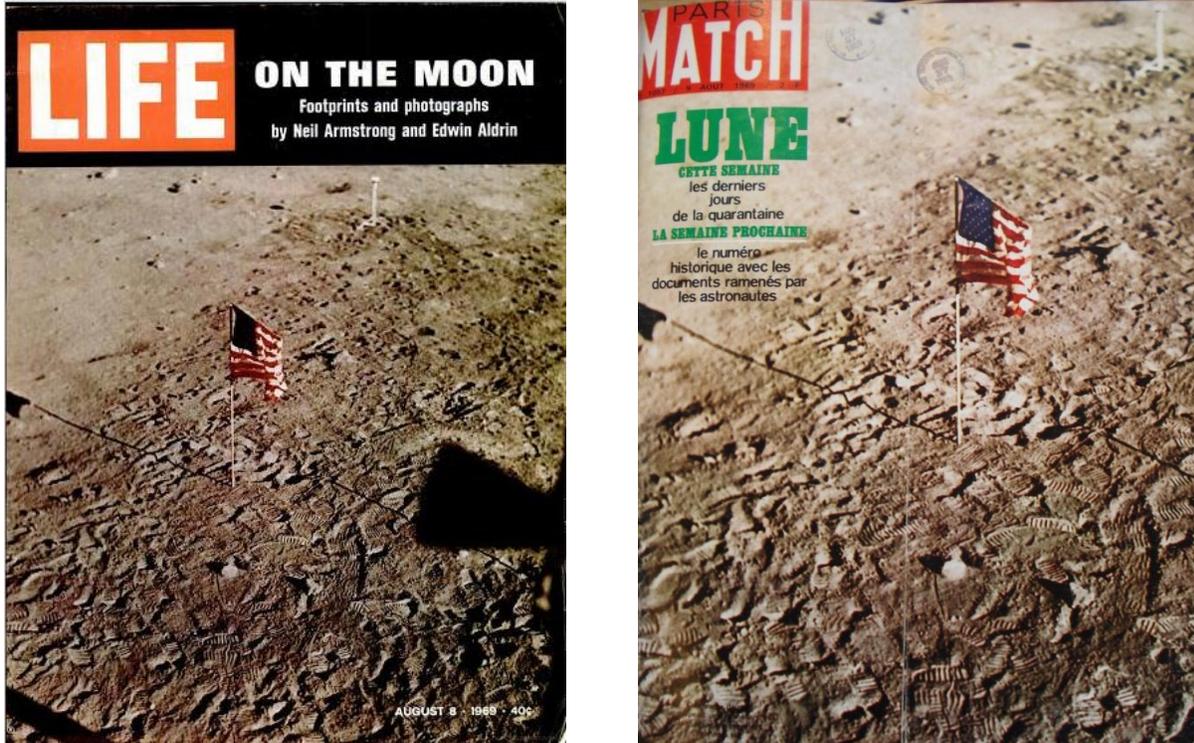


Figure 1. Life, August 8, 1969, cover, and Paris-Match, August 9, 1969, cover. The photographs were published over two weeks after the Apollo 11 astronauts returned to Earth and close to twenty days after the lunar landing mission was broadcast on television.

Published on the covers of the American magazine *Life* (est. 1936) and the French magazine, *Paris-Match* (est. 1949) on August 8 and 9, 1969, the colour photograph depicting the posted American flag with the shadow of both the lunar module and the film camera amongst the hundreds of footprints in the moon's surface, became one of the most reproduced photographs in illustrated stories about the moon landing (Figure 1). A contemporary survey conducted with incoming college freshman students asking them to identify iconic pictures without captions presented the Apollo 11 images as the photographs with the highest rate of accurate identification from that time period. This survey concluded that the results were consistent among students even from countries other than the United States.⁴ Thus, there is a recognizable group of images that endure and shape the popular visual memory of this event.

This essay presents a comparative analysis of nine American, British, and French illustrated magazines and newspapers with photographs of the Apollo 11 moon landing between July and

⁴ Perlmutter and Dahmen, "(In)visible evidence," 229-251.

December, 1969. In an attempt to understand the final body of selected images that make up the continuous visual narrative and iconic Apollo 11 imagery, the publications are compared to the original photographs captured by the astronauts and other NASA officials available online through the *Apollo 11 Online Image Library*. Additionally, 149 press photographs relating to the Apollo 11 mission in the Black Star Collection, held at Ryerson University, are examined as a case study further exemplifying the editing process of a working photo agency in the 1960s.⁵ By analyzing these three bodies of work as a whole this thesis examines the selection of Apollo 11 images published and highlights the role this selection plays in building this visual story.

Edwin ‘Buzz’ Aldrin Jr., Neil Armstrong and Michael Collins photographed the Apollo 11 moon landing expedition using four different Hasselblad electric cameras, two 16-mm Maurer data acquisition cameras and one 35-mm lunar surface close-up stereoscopic camera loaded with Ektachrome colour and Panatomic-X black and white film.⁶ The NASA Manned Spacecraft Center’s Photographic Technology Laboratory processed all of the film after the astronauts returned to Earth on July 24, 1969. NASA then assumed ownership and responsibility for archiving, reproducing, and distributing close to fifteen hundred images taken by the astronauts as well as the approximately 600 photographs captured by other NASA officials before and after the expedition.⁷ From the 2,124 images compiled and made available by NASA, only 107 photographs, five percent of the original body of pictures, were found published to illustrate this specific story during the six month period surveyed. The various uses or meaning of these images in pictorial journalism is what drives this paper’s research questions. Which images were chosen to represent the event’s narrative, and why? How was the story of the Apollo 11 moon landing told through published accounts of the mission’s photographs?

To trace the path between the original photograph of an event and the final published image is to examine, in part, the work of a picture editor. The role of the editor is to act as the mediator

⁵ The publications surveyed, the *Apollo 11 image library*, and the Black Star Collection will be described in more detail in the methodology chapter of this thesis.

⁶ A.T Anderson, C.K. Michlovitz and K. Hug, “National Space Science Data Center Report 70-06: Apollo 11 Lunar Photography,” *Apollo 11 Lunar Surface Journal* (April, 1970), 2, accessed February 12, 2011. <http://www.hq.nasa.gov/office/pao/History/alsj/allNssdc70-06.html>.

⁷ Ibid, 6.

between the maker and the final audience. In short, “in the field of words, editors create story ideas, assign writers to produce them, put the articles into shape for publication, and finally decide their display. When these steps are applied to photographs they constitute picture editing.”⁸ Thus, the editor shapes how the photographs and the events, objects, or people in them, are represented in their published accounts.

The rise of the picture editor’s role in managing the selection, sequence, shape and layout of images coincides with the use of photographic reproductions in illustrated newspapers and the advent of pictorial magazines at the turn of the twentieth century.⁹ By the 1930’s the photo editor’s role had already become essential for the popular pictorial magazines that evolved during this time period including British, French and American publications such as *Life*, *Look* (est. 1937), *Picture Post* (est. 1938), and *Paris-Match*. As more newspapers and magazines adopted the use of two or more pictures proximally placed in a visual narrative that surpassed or replaced the textual elements, editors looked to photojournalists and photo agencies to supply them with images necessary to produce such news stories.¹⁰ By the late 1960 the technological advances in photographic production, such as improvements in camera, flash and film technology, shaped the depiction and subjects portrayed in photographs. Moreover, advancements made in photomechanical operations, namely halftone reproductions in colour, brought a never before seen dimension to press photography. The evolution in photographic production and reproduction meant an increase in the variables at the picture editor’s disposal during the 1960s.¹¹ Therefore, if the representation or perspective of an event or story is to be examined, an analysis of the photo editor’s diverse tools in selecting the images for the event’s representation must also be acknowledged. By first comparing original Apollo 11 press photographs released by NASA as well as a selection of these images held in the Black Star Collection to their published counterparts, an analysis of how the event’s historical visual narrative was developed and

⁸ Stanley E. Kalish and Clifton C. Edom, *Picture Editing* (New York: Rinehart and Company, 1951), 3.

⁹ See, Thierry Gervais, “L’invention du magazine: La photographie mise en page dans ‘La Vie au grand air’ 1898-1914,” *Études Photographiques* 20 (June 2007): 51-67.

¹⁰ Kalish and Edom, *Picture Editing*, 9.

¹¹ Rachel Verbin, “Photographic Retouching: The Press Picture Editor’s ‘Invisible Tool’ 1930-1939, A Study of Retouched Prints from the Art Gallery of Ontario’s British Press Agencies Collection,” (Master’s Thesis, Ryerson university, Art Gallery of Ontario and George Eastman House, 2010), 2.

communicated can be conducted. More specifically, the choices in selection and layout design made by picture editors and how these decisions affected the overall representation of the news event, emphasizes a step in the creation of a visual story in published pictorial journalism previously unexamined.

Included in the following paper is a literature survey that provides an overview of scholarly and technical literature related to the history of photojournalism and editorial work in press photography that situates the photographs surveyed in this thesis within a broader historical context. Readers will find descriptions of the Apollo 11 image library, the Black Star Collection and the publications surveyed in the methodology section explaining the research undertaken for this analysis. The three main sections dedicated to each body of work will provide a categorical subject based analysis of the group's contents highlighting the selection process and the perspective in which the visual story of Apollo 11 is being told.

2. LITERATURE SURVEY

This chapter commences with a survey of material related to the details of the space mission, Apollo 11. The next section begins with a review of general histories of photography and histories of photojournalism, followed by a study of literature related to the methodology incorporated into this paper's case study analysis. The survey concludes with a brief review of technical editing manuals that are utilized as primary sources to analyze the production of the published Apollo 11 images.

a. Apollo 11

The "NASA Apollo 11 Lunar Photography Report" released in April, 1970 explained the objectives behind photographing the Apollo 11 mission activities and presented all of the pictorial data accumulated by NASA. The report functions like a finding aid, and includes information regarding the photographic equipment, photographic coverage, a complete list of all of the pictures captured, and instructions for obtaining copies of the photographs.¹² The report stated that "...both the surface and orbital photography of the mission serves not only to document man's first lunar landing and the extravehicular activities of the astronauts, but also to identify scientific areas and experiments for study in future missions." The NASA report emphasized scientific intentions for documenting the Apollo 11 mission and explained that dissemination should be "without charge where they are to be used, first, for specific scientific studies, and second, for college-level science courses," further exemplifying how NASA intended the photographs to be used.¹³ However, as indicated by this paper's body of work, the photographs were distributed to various news outlets long before this report was published in April, 1970. Thus, the dichotomy presented between why the photographs were supposedly taken and how they were actually used in the illustrated news is important to consider; the scientific context in which these photographs were produced must be included when analyzing their depiction in pictorial journalism.¹⁴

¹² Anderson, Michlovitz, Hug, "Apollo 11 Lunar Photography," 1-7 and appendix. Also see, Eric M. Jones and Ken Glover, "Apollo 11 Image Library," *NASA Apollo Lunar Surface Journal* (October 2010), accessed February 12, 2011. <http://www.hq.nasa.gov/office/pao/History/alsj/a11/images11.html>.

¹³ Ibid.

¹⁴ For an entire list of references on the Apollo 11 mission see, Roger D. Launius and J.D. Hunley, "An Annotated Bibliography of the Apollo Program," *Aerospace History* 2 (July 1994), accessed February 12, 2011. <http://www.hq.nasa.gov/office/pao/History/Apollobib/contents.html>. This comprehensive bibliography is only one

In his article “Contested Global Visions: One-World, Whole-Earth, and the Apollo Space Photographs (1994),” Denis Cosgrove examined how photographs taken of the Earth during the Apollo Space missions in 1968 and 1972 changed the geographical representation of Earth for individuals viewing them.¹⁵ Cosgrove’s article highlighted how before these images existed, humans had only an imaginative image of the Earth, giving the photographs more meaning when they were finally seen by the world. The iconicity of the Apollo 11 photographs can be addressed in the same light as they pictorially represented the first man on the moon and highlighted the American victory in the Cold War Space Race against the U.S.S.R.

Furthermore, in *The Power of Photography*, published in 1991 by Vicki Goldberg, there is also reference to the still images of the Apollo missions of 1968 appearing on television broadcasts, on front news pages across the globe, and published in *Life* magazine. In her words, “these images were soon on book covers, posters, ads, and postage stamps,” highlighting the photographs popular dissemination and iconic status.¹⁶ Cosgrove and Goldberg both explored the representation and distribution of Apollo mission images through their analyses in order to exemplify how the photographs and the Apollo 11 mission were interpreted by the public as a historical success. The victorious perspective of the mission and its popular dissemination through various media outlets is essential in understanding how and which Apollo 11 photographs still endure in the public’s visual memory.

Among the substantial range of literature dedicated to describing the activities of the Apollo 11 mission, the texts reviewed in this section focus on the explanation and representation of the event through photographs. Both Cosgrove and Goldberg emphasized the iconicity of the Apollo 11 photographs as well as various interpretations of the imagery by the public. However, the way the news editors compiled the images to narrate the event is not the focus of these authors even though

example of the immense amount of literature available on the history of the Apollo 11 mission and its surrounding subjects of which is not within the scope of this paper to summarize.

¹⁵ Denis Cosgrove, “Contested Global Visions: One-World, Whole-Earth, and the Apollo Space Photographs,” *Annals of the Association of American Geographers* 84, no. 2 (June 1994): 270-294.

¹⁶ Vicki Goldberg, *The Power of Photography: How Photography Changed Our Lives* (New York: Abbeville Press, 1991), 56.

their activities contributed to the public's interpretation of the story. Regardless, the information gathered from these texts is useful for the context of this paper's research.

b. History of Photography and Photojournalism

In the chapter "Photojournalism" in Beaumont Newhall's 1982 edition of the *History of Photography: From 1839 to the Present*, the general history of photojournalism is aligned with the technological capabilities of reproducing photographs in the press and the rise of the photojournalist.¹⁷ The photographs associated with this section are displayed as singular images on a white page and not in their original published context, where the pictures are found embedded with other images and text on newsprint or magazine pages. This chapter discussed the tools of the early twentieth century picture editor and his role in selection and layout, but did not provide an analysis on how this contributed to the final published image or the representation of what was being depicted.¹⁸ Similarly, "The Spread of Photography" by Thomas Michael Gunther, in the *A New History of Photography*, published in 1998 and edited by Michel Frizot, focused on the history of photojournalism through the development of commercial agencies and the international popularity of the weekly picture magazines.¹⁹ Gunther outlines how from the 1920s onward, photographic editors and agencies became "indispensible" to the development of the press, highlighting the roles that they played in illustrating the story effectively and concisely.²⁰

In comparison to Newhall and Gunther, *Photography: A Cultural History*, first published in 2002, Mary Warner Marien chronologically outlined the social, historical, and political contexts that have shaped the circumstances in which photography was practiced and consumed by both photographers and the mass audiences.²¹ In the section, "Television, Photojournalism and National Events," Marien discussed the representation of public events, including space exploration, suggesting that the experiences "entered the public memory through a blend of photography, radio,

¹⁷ Beaumont Newhall, *The History of Photography: From 1839 to the Present*, 5th ed. (New York: Museum of Modern Art, 1982), 249-268.

¹⁸ *Ibid*, 259-263.

¹⁹ Thomas Michael Gunther, "The Spread of Photography," in *A New History of Photography*, ed. Michel Frizot, trans. Susan Bennett, Liz Clegg, John Crook, Caroline Higgitt (Köln: Könemann, 1998), 555-590.

²⁰ Gunther, "The Spread of Photography," 569-570.

²¹ Mary Warner Marien, *Photography: A Cultural History* (New York: Harry N. Abrams, 2002).

film, and television broadcasts.”²² However, Marien explained that while television set sales increased in the mid 1960s, televised news did not surpass picture magazines and newspapers as the public’s major source of information until the early 1970s.²³ Because Marien concentrated on the social and historical influences on photography, she highlighted the dissemination of the photographs through various media outlets as the avenue through which iconic imagery was built.

More specifically focused histories of photojournalism such as *Kiosk: 1839-1973, A History of Photojournalism*, edited by Bodo von Dewitz and Robert Lebeck (2001) as well as Mary Panzer’s *Things as They Are: Photojournalism in Context Since 1955*, (2005), addressed the history of photojournalism by analyzing original published material.²⁴ Lebeck examined historical pictorial journalism and photographic reports by evaluating and describing his extensive collection of illustrated newspapers and magazines. He argued that the “printed page” is the only original photographic report and represented the only choice of photographic sequences audiences were actually offered.²⁵ By presenting his collection of magazines as full page layouts and spreads throughout the text, Lebeck allowed readers to see the context of the magazine’s production, their narratives, and the evolution of pictorial journalism over the 134 years discussed. Lebeck’s analysis revealed the specific production elements and editorial tools such as sequencing, selection, and layout design that can be examined in greater detail in order to better understand the steps that are taken in order to develop illustrated news stories.

Similarly, in *Things as They Are*, Mary Panzer discussed the political and social context of photojournalism and its subjects during the second half of the twentieth century by highlighting specific photographers and examining published photographic reports.²⁶ The result is a chronological index of photographers and magazine spreads that depicted the most popular social and historical events of the time with short accompanying texts indicating the significance of the reports to the

²² Ibid, 359.

²³ Ibid, 359-360.

²⁴ Robert Lebeck and Bodo Von Dewitz ed., *Kiosk: Eine Geschichte der Fotoreportage 1839-1973/ A History of Photojournalism* (Göttingen: Steidl, 2001); Mary Panzer, *Things as they Are: Photojournalism in Context since 1955* (London: World Press Photo, 2005).

²⁵ Lebeck and Von Dewitz, *Kiosk*, 7.

²⁶ Mary Panzer, *Things as they Are: Photojournalism in Context since 1955* (London: World Press Photo, 2005).

readers. Panzer identified *Life's* Apollo 11 report as one of the first still photographic depictions of the event. With a cover photograph and a 12-page spread displaying the iconic images of the astronauts saluting the American flag and conducting experiments, Panzer argued that the *Life* NASA images were released to an attentive world in which photography had become central to the popularity and success of the Apollo space program.²⁷ Panzer emphasized the maker of the images as well as the context in which they were consumed, thereby alluding to the transition the photograph underwent before it was published as part of an event's pictorial narrative.

The texts surveyed in this section revealed that the historiography of photojournalism is based on research from the perspectives of the photographers, the technical advances of photographic reproduction, the rise of the illustrated press, the cultural influences affecting the news publications, and not often editorial analysis. In both Warner and Panzer's texts, Apollo 11 is identified as a significant cultural and political milestone that was represented in pictorial journalism and the photographs published to illustrate Apollo 11 contributed to the discourse surrounding the event. Lebeck and Panzer's arguments point to the analysis of the "printed page" as the original photographic report in comparison to the examination of the singular image found in the standard histories of photography. The former explains why this thesis has incorporated both original layouts and press prints. Regardless, the editing process as the link between the production and consumption of the narrative has not yet been expanded upon in these texts, indicating an area of photojournalistic research potential.

c. Academic Case Studies

Thierry Gervais' article, "The 'Greatest of War Photographers,' Jimmy Hare, A Photojournalist at the Turn of the Twentieth Century," published in *Études Photographiques* in 2010, examined the original war photographs of Jimmy Hare and how his images were used by the American and French illustrated press.²⁸ The argument's examination of both primary photographs and published images sheds light on the emerging photojournalist as well as the editor's role in

²⁷ Ibid, 186.

²⁸ Thierry Gervais, "« Le plus grand des photographes de guerre » Jimmy Hare, photoreporter au tournant du XIX^e et du XX^e siècle," "The 'Greatest of War Photographers,' Jimmy Hare, A Photojournalist at the Turn of the Twentieth Century," *Études Photographiques* 26. (November 2010): 35-49.

utilizing halftone reproductions at the turn of the twentieth century. Gervais explained to the reader that while the halftone technology added value to the images reproduced in the press, it also presented representational problems that required editors to add explanatory notes justifying their deficiencies. Moreover, Gervais described how the editors validated their use of particular inadequate images by glorifying the gallant character of the photojournalist and in the process, devised new approaches to layout, design and illustration.²⁹ Gervais' methodological approach revealed how information about editorial work can be collected from illustrated news layouts to better understand the representation of images within the press.

Rachel Verbin's Master's thesis "Photographic Retouching: The Press Editor's Invisible Tool," (2010) examined a sample of sixteen retouched press photographs published during the 1930s, a selection from the Art Gallery of Ontario's British Press Agencies Collection (BPAC) and corresponding newspaper and magazine spreads.³⁰ By using contemporaneously published editing manuals in conjunction with her analysis, Verbin examined technical difficulties incurred by press publishers, how retouching was utilized as a remedial tool, and how the various uses of retouching were used to improve the reproduced photograph's aptitude for communicating an effective narrative.³¹ Verbin's use of technical editing manuals authenticated her analysis and helped to identify and connect the original photographs to their altered published surrogates previously disconnected in other histories of photography. Thus, Verbin's research emphasized a new perspective of the editor's role in retouching within pictorial journalism, an approach this paper intends to use for the process of selection.

In "The Colour of May 1968," published in *Études Photographiques* in 2010, Audrey Leblanc analyzed the pictorial depiction of the Paris Printer's Union strike and the subsequent mass demonstrations from May to June, 1968 as presented in *Paris-Match* and other news magazines.³²

²⁹ Ibid, 35-36.

³⁰ Rachel Verbin, "Photographic Retouching: The Press Picture Editor's 'Invisible' Tool (1930-1939)," (Master's Thesis, Ryerson University, Art Gallery of Ontario and George Eastman House, 2010).

³¹ Verbin, "Photographic Retouching," 4.

³² Audrey Leblanc, "La couleur de Mai 1968: *Paris Match* face aux événements de mai et juin 1968 / The Colour of May 1968: Paris Match and the Events of May and June 1968," trans. From French by James Gussen, *Études Photographiques* 26 (November 2010): 179-189.

Leblanc's analysis is based on the examination of the editorial choices made by the various magazine editors such as issue circulation, captions, visual arrangement, and image colour. The exploration of layout design, text, and image selection led Leblanc to the conclusion that the construction of these stories supported the various publications' ideological interpretations of the event. The factors considered in "The Colour of May," highlighted how the tools of the editor can affect the perspective of national news events in picture magazines. Leblanc's subject matter and methodology was essential to consider when devising a methodological approach for this paper's analysis as it provided a model for studying editorial tools employed in the late twentieth century.

Gervais, Verbin and Leblanc all specifically included an editorial perspective in their analyses and used primary published illustrated news layouts to extract information about the representation of news events. Their methodologies, which incorporate comparative analyses of original photographs and various forms of the final printed page, exemplify a new approach to the historiography surrounding these materials and provide an archetype for this paper's research methodology.

d. Technical Editing Manuals

A review of press photography manuals published between 1950 and 1978 was carried out in order to compile information about editorial practices in press photography during the second half of the twentieth century as written from an editor's perspective. This review of technical manuals was essential to link the original print to the published layout as it is still difficult to find analyses regarding this work in secondary literature. *Picture Editing*, published in 1951 by Stanley Kalish and Clifton Edom, described the role of the picture editor in two parts. The first section dealt with editing intangibles including judgement, developing picture ideas, and handling photographers; the second section discussed the specific roles of the editor in picture selection, scaling, cropping, retouching, caption writing, and layout.³³ The result is a comprehensive manual that described and advised on how editing tools can create and enhance both visual and textual narratives.

³³ Kalish and Clifton C. Edom. *Picture Editing* (New York: Rinehart & Company, 1951).

In *Words and Pictures: An Introduction to Photojournalism* written for writers, editors, and photographers in 1952 by former *Life* magazine editor Wilson Hicks, photojournalism is approached as a practice that Hicks attempts to define. Hicks gave recommendations about the practice through his analysis of the roles played separately and simultaneously by the photographer, the editor, and the photographic image. The analysis explained how each of these roles had an effect on the interpretation of the final published product.³⁴ Hicks emphasized and gave examples of the trajectory of an original image as it moved through the various editing steps, which included selection for publication, to become part of a picture story in *Life*.³⁵ Finally, the argument highlighted how the picture editor's work acts as the main connection between the photographer, the original photograph, and the final published story, a perspective necessary for the context of this thesis.

Similarly, *Pictures on a Page*, published in 1978 by former *Sunday Times* editor Harold Evans, addressed the daily roles of the picture editor and various tools that could assist an editor in creating a successful picture story.³⁶ Evans considered the effects of cropping, captioning, and graphics on photographs which he argued provided the context with which the written word can be interpreted. Later editions of Evans' book included additional editing recommendations for colour photographs and ways to enhance the quality of the still image, as newspaper and magazine editors were struggling with the rise in popularity of daily televised news broadcasts.³⁷ Evans' manual provided an editorial context directly relevant to the pictorial depiction of Apollo 11, the first moon mission to be televised worldwide.

This section represents a body of sources created by and for picture editors in the twentieth century who provided a wealth of technical information surrounding photojournalism and picture editing. The technical editing manuals surveyed accurately described the daily editorial practices and

³⁴ Wilson Hicks. *Words and Pictures: An Introduction to Photojournalism* (New York: Arno Press, 1973). First edition published in 1952.

³⁵ The variables considered for selecting a photograph for publication as explained in this text will be discussed in greater detail in the main analysis of this thesis.

³⁶ Harold Evans, *Pictures on a Page* (New York: Holt, Rinehart, and Winston, 1982). First edition published in 1978.

³⁷ Evans, *Pictures on a Page*, 1-18.

the effects of the editor's work on the picture story not present in the secondary sources consulted thus far.

To conclude, this literature survey demonstrated that the academic interest in the history of photojournalism and press photography has been focused on photographic reproduction in the illustrated news, the rise of the photojournalist, the cultural influences affecting news publications, and not the scope of the picture editor's contributions to pictorial journalism. However, primary technical editing manuals written by and for editors and photojournalists have described the roles of the picture editor and the various tools used to compile a picture story for publication, including selection practices. Furthermore, recent academic research methodologies incorporating analysis of original photographic prints, published layouts, and specific editorial tools such as captioning, and retouching, reveal substantial information about the picture editor whose role played a factor in the visual representation of an event. Thus, both the primary and secondary sources need to be considered together in order to analyze the selection of the original Apollo 11 images chosen for publication between July and December 1969. By examining the photographs selected for the published Apollo 11 stories this paper presents a continuation of recent academic research surrounding the history of photojournalism, the representation of news events in the illustrated press, and the development of a visual story.

3. METHODOLOGY

The research methodology undertaken for this thesis required continuous re-assessment. Researching and writing about editorial choices made by both NASA and editors choosing to reproduce the Apollo 11 photographs in the press was an interdisciplinary effort without much precedent. Thus, the project required primary research to focus on the comparative analysis of a collection of images in the Apollo 11 Image Library, a body of Apollo 11 press prints from the Black Star Collection, and the published accounts of the Apollo 11 mission using imagery.

The *Apollo 11 Online Image Library*, available online, contains all of the photographs and film frames taken on the lunar surface together with pictures from pre-flight training, equipment, hardware, and the astronauts' return to earth scanned from their original format.³⁸ This library is comprised of 2,124 photographs which depict the story of Apollo 11 visually from the perspective of NASA personnel. For the purpose of this analysis, I have categorized the images into six thematic sections, titled: reconnaissance orbiter images and landing site maps; Apollo 11 crew and equipment pre-flight; Saturn V rocket preparation and launch documentation; the Apollo 11 expedition; and finally, recovery and post-flight imagery.³⁹

In the process of organizing the available imagery, I was able to understand the different types of photographs captured by NASA and how each section represented a different part of the mission, thus presenting a coherent chronological visual library depicting the event in its entirety. By categorizing the entire body of NASA imagery available through the online library, a frame of analysis was created to compare and measure the selection and types of press prints present in the Black Star Collection as well as analyze the same characteristics of the photographs that appear in the illustrated press. By tracing the selection steps made from the original body of Apollo 11 photographs, the first step of the development of the pictorial story can be examined.

Since news publications received photographs from both the maker of the images (in this case, NASA) and external sources, such as photo agencies, examining a collection of press prints

³⁸ Eric M. Jones and Ken Glover, "Apollo 11 Image Library," *NASA Apollo Lunar Surface Journal* (October 2010), accessed February 12, 2011. <http://www.hq.nasa.gov/office/pao/History/alsj/a11/images11.html>

³⁹ The categories developed will be discussed in greater detail in the main analysis of this essay.

within a photo agency collection will illustrate which Apollo 11 photographs would have been available to prospective editors for publication. As a case study, a collection of Apollo 11 press photographs from the Black Star photograph agency collection at the Ryerson Gallery and Research Centre (RGRC) was chosen to examine and compare to the published images of Apollo 11.

The Black Star black and white photograph collection, which encompasses just under 300,000 images surrounding the events, conflicts, and personalities of the twentieth century, was assembled over a period of eighty years at the Black Star photo agency in New York City.⁴⁰ Throughout the second half of the twentieth century, as picture magazines were eclipsed by television and decreased in number, photography also shifted to colour, which eventually evolved into digital formats, and the black and white image collection Black Star operated became less and less commercially viable.⁴¹ However, the collection became increasingly valuable as a historical archive visually representing many significant events, artists, and photojournalists and was donated anonymously to the Ryerson University Gallery and Research Centre (RGRC) in 2005.⁴² The few colour photographs that do exist in the collection are in fact related to NASA's various space missions, but the bulk of the prints are black and white thus narrowing the scope of this paper's research. Since the majority of the published Apollo 11 photographs were reproduced in colour, a simple comparison between the Black Star Apollo 11 photographs and the corresponding published accounts could not be completed. However, the selection, type, and subject of the Apollo 11 photographs present within the Black Star Collection can offer an analysis of which photographs were available for Black Star's clientele, who were largely picture editors from national and international publications.

Out of the roughly 300,000 photographs in the Black Star Collection, over 1400 images are credited to the NASA. These images relate to various space missions (mostly Apollo, Mars, and Saturn missions), astronauts, rocket shuttles, technical equipment, lunar landscapes, and personalities

⁴⁰ Hendrik Neubauer, *Black Star: 60 Years of Photojournalism* (Köln: Könemann Verlagsgesellschaft, 1997) 3-7.

⁴¹ Benjamin Chapnick (current president of the Black Star Publishing Co. Inc.), phone interview with the author, April 4, 2011.

⁴² Valérie Boileau-Matteau (Exhibitions Coordinator, Ryerson Gallery and Research Centre), in discussion with author, January 2011.

related to the space initiative in the second half of the twentieth century. Since the 1400 NASA photographs are organized by subject, I examined each one of the prints to identify the 149 photographs that depicted the Apollo 11 mission. The 149 Apollo 11 photographs are comprised of 136 black and white press prints and thirteen chromogenic colour press prints all measuring 20.32 x 25.4 centimetres. Twenty-six percent of the prints include large stamped captions from NASA on the verso identifying the print number, the date, and describing the image depicted. Thus, these images can be confirmed as photographs released directly from NASA with NASA approved descriptions and titles. The remaining seventy-four percent of the photographs were identified as NASA prints based on the combination of hand-written inscriptions on the versos, visual identification founded on my knowledge of the contents of the Apollo 11 online image library, and the titles of the subject headings in the collections database that mirrored the original organization of the photographs in the agency's offices. The prints that did not have NASA stamps are confirmed duplicates or copies of original NASA prints that no longer exist in the collection.⁴³ Black Star agency stamps are also present on the majority of the versos which indicate the ownership of the photograph and pertinent credit information. Other notations on the prints, including crop lines, cutlines, page numbers, and order stamps indicated that these photographs were not seen as precious art objects, but were handled and reproduced in various print media.

This group of Apollo 11 photographs identified within the agency's collection represents a smaller selection made from the original group of 2,124 images available through NASA. This selection signifies the reduced number of Apollo 11 pictures available to Black Star's potential clients, the narrowing of the visual story, and the role the photo-agency played in contributing to the images representing the Apollo 11 event.

Nine picture magazines and illustrated newspapers were surveyed for Apollo 11 pictorial news coverage between July and December 1969. The publications were chosen based on

⁴³ Benjamin Chapnick (current president of the Black Star Publishing Co. Inc.) phone interview with the author, April 4, 2011. It is worth noting that Chapnick states that the Apollo 11 photographs were released by NASA and sent to Black Star which was only one agency on a large distribution list. Black Star would then cull this original selection sent to them and make black and white copies as necessary. This process will be discussed at a greater length in the second chapter of this thesis.

contemporaneous popularity as well as the range of uses of photography within the published layouts. *Life*, *Look* (est. 1937), *Saturday Evening Post* (est. 1821), and *Paris-Match*, were chosen to act as examples of weekly popular picture magazines that chronicled and presented news along with general interest, celebrity, and lifestyle features, often using detailed photographic layouts rather than text-heavy stories in their large format, glossy publications. *Newsweek* (est. 1933) and *Time* (est. 1923) were chosen as representatives of the dominant weekly news magazines of the 1960 which focused largely on reports of current events and used photography as an illustrative tool rather than the main communicative medium.⁴⁴ Additionally, *National Geographic* (est. 1888) was chosen as an example of a monthly magazine that focused on current events from the perspectives of geography, popular science, and history. Finally, to illustrate how the daily broadsheet newspapers dealt with the pictorial representation of this event in comparison to the magazines chosen, *The New York Times* (est. 1851), and *The Times* (London edition, est. 1785) were reviewed.⁴⁵ Both *The Times* and *Paris-Match* were also picked to represent the British and French journalistic coverage of a global news event that was largely characterized as an American achievement in history. These publications act as research samples that offer the opportunity to examine Apollo 11 photographs as they were disseminated contemporaneously in the international illustrated press.

These weekly, bi-weekly, and monthly magazines were surveyed from July, 1969 through December, 1969. This time frame allowed for the survey of any pre-Apollo 11 coverage, the event itself and any special issues or year-end stories published in December. Moreover, photographs of the upcoming Apollo 12 mission were published by December 12, 1969 in *Life*, indicating a shift in coverage and thus giving a clear end-date for Apollo 11 news.⁴⁶ Similarly, the daily newspapers were surveyed from July, 1969 through August, 1969. As the daily broadsheets tend to focus on recent current events, the Apollo 11 lunar landing is not represented comprehensively in the news past the end of August which accounts for the shorter survey period. For each publication, I noted the number

⁴⁴ Lebeck and Von Dewitz, *Kiosk*, 274-276.

⁴⁵ *The Times* is the correct title for the London edition of the newspaper. The London version is the original “Times” publication first circulated in 1785. See, Harold Evans, *Good Times, Bad Times* (New York: Antheneum, 1984). For the purpose of this argument, the American version will always be referred to as the *New York Times*.

⁴⁶ See, “Intrepid on a Sun-drenched Sea of Storms,” *Life* 67 no. 24, December 12, 1969, pp. 34-39.

of photographs, the colour of the published image, as well as the credit associated with the picture to identify the number of photographs that originated from NASA. The publication survey, through which I found 107 different images from NASA, allowed me to take into consideration, for the overall analysis, the common representation of the NASA imagery as well as the frequency of recurring images which highlight the perspective of how the story of Apollo 11 was told.

By analyzing the original photographs captured, a group of press photographs which originated from the same initial body of images, and their published surrogates, this methodology will allow one to understand and identify the selection of images that readers saw when reading about the Apollo 11 moon landing. With this information, the construction of published Apollo 11 images chosen to represent the event will reveal the perspective in which the story was told, and thus highlight how the role of photo-editor contributed to that point of view.

4. THE APOLLO 11 IMAGE LIBRARY: IMAGES OF THE EVENT

Twenty days after NASA astronaut Alan Shepard had completed the first United States manned space flight, President John F. Kennedy communicated a change in the country's space program to Congress. In a special State of the Union address on May 25, 1961, Kennedy said in part, "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the Earth."⁴⁷ The statement was followed by eight years of feverish space exploration research, experiments, and missions to outer space culminating in the Apollo 11 lunar mission that landed the first men on the moon on July 20, 1969. The photographic documentation of the Apollo 11 mission by NASA, the visual result of the twenty-four billion dollar investment by the American government, can be seen in the Apollo 11 Online Image Library, which includes photographs taken by NASA personnel in the activities before, during, and after the first manned lunar mission.⁴⁸

The Apollo 11 Online Image Library consists of 2,124 photographs depicting the Apollo 11 lunar landing mission, as well as events before and after the flight, where the photographer is known to be an astronaut or a NASA official. All of the digital images available on this website are scans from the original film or negatives (in both black and white and colour) processed by NASA at 4096 x 4096 pixels per image. Minor adjustments were made to the digital scans in order to reduce the discolouration of the lunar soil, adjust the colour of known scientific equipment, and to ensure important informational detail was not lost in the scanned images.⁴⁹ For all intents and purposes, this group of photographs can be considered one of the most comprehensive bodies of work released by NASA and visually represents the lunar landing mission from NASA's perspective. The Apollo 11 Online Image Library can also be considered as an example of the original body of images from which published news photographs of Apollo 11 were selected. From the 2,124 photographs that make up this body of work, I have created five categories in order to frame the available images.

⁴⁷ John F. Kennedy, "State of the Union Address," May 25, 1961 in *Footprints in the Dust: The Epic Voyages of Apollo, 1969-1975*, ed. Colin Burgess (Lincoln: University of Nebraska Press, 2010), xxxi.

⁴⁸ Eric M. Jones and Ken Glover, "Apollo 11 Image Library," *NASA Apollo Lunar Surface Journal* (October 2010), accessed February 12, 2011. <http://www.hq.nasa.gov/office/pao/History/alsj/a11/images11.html>.

⁴⁹ Ibid.

These image categories have evolved from the descriptions of the subjects, available from the captions that accompany each photograph. These include lunar reconnaissance orbiter views and landing site maps; images of the crew and equipment pre-flight; the Saturn V rocket preparation and launch documentation; Apollo 11 moon expedition photographs; and finally, pictures of the recovery of the astronauts and post-flight activities.

Sixty-six (three percent) of the photographs in the Apollo 11 image library are comprised of lunar reconnaissance orbiter camera views (LROC) and landing site maps. The LROC prints were captured by orbiting NASA satellites and cameras for the purpose of documenting and studying the moon's terrain. Additionally, the landing site maps depict a group of cartographic compositions utilizing satellite captures and map markings, to highlight and track various flight descents and landing sites along the moon's surface. The example pictured, is an adaptation of a satellite capture of the moon's surface with a geographical map superimposed on top (Figure 2). All of the visible craters and mountain ranges are labelled with their NASA appointed names. A selection on the map is outlined with a thick black rectangle and the location is indicated by the longitude and latitude coordinates along the vertical and horizontal axes. Within the black rectangle, five other areas are outlined with red squares and are numbered from left to right (farthest east to farthest west), II P-13, III P-11, II P-8, II P-6, and II P-2. The five outlined regions represent each one of the five possible Apollo 11 landing sites considered by NASA before the mission took place. The region labelled II P-6 along the Sea of Tranquility was the eventual landing site for the Apollo 11 lunar module. Without the readable contrasting map markings against the black and white picture, the titles, and accompanying legend keys, the lunar landscape would be an indistinguishable group of various shades and shapes. The additional information exemplifies the objectives of the photographs as tools composed to be easily studied and used for, among others, scientific purposes.

Astronauts and other NASA officials used these map-images to study the moon's terrain from an aerial perspective, as well as track geographical locations along the lunar surface that could

possibly impede the missions.⁵⁰ Moreover, the continuing documentation of the landing areas indicated a consistent attempt to monitor any changes made to the original site. Current maps and orbiter images have been used to compile information about the Apollo 11 mission travels post-flight; sites of interest along the same locations and extra vehicular lunar activity have been labelled and emphasized on moon views captured as recently as 2010. Thus, this category of NASA images represents how the photographs can be used as tools of reference for further research and documentation of the work completed by the institution’s officials. This category’s photographs highlighted a crucial point in the Apollo 11 narrative by detailing the scientific background and insight into the steps taken by NASA to determine landing sites and understand the landscape of the lunar surface through photographs and corresponding maps.

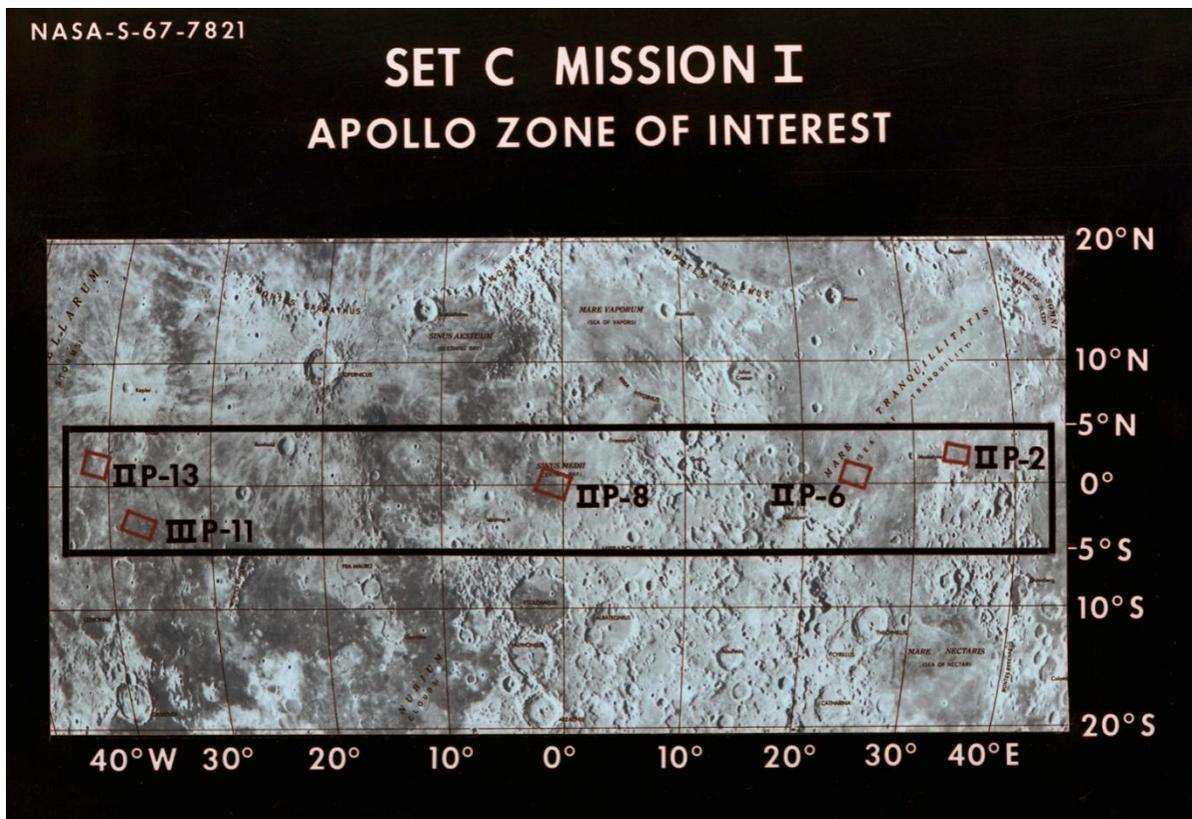


Figure 2. NASA Apollo 11 Image Library Print S-67-7821, *Apollo Zone of Interest Map*, 1967.

⁵⁰ Jones and Glover, “Apollo 11 Image Library,” The use of maps by NASA officials and astronauts is noted in the captions and descriptions of the maps-images in the Landing Site Maps/Images section of the image library.

The 446 pictures of the crew and equipment before the Apollo 11 moon flight make up twenty-one percent of the total photographs in the online library. The photographs in this category include images of astronaut training activities, equipment used in the mission, as well as depictions of press conferences, and posed crew portraits. The majority of the images in this category are snapshots of the astronauts training for their lunar mission activities. The black and white photograph taken in April, 1969 depicts Neil Armstrong as he completed a simulated training activity amid an imitation lunar surface environment while being watched by other NASA officials in the training center (Figure 3). Dressed in his complete spacesuit equipped with boots and oxygen tank, Armstrong can be seen in the far left corner as he used the lunar equipment conveyor. The conveyor cable is stretched along the image diagonally and moves a mock up moon rock box to the cabin of the model lunar module, *Eagle*, situated on the right side of the composition. Practicing the activities to be completed on the moon was one of NASA's challenging tasks. Many of the prelaunch activities were unique to the Apollo 11 mission: landing on the lunar surface, walking around in an unknown environment, and then leaving safely had never been done before.⁵¹ What would the astronauts do? How long could they stay? What would they bring back? And, would they bring home harmful lunar pathogens? Armstrong's training photograph is only one example of the larger body of snapshots in the pre-flight category documenting the background scientific research and exploration of these questions as NASA's three astronauts, Collins, Armstrong and Aldrin, trained fourteen hours a day, and six days a week for six months prior to the launch.⁵²

These black and white training photographs have a snapshot quality that document the astronauts' movements and actions throughout the preparation period are inherently photojournalistic as they relay information about the activities conducted, as opposed to the posed portraits or staged equipment scenes also present within this category, that simply act as illustrations rather than demonstrations. However, the portraits and still equipment scenes that were found alongside the

⁵¹ Brooks, Grimwood and Swenson, Jr., *Chariots for Apollo: A History of Manned Lunar Spacecraft*, 313.

⁵² Dan Parry, *Moon Shot: The Inside Story of Mankind's Greatest Adventure* (Chatham: Ebury Press, 2009), 157; For the purpose of this argument, the term *snapshot* is defined as a photograph taken quickly and informally capturing a candid scene before the lens.



Figure 3. NASA Apollo 11 Image Library Print S69-31099, *Astronaut Neil Armstrong Training*, April 15, 1969.



Figure 4. NASA Apollo 11 Image Library Prints (left to right) JSC2002E01692, S69-31743, S69-31742, *Official Portraits of Neil Armstrong, Edwin Aldrin, and Michael Collins*, May, 1969.

training snapshots, introduced viewers to the people participating in the mission, the equipment they would be using on the moon, and an example of how the mission would be completed before the images from the moon mission were seen (Figure 4). Considering Apollo 11 was the first manned lunar landing, the visual documentation of NASA's preparation through photography was a necessary step to illustrate who and what was involved in the lunar mission, as well as to prove to the rest of the scientific community, and America, that NASA was completing the task properly. In both cases, still imagery and candid photographs were utilized to be as convincing and demonstrative as possible in order to represent a compelling step in the Apollo 11 narrative, complete with heroic characters overcoming a seemingly insurmountable task.

The Saturn V rocket preparation, including the rocket construction, transport, and the mission launch, total 93 photographs (five percent), within the online library. In the first few months of 1969, the Saturn V launch vehicle preparation was under construction for the astronauts' flight into space. After the construction and ground testing of each stage, or section, of the rocket was completed, it was shipped to the Kennedy Space Center for assembly. Figure 5 depicts the Apollo 11 command and service module (the top half of the rocket) being attached to the spacecraft adapter within the interior of the vehicle assembly building at the Kennedy Space Center in Florida. The difficulty of the complex vehicle assembly process is highlighted in the picture's details; the bottom half displays each section of the rocket as only accessible by individual platforms that surround or retract from the large spherical body. The photograph, taken in colour, and captured from above, highlights the detail, magnitude, and size of the rocket as it was constructed. The colour format was considered the most up-to-date, technological format for capturing photographs in the 1960s so it was only fitting to utilize colour to capture the detail and characteristics of the most technologically advanced rocket responsible for sending the first man to the moon. Additionally, if photographed in black and white, some of the visually arresting details of the rocket would be less noticeable through the colour lost in a greyscale composition.

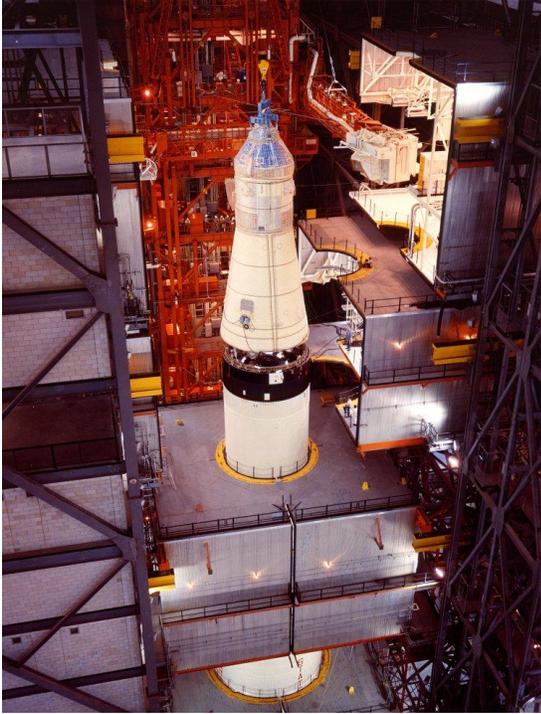


Figure 5. (top left) NASA Apollo 11 Image Library Print 69-HC-440, *Apollo 11 Command Service Module being fused together*, April 1969.

Figure 6. (top right) NASA Apollo 11 Image Library Print. KSC-69PC-238, *Aerial view of the Apollo 11 Saturn V Rollout*, May 20, 1969.



Figure 7. (bottom left) NASA Apollo 11 Image Library Print S69- 39525, *Saturn V Launch seconds after first stage ignition*, July 16, 1969.

Once all parts of the rocket were fused together, NASA stacked Saturn V on a Mobile Launcher Platform (MLP). The entire mobile platform was then moved from the vehicle assembly building to the launch pad using the crawler transporter. The aerial view of the Apollo 11 Saturn V rollout depicted the rocket attached to the mobile unit moving out of the vehicle assembly building on May 20, 1969 (Figure 6).⁵³ The transporter was able to keep the rocket level as it traveled the five kilometres from the vehicle assembly building to launch pad 39A. The aerial perspective revealed how the large scale, 110.6 meter rocket weighing 3,039,000 kilograms looked beside the space Center and its surrounding landscape.⁵⁴ At 09:32:00 (EST) on July 16, 1969, Saturn V launched Apollo 11 from the Kennedy Space Center for NASA's first manned lunar landing. Figure 7 reveals the moment a few seconds after the first stage ignition of the launch that shows a plume of smoke beneath the mobile unit. The colour depiction highlighted the fiery ignition below the rocket that propelled the vehicle upwards and away from the launch pad.

As these examples suggest, the photographs in the rocket category depict the various stages and sequence of the assembly, transport, and launch of Saturn V, representing the impressive feat of creating the vehicle responsible for safe transport of the Apollo 11 astronauts. The colour format and the aerial perspectives of the examples shown help to communicate the detail, scale and enormity of the rocket as well as assist in highlighting and documenting NASA's technological achievement in developing the lunar launch vehicle.

The most staggeringly populous section of the Online Image Library is the group of photographs depicting the actual Apollo 11 moon expedition. This category is comprised of 1,449 images and accounts for sixty-eight percent of the total collection within the online library. This large group of photographs captured by the mission's astronauts includes snapshots of the men in the shuttle during flight, their documented activities on the moon's surface, a number of Earth views, and lunar landscapes. In addition to the expedition photographs, images of the monitoring personnel at the NASA mission control center in Houston, Texas are also included in this category.

⁵³ Jones and Glover, "Apollo 11 Image Library," As noted in the caption description on image no KSC-69PC-238.

⁵⁴ Parry, *Moon Shot*, 22-23.

The majority of the expedition photographs (706 images) can be described as orbital photography, which were images taken by the astronauts while in lunar orbit depicting the Earth, the Moon, and the lunar module in flight (See Figure 8). Additionally, another 362 photographs make up images depicting the astronauts within their spacecraft, aerial moon crater views taken from the lunar module as it was moving, and the few frames that produced only a black surface. From the 1,443 photographs taken during the mission, 892 of the images were shot on black and white film and the majority of these exposures do not depict the activities on the lunar surface, but orbital views. This clearly indicates that colour was not used for most of the orbital photography captured excluding any images of the Earth, spacecraft interiors, or the lunar module in flight.



Figure 8. NASA Apollo 11 Image Library Prints AS11-43-6499 to AS11-43-6513. *Crater views captured from spacecraft in orbit.* July 20, 1969.

Because the black and white medium offers an easier perusal of lunar geographical characteristics such as surface density or moon craters, colour imagery was unnecessary for the majority of the orbital photography. In comparison, colour photographs offers realistic detail when depicting scenes of action, awe or contemporaneous technology such as spacecraft interiors or astronauts in motion. The contrast in the subjects and the colour chosen to represent them is easily observed through the organization and explanation within the image library. Within the online image library, the mission

photographs taken by the astronauts are organized by film magazine in order of capture. Thus, each frame number of the image corresponds to the sequence the photographs were taken. With this order in place, the activities, colour format, and flight path taken by the astronauts during the mission is clear visually because of the inherent narration this organization provides the viewer.⁵⁵

On July 20, 1969, the lunar module *Eagle* separated from the command module *Columbia*. Michael Collins stayed aboard *Columbia* to monitor Neil Armstrong and Edwin Aldrin's descent and lunar activities from above while within the lunar orbit.⁵⁶ At 10:39:00 (EST), Armstrong opened *Eagle's* hatch and began his descent onto the moon's surface. As Armstrong climbed down the nine-rung ladder, he activated the slow-scan television camera mounted against the side of the lunar module and transmitted the first moving images of Armstrong walking on the moon.⁵⁷

Shortly after, Armstrong photographed Aldrin as he descended from the lunar module (Figures 9-12). The four colour photographs taken of Aldrin with his back facing the camera and moving down the *Eagle's* ladder, offer a still photographic depiction in cinematic form if viewed sequentially as it is organized in the image library. In the first photograph, the viewer sees Aldrin as he jumps down to the top rung of the ladder and grips the handrail with both hands, his left leg bouncing back most likely because he was adjusting to his body's movement in gravity conditions on the moon. In the second photograph, Aldrin reaches the next to last rung and transfers his grip from the top rail to the outside rails that are on the ladder itself; with his left leg floating in the air and his body bent, Aldrin's body language reveals that his weight has shifted to the right and suggests further movement downwards. In the third image, Aldrin has reached the bottom rung of the ladder and is about to jump down onto the footpad as indicated by the large gap between Aldrin's two legs and feet. Finally, the fourth photograph shows Aldrin on the lunar surface with his knees bent after jumping down from the last rung on the ladder.

⁵⁵ Flight Planning Branch, Flight Crew Support Division, National Aeronautics Space Administration. "Apollo 11 Flight Plan," *Apollo 11 Lunar Surface Journal* (July 1969). See, the Apollo 11 Flight Plan for details of the mission activities by the hour.

⁵⁶ Brooks, Grimwood and Swenson, *Chariots for Apollo*, 342.

⁵⁷ Parry, *Moon Shot*, 231.



Figure 9. NASA Apollo 11 Image Library Print AS11-40-5866, *Aldrin descending from the Lunar Module, July 20, 1969.*



Figure 10. NASA Apollo 11 Image Library Print AS11-40-5867, *Aldrin descending from the Lunar Module, July 20, 1969.*



Figure 11. NASA Apollo 11 Image Library Print AS11-40-5868, *Aldrin descending from the Lunar Module, July 20, 1969.*

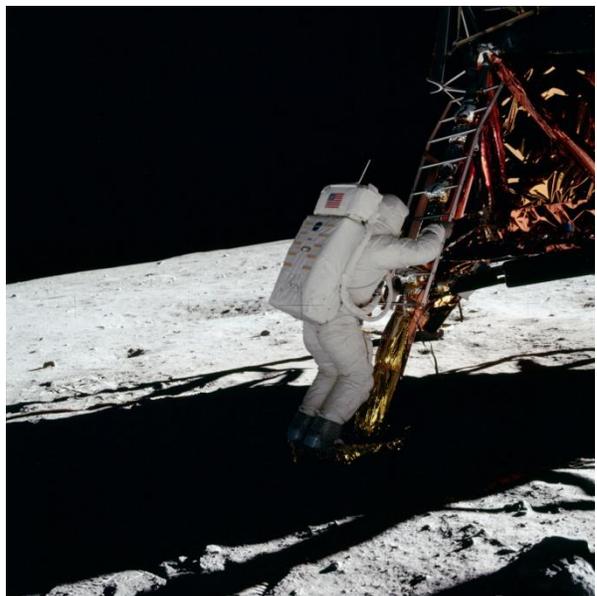


Figure 12. NASA Apollo 11 Image Library Print AS11-40-5869, *Aldrin descending from the Lunar Module, July 20, 1969.*

As Aldrin backed down the ladder, the shadow of the lunar module in the left corner of the image became larger and larger as the camera panned down with Aldrin's movement, highlighting the various levels of coloured contrast between the white space suits, the pitch black sky, the brass elements of the equipment, and the rocky, dusty surface of the moon. These characteristics can be most clearly observed in colour photographs and are further exemplified by viewing the photographs in their original captured order. The detail of the lunar environment captured by the astronauts on Ektachrome colour film produced images that were far superior to the blurry, black and white transmissions broadcast live on various televisions around the world. The fiduciary markers seen within the photograph (as well as all of the 70-mm photography captured on the moon's surface) allowed for specific points of reference within the composition and precise measurements of an area, emphasizing the photograph's main purpose as a scientific tool used to document the astronauts' activities.⁵⁸

Through the visual series inherently present within the colour mission photographs we can see the views the astronauts were interested in, or were trained to recognize, in sequential capture. While Aldrin's movements down the Eagle's ladder could possibly be communicated with one or two photographs, the pan of Armstrong's camera documenting the shadows and craters along the lunar surface (Figure 13) would be somewhat incomplete or out of context without all of the images compiled as a panoramic shot. The same detail in colour and orientation can be seen in the rest of the 339 still colour photographs captured by the astronauts after over two and half hours on the lunar surface. During this time, Aldrin and Armstrong documented the various experiments and activities as they completed them on the moon. The result is a chronological set of colour images that capture the detail and action of what the astronauts saw and their work on the moon. The photographs act as visual evidence aiming to be irrefutable proof that the astronauts successfully landed and completed their assigned tasks.

The entire group of Apollo 11 expedition photographs within my categorical analysis presents a detailed, inclusive representation of the Apollo 11 space flight. The images offer visual

⁵⁸ A fiduciary marker (also known as crosshairs) is the result of an object used within a camera that produces markings within the image for use as a point of reference or measurement.

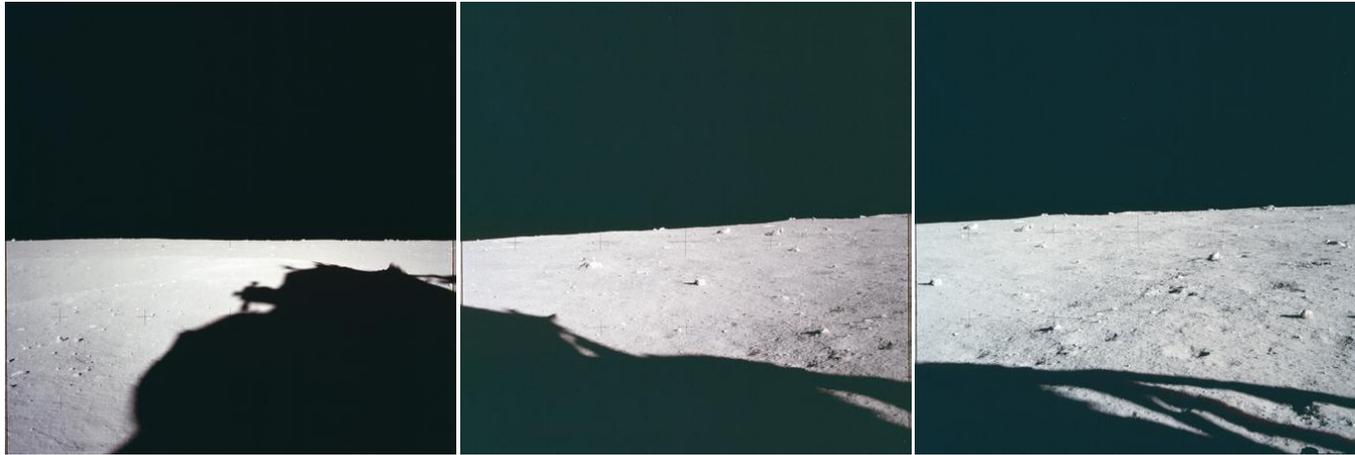


Figure 13. NASA Apollo 11 Image Library Prints AS11-40-5854, AS11-40-5855, AS11-40-5856, *Pan of the shadow of the Lunar Module, Eagle, produced by the glaring sun, July 20, 1969.*

evidence through documented activities on the moon, as well as various views of the spacecraft and the surrounding landscape, that the mission occurred and was successfully completed. More importantly, the body of Apollo 11 mission images as they exist in the online image library, offer more narrative information through sequential frame numbers, indicating which shots were intended to be panoramic, or in a series, and move the viewer through their activities on the moon and in-flight. Thus, the Apollo 11 image library offers a narrative specific to the context in which the photographs were produced and provides a chronological account of the astronauts' activities during the mission from beginning to end. It is this original context that may or may not have survived in the published accounts.

Finally, the images depicting the recovery and post-flight photographs, including the astronauts' quarantine quarters, images of moon rocks, and celebrations, make up only seventy (three percent) of the photographs in the library. The majority of the photographs present in this category highlight the recovery operations conducted by NASA and the remnants of the command module which shuttled the astronauts back to Earth. Just before dawn on July 24, 1969, the astronauts returned home aboard the command module, *Columbia*, and splashed into the Pacific Ocean, 2,660 kilometres east of Wake Island, Hawaii and only twenty-four kilometres away from the recovery ship, *U.S.S. Hornet*.

An aerial colour photograph depicting the Apollo 11 crew awaiting pick-up in a makeshift boat after splashdown illustrates the command module's floatation devices and the remnants of the drogue parachutes that deployed once the vehicle entered the earth's atmosphere (Figure 14).⁵⁹ In this snapshot, the biological isolation garments donned by the astronauts after exiting the command module can be seen. These suits were worn by the astronauts until they were safely housed within the mobile quarantine unit, where they would stay for twenty-one days, constructed to ensure the prevention of the astronauts spreading possible lunar surface pathogens.⁶⁰ The colour image's sharp focus shows the remnants of the small command module bobbing in the water, which is very

⁵⁹Brooks, Grimwood, and Swenson, *Chariots for Apollo*, 355.

⁶⁰Ibid, 357.



Figure 14. NASA Apollo 11 Image Library Print S69-21698, *Apollo 11 crew waiting for recovery after splashdown, July 24, 1969.*



Figure 15. NASA Apollo 11 Image Library Print S69-21783, *Apollo 11 Command Module being lifted out of ocean after crew recovery. July 24, 1969.*

different from the large Saturn V rocket to which the spaceship was originally attached, demonstrating that the vehicle had indeed traveled full circle. The Apollo 11 command module was later attached to a sea anchor and airlifted post-recovery onto the *U.S.S Hornet* for further research. Figure 15 depicts the command module as photographed straight ahead of the viewer before being hauled onto the recovery ship. This colour photograph reveals the charred detail along the side of the ship indicating that the vehicle was impacted in re-entry to the Earth's atmosphere.

These two photographs represent the activities surrounding the astronauts' successful return to Earth and the impending excitement of sharing their adventure with the rest of the world. In these examples, colour is utilized to provide complete and accurate depiction of the event. The detailed photographs of the astronauts leaving the mangled command module highlighted the end of the physical journey for the astronauts, and marked the beginning of reflection on the first manned mission. The content of the images revolving around the astronauts' recovery also emphasizes the measures taken to protect both the crew, and the people encountering them after their return from the moon.

The story of the Apollo 11 mission is depicted visually through all of the photographs present within the Apollo 11 image library, including images of various pre-and-post flight activities as well as the entire lunar expedition itself, and presents a comprehensive chronicle of the events surrounding the mission. The categorical analysis undertaken revealed that NASA employed various types and formats of photography to demonstrate the activities surrounding the Apollo 11 mission in order to produce the visual narrative that reflects the event in a convincing and comprehensive manner. Furthermore, contextual details were found throughout the organization of the Apollo 11 image library that can only be found in an original body of work organized by the photograph's maker.

Through the Apollo 11 image library, the original colour format of the photographs can be seen; black and white being predominantly used for maps or images for scientific research such as orbital geological photography and colour which was used primarily for depicting action, reality, technology, or images of the Earth. From this categorical analysis it can also be determined which

photographic subjects were more strongly represented, which in this case are the Apollo 11 expedition photographs, the pre-flight training, and the rocket launch, indicating the subjects NASA was most interested in documenting. The three most widely documented subjects are mostly comprised of snapshots capturing action and activity, also subjects that are commonly chosen for reproduction in pictorial journalism.⁶¹

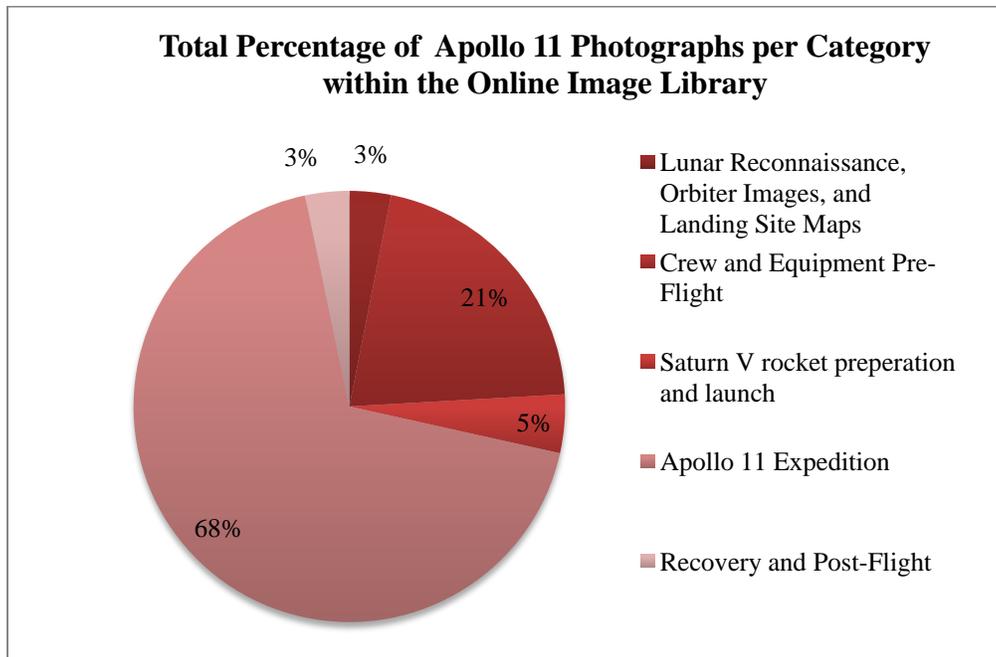
The former suggests that while the Apollo 11 image library offered a comprehensive photographic story including still images of equipment, cartographic maps, and moon rocks to anchor their validity as a scientific body, they were also concerned with portraying the event in a way the public would be able to understand more clearly, through pictures that effectively relay information by documenting action in colour. With the Apollo 11 image library categorical frame in place, the selection of the published Apollo 11 photographs, as well as those within the Black Star Collection, can be compared and measured to understand which subjects are chosen to represent the visual story of Apollo 11 and if they correspond to the types and number of photographs represented in the online image library.

⁶¹ Selection based on image characteristics will be discussed further in the next chapters.

Figure 16. Total Number of Apollo 11 Photographs per Category within the Online image Library

Apollo 11 Online Image Library Categories	Number of photographs captured
Lunar Reconnaissance Orbiter Images & Landing Site Maps	66
Crew and Equipment Pre-Flight	446
Saturn V rocket preparation and launch	93
Apollo 11 Expedition	1,449
Recovery and Post-Flight	70
Total	2,124

Figure 17. Total Percentage of Photographs per Category within the Online Image Library



5. THE BLACK STAR COLLECTION: A SELECTION CASE STUDY

The Black Star Collection at Ryerson University is comprised of close to 300,000 black and white press prints depicting the events, conflicts, and personalities of the twentieth century, created by more than 6,000 different image makers. Many of these photographers are recognized as important figures that worked with editors of weekly magazines to establish the norms of the published photo-essay and advance the evolution of photojournalism in the twentieth century.⁶²

The term *photo-agency* is a broad expression that can be associated with many different operations. In addition to Black Star, other familiar groups such as Magnum, Gamma, and the Associated Press could be appropriately referred to as photo-agencies. The role of the photo-agency has traditionally been to act as a middleman between the photographer, photojournalist, or the maker of the image and the publication that will publish the photograph. As such, photo-agencies occupy an important role in the production of an illustrated news story.

Few readers are aware of how a picture emerges from a complex network of photographers, publications and agents before it ends up on a printed page. The first link is the photographer who produces a set of images of an event, a subject, or following directions dictated by an editor of a publication or photo-agency. The photographs then obtain commercial value once they are published or reproduced. The photo-agency and its resources of agents, researchers, and editors, offers ways to arrange and present images to various publications in order to make a profit on the sale of the photograph to share with the photographer.⁶³ In turn, if an editor or a publication approaches the agency for a story they are publishing, the photo-agency will either assign a photographer on contract to capture the images, or will pull from their stock image collection which grows every time a photographer submits their work. Additionally, at Black Star, editors would often offer additional writing, cropping, and layout suggestions to accompany the photographs, or sometimes even offered a full picture story to their clientele.⁶⁴

⁶² Neubauer, Hendrik, *Black Star: 60 Years of Photojournalism*, 5.

⁶³ Howard Chapnick, *Truth Needs No Ally: Inside Photojournalism* (Columbia: University of Missouri Press, 1994), 52.

⁶⁴ *Ibid*, 116.

NASA released a selection of Apollo 11 mission photographs to its media distribution list in July, 1969. The Black Star photo agency, along with other media outlets on the distribution list, received the same selection of photographs from NASA.⁶⁵ Re-distribution rights were granted with this release and the various media outlets (agencies, periodicals, broadcasters, newspapers etc.) could then forward these images, first selected and edited by NASA, to the audiences of the world. It is important to note that there is no single photographer contributing to the pictorial depiction of Apollo 11, but rather an institution with its own ideologies and intentions for the photographs ingrained in both scientific discovery and American political advancement. Moreover, if the selection of images is to be discussed, it has to be understood that many of the media outlets held the same images selected by NASA who, for their own reasons, chose the images they did to represent the activities surrounding the event.⁶⁶ Was the same body of photographs used by different publications? And if so, does it affect the story that the different publications are conveying? While it is impossible to ascertain whether or not the current holdings within the Black Star Collection include every photograph sent to the agency by NASA, the selection present can identify the photographs Black Star culled, edited, and chose to make available to the clients that requested their picture services.

Currently, the Black Star Collection holds 149 photographs depicting the activities surrounding the Apollo 11 lunar mission. This group of 149 photographs, compared to the 2,124 available through NASA's online image library, revealed a secondary selection process that explained how the picture agency worked. In order to present a photograph or a group of photographs that tell a story, a selection must be made to identify the pictures that best tell the story or represent what the particular publication wants. The hectic picture editor:

...fights their way through mountains of photographic material and reacts from behind their desks to daily events which may prove to be almost overwhelming. Picture contracts have to be monitored. The deadline is always approaching. In addition, hundreds of photographers submit unsolicited work during the course of the year and wish to be taken seriously with their stories and ideas.⁶⁷

⁶⁵ Benjamin Chapnick (current president of the Black Star Publishing Co. Inc.), phone interview with the author, April 4, 2011.

⁶⁶ NASA also offers services in which you can request other photographs available through their picture archive.

⁶⁷ Neubauer, *Black Star: 60 Years of Photojournalism*, 20.

However, the editor only has so many hours in the day and the photo-agency, in order to be a successful agent in the process, must approach a publication's photo-editor with a concise group of images from which to make a selection. The vast bulk of photographs offered for publication required both the photo-editor and the agency-editor to have tools of classification to help his or her own judgements and be able to justify them to others.⁶⁸ Thus, the group of Apollo 11 images held in the Black Star Collection have been organized and analyzed by the five categorization types described in the previous chapter in order to identify and examine which photographs were chosen to represent the event by the Black Star photo-agency and why.

Similar to the Apollo 11 Online Image library, the lunar reconnaissance orbiter and landing site map category has the smallest number of photographs; only a single image accounts for a mere one percent of the total currently held in the group of Apollo 11 images in the Black Star Collection. The photograph that represents this category is a black and white print of one side of the spherical moon with a map and corresponding coordinates superimposed onto the image (Figure 18). The title of the map is located in the bottom right hand corner and reads, "Candidate Lunar Exploration Sites." Thirty-two sites are marked with numbers which match a legend on the right hand side of the image describing the location of the site noted. The photograph's verso has a large purple stamp along the entire page with a NASA heading, copyright notice, an image number assigned by NASA, as well as a short description reading, "Apollo Landing Sites -- A photographic illustration showing the location of the Apollo candidate lunar exploration sites on the lunar nearside."

The former example is a print that acts as a visual tool which could be used to explain to viewers the considerations NASA made when deciding where to land the Apollo 11 astronauts, and where on the moon they needed to go based on previous missions and observed geographical locations. Compared to the example from the image library, the Black Star map provided a larger, more comprehensive view of the moon's surface and the locations NASA was monitoring through other Apollo missions, rather than a summary of just the Apollo 11 landing sites. The legend, a long list of Latin-based geographical names, allowed for the easy identification of the sites numbered on

⁶⁸ Harold Evans, *Pictures on a Page*, 47.

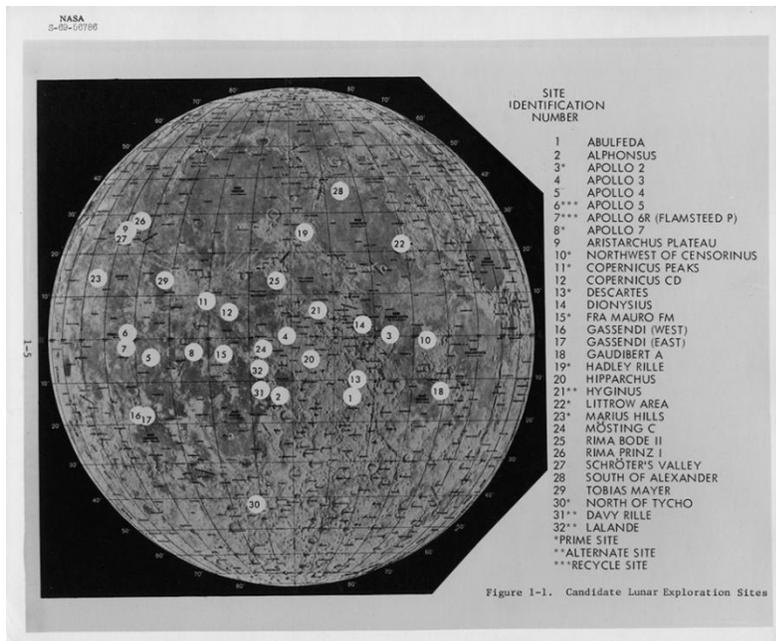


Figure 18. Black Star Print 144-528, *Candidate Lunar Exploration Sites*, November 1969 (recto).

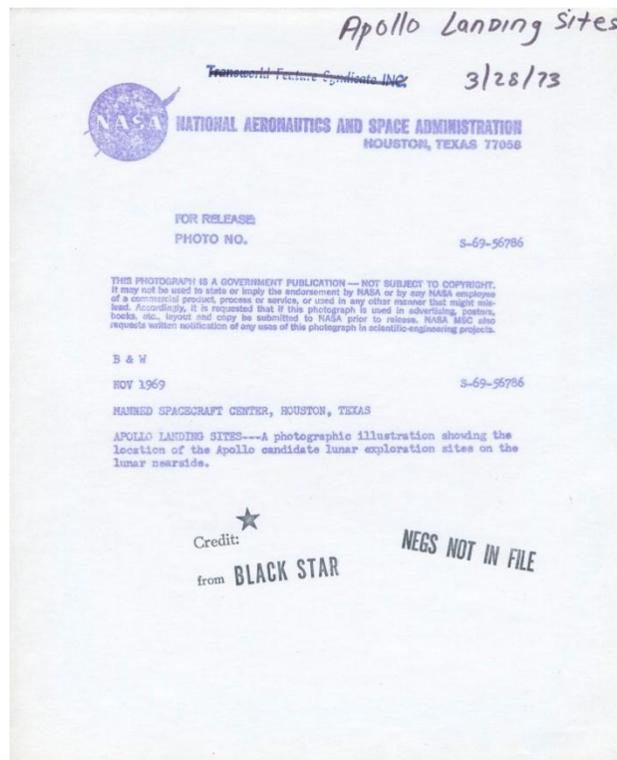


Figure 19. Black Star Print 144-528, *Candidate Lunar Exploration Sites*, November 1969 (verso).

the map and also introduced the somewhat complicated names in a readable fashion by pairing them with a visual cue. Since the NASA map in the Black Star Collection contained more information organized in an illustration that allows the viewer to see the location in relation to the larger lunar surface, it presented a comprehensive and legible choice for publications with which to educate readers. The fact that there is only one photograph representing the category of images that was much larger in the Apollo 11 image library indicates that while this image is a resourceful tool and provides context to the mission through the information in the picture, it is not as visually interesting as some of the other photographs in other categories.

Images depicting the crew and equipment before the expedition flight account for fifteen percent of the Apollo 11 images in the Black Star Collection compared to the twenty-one percent in the online image library. Only one print out of the sixteen in this group depicted the pre-flight equipment, whereas the other fifteen are snapshots that depicted the astronauts training or formally posing for portraits. The single image depicting the Apollo 11 equipment pre-flight is a black and white photograph of the lunar module, *Eagle*, attached to a hoist (Figures 20-21). Platforms surround the vehicle and NASA officials are standing on top observing, or working beside the vehicle which has large cables attached to it from the ceiling down past the bottom frame of the image. The verso of the image bears no inscription but has three Black Star stamps as well as a Transworld publication stamp.

It is easy to see the difference between the static black and white photograph of the lunar module and the candid photograph of the astronaut Michael Collins inside the command module, *Columbia*, during a training simulation (Figures 22-23). The colour photograph is a horizontally shot close-up of Collins studying the flight plan. He is pictured suited up and surrounded by the many electrical components inside the vehicle. The composition revealed the cramped spaces the astronauts had to work within, but also depicts how calm Collins seems while preparing for the flight; his body

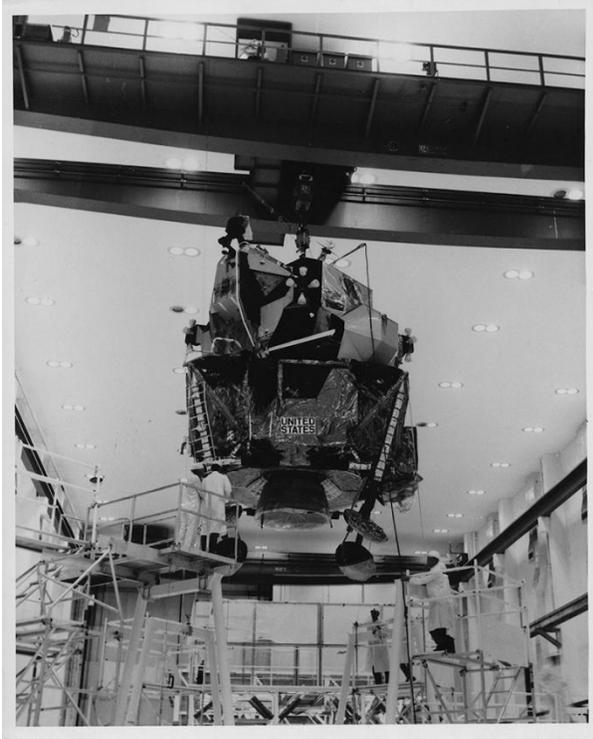


Figure 20. Black Star Print 144-1487, Lunar Module Unit on Hoist. (recto).

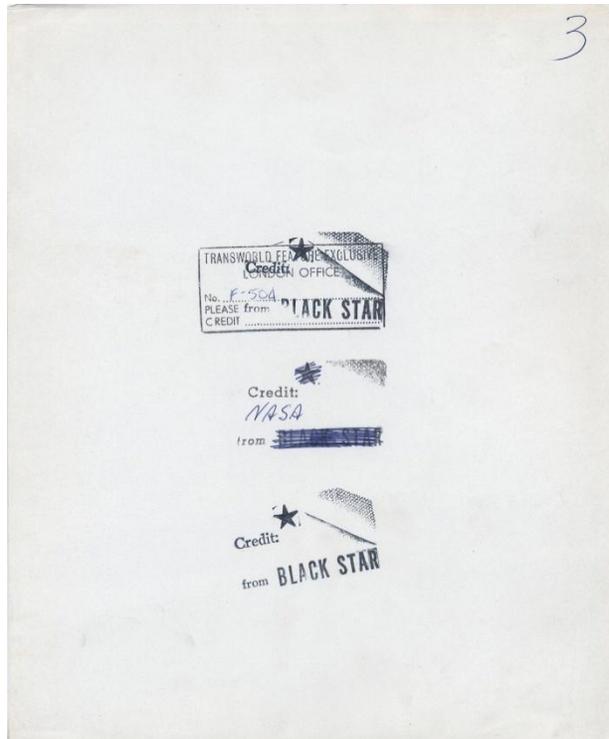


Figure 21. Black Star Print 144-1487, Lunar Module Unit on Hoist. (verso).



Figure 22. Black Star Print 144-595, Astronaut Michael Collins in simulation training, June 16, 1969 (recto).

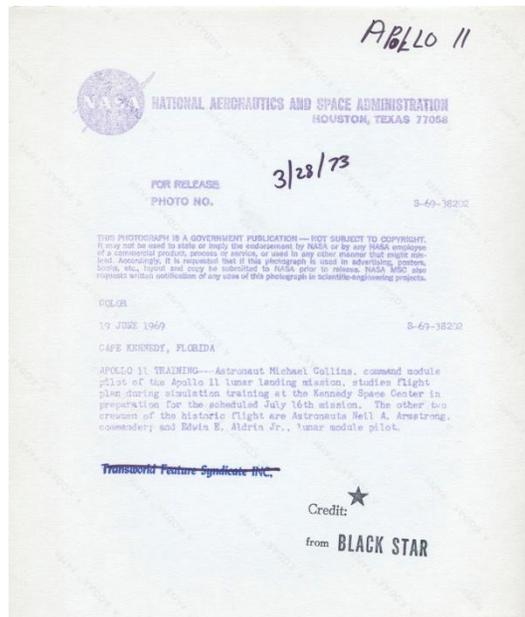


Figure 23. Black Star Print 144-595, Astronaut Michael Collins in simulation training, June 16, 1969 (verso).

reclined halfway while he held the flight plan in his outstretched hands with a relaxed look on his face. The print verso bears the large purple NASA stamp with its corresponding date and description:

Apollo 11 Training--- Astronaut Michael Collins command module pilot of the Apollo 11 lunar landing mission, studies flight plan during simulation training at the Kennedy Space Centre in preparation for the scheduled July 16th mission. The other two crewmen of the historic flight are Astronauts Neil A. Armstrong, commander; and Edwin E. Aldrin Jr., lunar module pilot.

The fact that the Black Star Collection contains more prints depicting the astronauts and their preparation activities than shots depicting the immobile equipment pre-flight suggests that the publication occurrence of the former was higher. On the topic of judging news photographs, Vitray, Mills Jr. and Ellard in their technical manual *Pictorial Journalism* suggested that a third of an image's content value is judged on the importance of the figures or personalities pictured.⁶⁹ Thus, the pictures that depicted the astronauts training - the important figures surrounding the event - may have sold better to news publications and magazines. Compared to the online image library (which held six percent more photographs), the smaller percentage of images represented in the pre-flight category within the Black Star Collection indicates that the topic was not as important to the photo agency as it may have been to NASA. For NASA, documents of the astronauts' pre-flight training, photographs of the equipment, and press conferences, were appropriate records of the work that had been completed. For Black Star, these sixteen images most likely represented the photographs that articulated the Apollo 11 activities in the most concise and practical way to readers - through portraits and candid snapshots that showed what the astronauts were practicing.

The Saturn V rocket preparation and launch from the Kennedy Space Center is a category of images that represented fifteen percent of the Apollo 11 photographs found within the Black Star Collection. Compared to NASA's Apollo 11 image library, of which the same category was represented by merely five percent of the photographs, the Black Star Collection only contains shots of the actual ignition and shuttle launch with spectators in view rather than the rocket preparation and set-up that is strongly represented in the online image library. The action of the shuttle launch can

⁶⁹ Laura Vitray, John Mills Jr., and Roscoe Ellard. *Pictorial Journalism* (New York: Arno Press, 1973), 30.

be clearly seen through the fish eye lens that captures the split second the rocket passed by the camera attached to one of the arms of the launch pad mobile unit (Figure 24). The rocket sits in the exact middle of the composition, while the curvilinear lens has distorted the landscape, ultimately highlighting and mimicking the cylindrical shape of the launch vehicle itself. The angle of the image and the smoke pluming from the bottom of the launch pad seems to act as the force pushing the rocket upwards, accentuating the motion conveyed.

In analyzing the value or interest of a photograph, action through motion represents a quality most editors are interested in as it can create a composition with dynamic visual appeal.⁷⁰ In comparison to the static images of the Saturn V rocket being assembled and transported, the novel liftoff shot represents the rocket's dramatic thrust spaceward, and symbolizes the beginning of a mission that has never before been undertaken. The technical images in the online image library that highlighted the size, details, and complexity of the rocket launch are not represented in the Black Star Collection as they did not represent the action or relate to what spectators saw when Saturn V was launched. Thus, the technical or scientific photographs may have been of less interest to photo editors who were concerned with using the most exciting photographs to represent an event.

The largest category within the Black Star Collection is the Apollo 11 expedition photographs. Making up thirty-seven percent of the Apollo 11 imagery, the Black Star Collection holds thirty-two images depicting the astronauts' activities during the moon landing mission.⁷¹ Two photographs depict the lunar module in orbit; eight photographs depict the astronauts either in the shuttle or on the surface of the moon; three photographs portray the mission control room; thirteen photographs describe the landscape of the lunar surface; and finally, six photographs represent the views of the Earth as seen by the astronauts in flight.

Figure 26 depicts the hundreds of boot imprints left by the astronauts in the surface of the moon. The dark shadow of the lunar module, *Eagle*, cuts diagonally across the centre of the image and shrouds the right side of the photograph in black. The sharp contrast between the grey lunar

⁷⁰ Vitray, Mills Jr. and Ellard, *Pictorial Journalism*, 37-39.

⁷¹ This number refers to the number of different images not prints. There are a total of fifty-nine prints in the Black Star Collection depicting the Apollo 11 expedition with thirteen images being duplicated at least once and up to five times.



Figure 26. Black Star Print 143-1037, *Shadow of the Lunar Module, Eagle, on the lunar surface*, July 20, 1969 (recto).

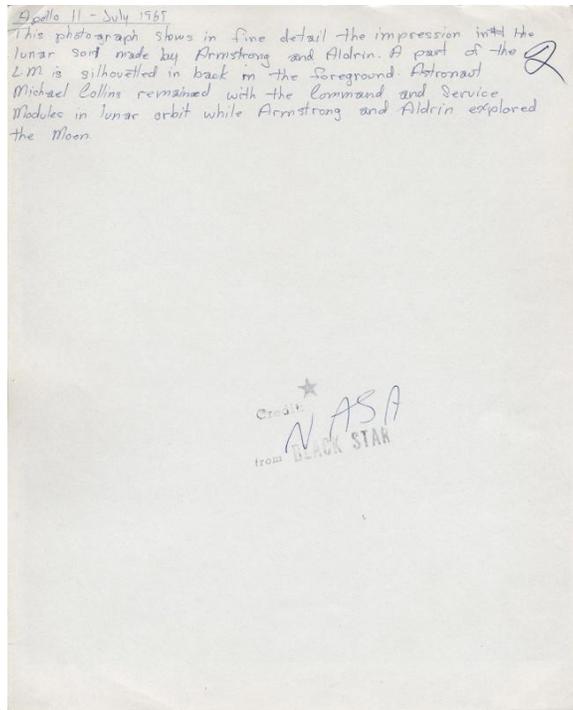


Figure 27. Black Star Print 143-1037, *Shadow of the Lunar Module, Eagle, on the lunar surface*, July 20, 1969 (verso).

surface and the black shadow highlights the harsh light present on the moon's surface as well as the details of the footprints. In this case, the photograph does not include the astronauts in the composition, resulting in a strong visual device that allows the viewer to sense their presence through their absence. The footprints symbolize that someone has been there, on the moon, for the first time, without any specific information dictating who or what created them. The shadow implies that something is there, blocking the light, but the viewer is unsure of what it is and is left with an aroused curiosity about this strange and fascinating new environment.

Harold Evans suggested that a photograph that does not have immediate drama, but whose composition is less literal, is worth considering for selection.⁷² The larger number of images representing the astronauts and the lunar surface in the Black Star Collection indicates that these subjects have been selected for the information and action they do convey, but also for their evocative nature. The photographs of the lunar surface may not have produced all of the visual information necessary to educate the viewers about everything the astronauts saw, but did offer snippets of the landscape adequately catching the viewers' attention and keeping them interested about the subject.

The photographs that illustrated the astronaut's return to Earth, recovery, and quarantine, made up the second largest category within the Apollo 11 imagery held in the Black Star Collection, accounting for thirty-two percent of the total. The majority in this group depict the astronauts inside the mobile quarantine unit after their recovery from the Pacific Ocean, rather than the equipment recovery, or moon rock samples that are present in NASA's image library. The photographs are predominantly candid snapshots of the astronauts interacting with their wives or being interviewed by the American President, Richard Nixon.

Figure 28 is a black and white candid snapshot depicting the astronauts greeting their wives through the window of the mobile quarantine unit after their return to Earth and subsequent recovery from the ocean. The three men, Armstrong, Aldrin, and Collins (from left to right) are huddled together in the tiny windowsill grinning at the three women that stand before them with leis around

⁷² Harold Evans, *Pictures on a Page*, 58.

their necks and their backs to the viewer. The verso has a long, handwritten inscription indicating how long the men will be in quarantine, the names of their wives, and when they will be released. Since the majority of the images within this group depict the astronauts and their activities in quarantine, the holdings suggest that the arrival of the astronauts back to Earth, the reunions with their wives, and the stories they have to tell are more visually interesting and humanizing, as they represented the emotions of victory and reunion; a photograph that reflects the feelings, responses and emotions of the people in the frame is one that will flourish on the printed page.⁷³ Moreover, the photographs of the astronauts with the American President bring a form of authenticity and importance to the subject since only the most important of events are visited by the highest ranked political figure in the United States. The Apollo 11 image library's recovery photographs only make up three percent of the total photographs, indicating a staggering twenty-nine percent difference in categorical representation when compared to the Black Star Collection of Apollo 11 images.

It should be noted that there are two more types of prints relating to Apollo 11 found within the Black Star Collection outside of the five categories already established. The first is seven drawings reproduced on resin-coated paper depicting astronauts, their equipment, and depictions of future moon colonies. These images are credited to NASA, World Book Science Service, as well as Grumman Aircraft Engineering Corporation.⁷⁴ Examples of drawings or diagrams were found throughout the publication survey, but were never identified or credited as Black Star or NASA and thus have been omitted from this analysis. Whether or not these types of drawings were used before or after photographs were available to illustrate space evolution, a complete evaluation of how hand-drawn depictions of the moon contributed to the visual memory of the Apollo 11 lunar mission is beyond the scope of this project.

The second type of photograph found were the images taken of television sets broadcasting the Apollo 11 moon landing feed. While only two images of this type were identified within the Black Star Collection, photographs of televisions depicting the Apollo 11 press do in fact appear in published layouts. The television photographs represent a way of understanding how

⁷³ Harold Evans, *Pictures on a Page*, 49.

⁷⁴ As seen from stamps on the image versos.



Figure 28. Black Star Print 188-123, *Apollo 11 crew greeting their wives while in the mobile quarantine unit after splashdown and recovery, July 24, 1969 (recto).*

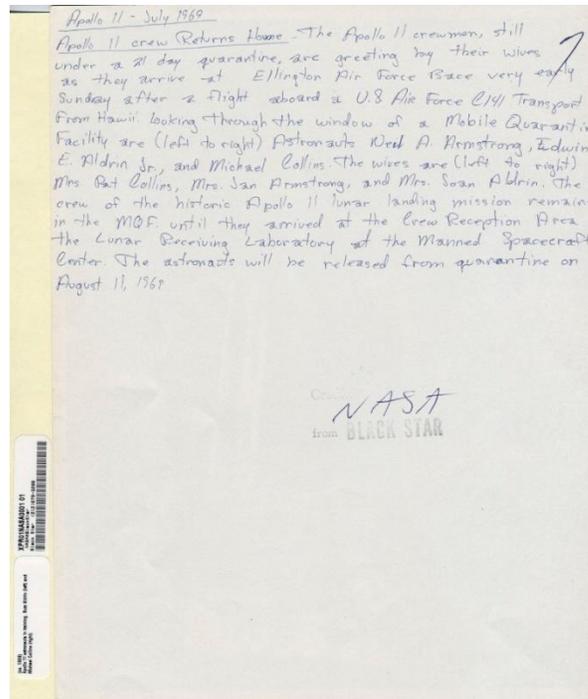


Figure 29. Black Star Print 188-123, *Apollo 11 crew greeting their wives while in the mobile quarantine unit after splashdown and recovery, July 24, 1969 (verso).*

photography and television both contributed to the visual representation of this event. The television photographs acted as only the still images of the lunar mission available for publication and dissemination before the astronauts returned from space. Moreover, the fact that these two types of photographs are present within the Black Star Collection and not the Apollo 11 image library means that NASA did not specifically issue these types of imagery, but that they were most likely used by Black Star's clients and contributed to the event's visual story in a way the NASA photographs could not.

It should also be noted that the majority of the Apollo 11 photographs held within the Black Star Collection are black and white. Only thirteen prints out of 149 related to the mission are in colour. However, as the publication survey will reveal, the majority of the published photographs are in colour, not black and white. The presence of black and white photographs in the collection indicates that Black Star's clientele either requested the pictures in black and white, or that they were copies made from the colour prints. Since colour and black and white photographs were available through the NASA archive, Black Star's could provide both versions to their clientele for selection.

The categorical analysis of the Apollo 11 photographs present within the Black Star Collection reveals a selection of pictures available to Black Star's clientele - a selection narrowed down from the original 2,124 photographs found in the Apollo 11 image library. Figure 31 demonstrates that the Black Star Apollo 11 categories highlight a balanced selection of images with the pre-flight, expedition, and recovery photographs, each making up approximately one third of the total prints available to Black Star's clients.⁷⁵ With a more equal number of images representing the events, Black Star was able to offer a selection of photographs depicting every step throughout the narrative of Apollo 11, including the scientific background and preparation activities, a necessary service to offer as a picture agency.

However, one third of the photographs that make up the pre-flight activities include the smaller categories depicting the landing site images, as well as the Saturn V preparation and launch,

⁷⁵ In this case, the Apollo 11 photographs in the Black Star Collection that depicts the pre-flight activity also include both the LROC and landing site map category as well as the Saturn V rocket and preparation launch category. The three categories together which all happened before the Apollo 11 flight comprise one third of the total photographs.

making up the fewest photographs per category. The lack of Apollo 11 photographs representing technical maps, training activities, and moon samples in the Black Star Collection falls in line with common editorial news photo-selection criteria. The former did not depict drama, action, victory, or success as the images of the recovery and the expedition did which are represented by almost seventy percent of the entire body of Apollo 11 photographs. Thus, the majority of the images selected for inclusion in the Black Star Collection are snapshots and candid photographs depicting the astronauts, their work, and the successive return back to Earth. The categories containing photographs of expedition and recovery images therefore illustrate the perspective from which Apollo 11 is being told to the people who were purchasing pictures from Black Star, a story that emphasized the heroic actions of the NASA astronauts and the work they completed on the moon.

Whether or not the highest numbered categories represent the most frequently reproduced images can only be determined by comparing these statistics with the published layouts. However, by understanding how the story's perspective can change based on the selection of photographs available highlights the role of the agency-photo-editor as one of the mediators between the original images found in the Apollo 11 image library and the published Apollo 11 visual story.

Figure 30. Total Number of Apollo 11 Photographs per Category within the Black Star Collection

Apollo 11 Categories in the Black Star Collection	Number of Images Captured	Number of prints (including duplicates)
Lunar Reconnaissance Orbiter Images & Landing Site Maps	1	1
Crew and Equipment Pre-Flight	13	16
Saturn V rocket preparation and launch	13	18
Apollo 11 Expedition	32	55
Recovery and Post-Flight	27	59
Total	86	149

Figure 31. Total Percentage of Apollo 11 Photographs per Category within the Black Star Collection

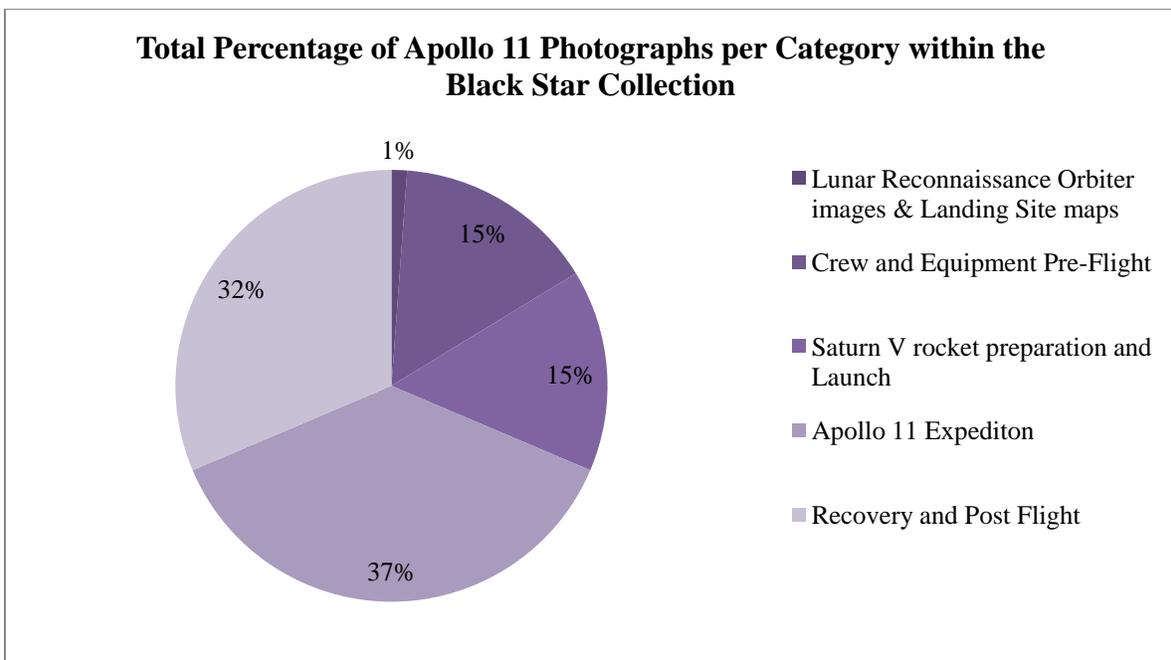
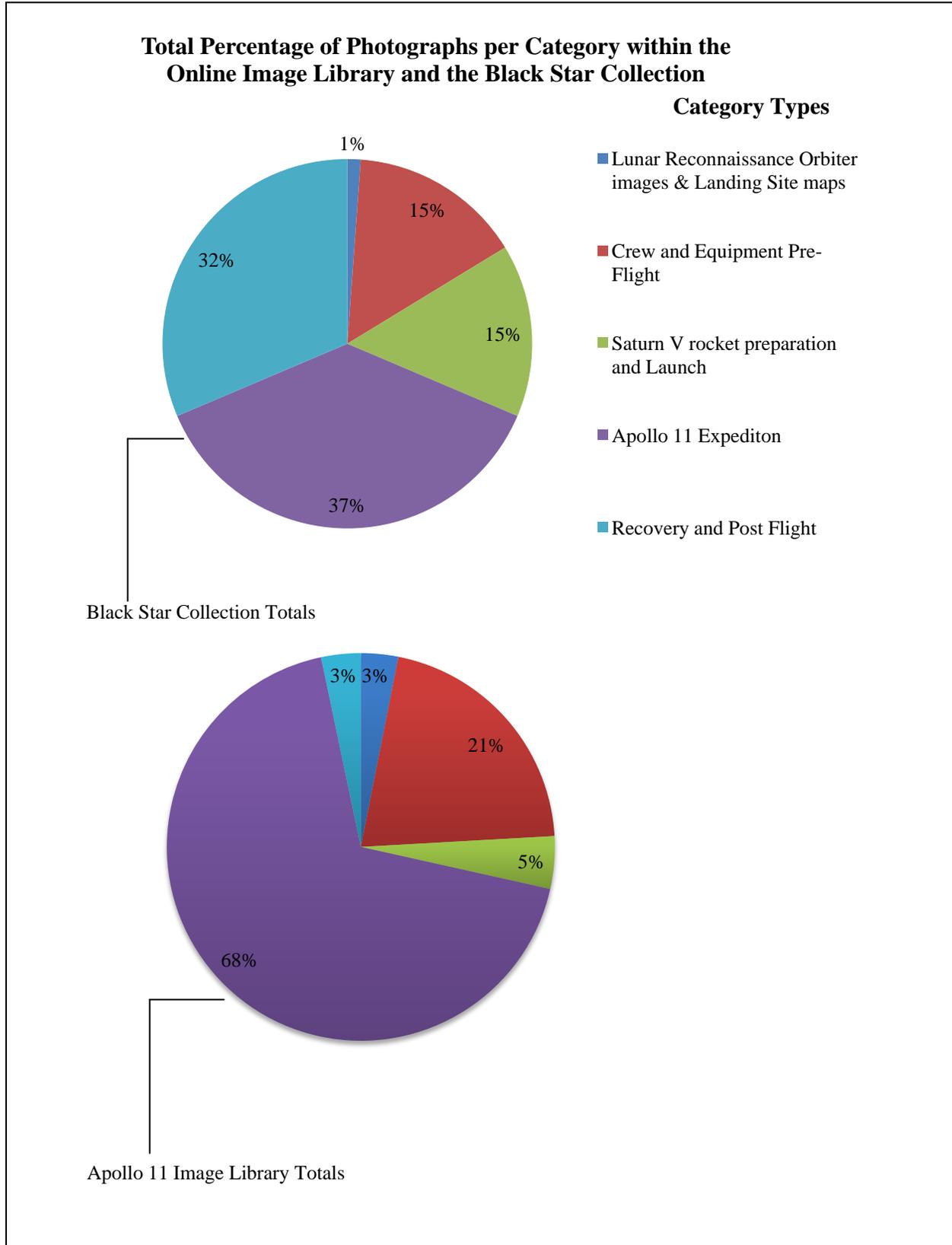


Figure 32. Total Percentage of Apollo 11 Photographs per Category within the Online Image Library and the Black Star Collection



6. THE PUBLISHED PICTURE: APOLLO 11 IN THE ILLUSTRATED PRESS

The efforts of the writer, researcher, editor, photographer, and photo-agency converge when the picture editor performs the crucial act of selecting the photograph to accompany a published story.⁷⁶ The picture chosen represents the visual perspective from which the story is to be presented. The photo-editor's preferences and judgements, combined with the publication's policies, contribute to the way he or she interprets photographs as tools to represent an event in the most successful way. Measuring a picture's success depends on what the publication defines as successful; the majority of editors would conclude that success of a publication's printed page is calculated alongside its popular readership.⁷⁷ Thus, the photo-editor must take into consideration the news and perspectives of a story that would interest its viewing audience the most. Based on the publication survey completed, I found seventy-four illustrated issues containing photographs related to the Apollo 11 mission. No NASA photographs were found in either the *Saturday Evening Post* or *Look* magazine. A total of 283 published NASA photographs were found in the publications surveyed.⁷⁸ From the 283 photographs forty-four percent of the photographs are comprised of only sixteen different pictures.

Only six published photographs were found that fall within the LROC and landing site map category which account for a mere two percent of the total published photographs identified in the publication survey. The landing site maps are predominantly utilized in the published layouts as tools to highlight a point that can't be emphasized in a snapshot such as aerial views of geographical sites, or two locations on a large area far away from one another. The single landing site print present in the Black Star Collection was one of the six photographs published in the LROC and landing site map category (Figure 33). Printed on July 22, 1969 in *The Times* newspaper, the black and white moon map is severely cropped and retouched compared to the original (Figure 18), which only shows a small portion of the moon's side without any white identification markers.

⁷⁶ Wilson Hicks, *Words and Pictures*, 48.

⁷⁷ Ibid.

⁷⁸ NASA photographs were noted by their NASA credit or by visual identification from the online image library. The total number of photographs here includes duplicates.



President Nixon (left) speaking direct from his office in the White House to the astronauts as they walked on the surface of the moon, and (right) Neil Armstrong reads the inscription on the moon plaque.

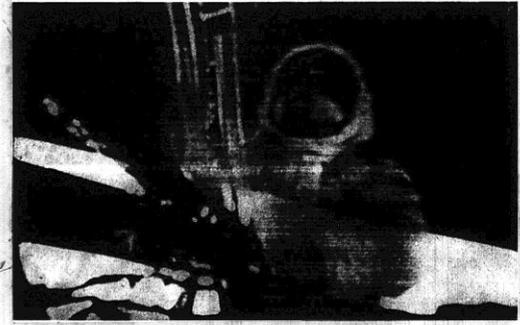
Seismic recorder already sending messages to earth Scientists await lunar rock samples

From PEARCE WRIGHT—
Houston, July 21
There is mounting excitement among the team of geologists and geophysicists at the receiving laboratory here, where the lunar rocks will be examined first under special quarantine conditions.
Though Armstrong and Aldrin appear not to have gathered quite as much material as had been hoped, scientists who have joined Nasa from universities to examine the precious cargo are delighted.
The success of the landing of Eagle in the Sea of Tranquility is being judged in two ways: Nasa officials are overjoyed because it proved their method for reaching the moon from lunar orbit. It was for this purpose that \$10,000,000 has been spent over eight years to prove that man could travel in space.
Dr. Thomas F. van der Graaf, Nasa spokesman at the station since after launch. He repeated several times that many difficult things had been done for the crew of Apollo 11.
The moon journey was not planned as a major scientific mission. It will come later when



the first of nine journeys to the moon, another take place in November. Apollo 12 will be launched then in the month of the Apollo application program. Nevertheless, any finished information acquired by man exploring the lunar surface has tremendous fascination for the scientists.
Before the Apollo 11 crew returns to earth, investigators will have completed the analysis of a mass of experimental data already gathered from the voyage. Armstrong and Aldrin left behind them two instruments for immediate use for the scientists back at Nasa and at advanced university laboratories.
One instrument, a seismic recorder, has been sending a steady stream of data back since the early hours this morning. Its purpose is to measure the magnitude of moonquakes, caused by subsurface activity of the moon. Within minutes of the instrument coming into operation it was transmitting radio waves back to earth which carried the seismic signature of the lunar sample examined by the two astronauts.
The second device standing on the moon is a replica composed of special crystals. By firing laser beams at it, scientists on earth can obtain measurements of the movements of the moon in its orbit around the earth.
Detection of a gradual expansion of the moon away from earth, measured in millimeters a year, could contribute information to theories on the expanding universe. Geologists are most excited by the fine descriptions given of the lunar samples examined by the two astronauts.
The first rocks were described as basaltic, which is a mineral form

for a dark-colored mass found in various types of rock, but particularly those of a volcanic origin. Armstrong also described one lunar sample as plagioclase, which denotes a silicate light-colored feldspar in a matrix of fine mineral. Catalogue are being used to deduce too much from the descriptions until they have had a chance to examine the ravens of geological specimens in their laboratory.
The astronauts may have collected 200 to 400 of material. This is made up of the ordinary sample scooped up soon after Armstrong left the lunar module, selected rocks gathered in one of the two rock boxes taken on the journey, and a few loose samples taken from a few inches beneath the surface.
Perhaps the most interesting aspect was the comments by the two men made about working in a gravitational field of one-sixth of that on earth. They had been told that it would be difficult to work under that gravity, but they said they would adapt to the environment very quickly.



This wait picture of Armstrong was taken as he left the Eagle descent ladder and stepped on to the moon.

Looking ahead to Apollo 20

Man will gradually extend his stay on the moon until, by Apollo 20, he will be spending some three full earth days on the surface. Apollo 12, the next lunar landing mission, will involve a total of five hours' surface activity in two hours.
If anything goes wrong with Apollo 11, however, the next flight will be Apollo 13, scheduled for a date in September. But if all goes well, Apollo 12 will stay on the moon for 28 hours with a full seven-hour sleep period instead of the two broken rest times. The crew—Richard F. Charles Conrad and Alan Bean (ALSEP)—will put out a much more extensive array of scientific equipment than did Apollo 11.
As the mission progresses to the target target of Apollo 12 by 1971, Nasa will be able to develop on the basis of our nation of future lunar exploration" according to Mr. Lee Scherer, Director of the Apollo Lunar Exploration Office.
"We will be able to begin framing answers to the questions where did the moon come from? how did it get to look down, and how has it interacted with the earth?"

As the series goes into its stride next year, Nasa hopes to have a permanent station or Apollo 13 (ALSEP) and conducting detailed field geology investigations.
Instruments for ALSEP will provide far greater and active lunar seismic experiments, lunar transit magnetometers, radiation and low energy solar wind experiment, magnetometer, ion detectors and total cosmic ionization gauges.
As the mission progresses to the target target of Apollo 12 by 1971, Nasa will be able to develop on the basis of our nation of future lunar exploration" according to Mr. Lee Scherer, Director of the Apollo Lunar Exploration Office.
"We will be able to begin framing answers to the questions where did the moon come from? how did it get to look down, and how has it interacted with the earth?"

Moonwords

Continued from Page 1

of out of focus. I'd say we were approaching down to probably about eight inches to a foot behind the position where he is pulling out the cable.
ALDRIN: Okay, let's have the temperature of the cable from you.
CAPCOM: Temperature of the cable is zero.
ALDRIN: I'm a little cool. I think I'll (garbled). We'll probably need a little (garbled) back location television camera. Neil, look at the minus (garbled). The direction you travel at from left to right. Correction, right to left.
ARMSTRONG: Right.
ALDRIN: This one over here underneath the ascent engine. It has got a broken from tip (garbled).
ARMSTRONG: Have I got plenty of cable?
ALDRIN: You've got plenty, Okay.
ARMSTRONG: Right.
ALDRIN: Something interesting in the bottom of this little crater here. It may be.
ALDRIN: Keep going. We've got a lot more.
ARMSTRONG: Okay.
ALDRIN: Being a little harder to pull out here. Turn around to your right. I think it would be better.
ALDRIN: I don't want to go into the sun if I can avoid it.
ALDRIN: That's right, Neil.
ARMSTRONG: I just (garbled).
CAPCOM: Neil, this is Houston. The field crew is Okay. We'd like you to aim it a little more to the right. Over.
ARMSTRONG: Okay.
ALDRIN: Okay, that's all the cable we have. We're going out. I'll start working on CAPCOM: A little bit too much to the right. Can you bring it back about four or five degrees? Okay, that looks good, Neil.
ARMSTRONG: Okay now. Do you think I should be farther away?
ALDRIN: Can't get too much farther, either way.
ARMSTRONG: Let's say it like that for a while. I'll get a couple of panoramas with it too.
CAPCOM: Roger. You look as far as distance goes, Neil, and we'll let you up again when you finish the panorama. Now you're going too fast on the panoramas. You're going to have to stop for a while. I haven't stopped. I haven't set it down yet. That's the first picture in the panorama right there.
CAPCOM: Roger.
ARMSTRONG: It's taken about (garbled) north-south-east. Tell me if you have got a picture, Houston.
CAPCOM: Okay. I'm going to move it.
CAPCOM: Okay, here's another good one. Okay, we get that one.
ARMSTRONG: Okay, now this one is right down from, straight west, and I want to know if you can see an angular rock in the foreground.
CAPCOM: Roger. We have a large angular rock in the foreground and it looks like a much smaller rock a couple of inches to the left of it.
ARMSTRONG: All right, and then beyond it about 10 feet, is an even larger rock that's very round. That rock is about the diameter of a foot and it's about a foot and one half long and it's about six inches thick but it's standing on edge.
CAPCOM: Roger.
ALDRIN: Okay, Neil, I've got the table out and the pack deployed.
CAPCOM: We've got this view now.
ARMSTRONG: Straight south.
CAPCOM: Roger, and we see the shadow of the LM.
ARMSTRONG: Roger. The little hill just beyond the shadow of the LM is a pair of elongated craters about two pairs of them together is about long and 200;

across and they're probably 60 deep. We'll probably get some work in there later.
CAPCOM: Roger, we see Buzz going about his work.
ARMSTRONG: How's that for a flash? Like it to come left about five degrees. Over. Now, back to the right about half as much.
ARMSTRONG: Okay?
CAPCOM: That looks good there, Neil.
ARMSTRONG: Okay.
ARMSTRONG: And, incidentally, you can use the shadow that the staff makes to (garbled).
PAO: Buzz is starting the solar wind experiment now.
ALDRIN: Some of these small depressions (garbled) three inches. I could suggest exactly what the Surveyor pictures showed when they pushed away a little bit. You get a force transmitted through the upper surface of the soil and about five or six inches of bay breaks loose and moves as if it were skated on the surface when, in fact, it really isn't.
ALDRIN: I notice in the soft spots, where we have footprints nearly as deep as they are, they're very obvious and it will remain a slope of probably 70 degrees (garbled).
ALDRIN: In general, rim spots in the shadow doesn't seem to have any thermal effect. Inside our suit. There is a difference, of course, in the radiation in the helmet. . . so I feel a little cooler in the shadow than in the sun.
ARMSTRONG: As I look around the area, the contrast in general is . . . comes about completely by virtue of the data (garbled). Roger. The EVA is progressing beautifully. I believe they are getting up the flag now.
COLUMBIA: Great.
CAPCOM: I guess you're about the only person around that doesn't have TV coverage of the scene.
COLUMBIA: That's all right. I don't mind a bit. How is the quality of the TV?
CAPCOM: Oh, it's beautiful, Mike, really it is.
COLUMBIA: Oh, gee, that's great. Is the lighting halfway decent?
CAPCOM: Yes, indeed. They've got the flag up and you can see the stars and stripes on the lunar surface.
COLUMBIA: Beautiful, just beautiful.
ALDRIN: I'd like to evaluate the various phases that a person can . . . traveling on the lunar surface. I believe I'm out of your field of view. Is that right?
ALDRIN: Okay. You do have to be rather careful to keep track of where your center of mass is. Sometimes it takes about two or three paces to make sure you've got your feet underneath you. About two to three or maybe four easy paces can bring you to a nearly smooth stop. Next direction. Like a football player you just have to split up to the side and cut a little bit. One called a kangaroo hop does work, but it seems that your forward ability is not quite as good.
ALDRIN: It's hard to say what a trained phase might be. I think it's one I'm using now. Could get rather tiring after several hundred. . . but this may be a sufficient amount of surface after particles moving about. It was reported beforehand that we would probably see a rough phase from the surface after engine shutdown, but as I recall, I was unable to find that.
CAPCOM: Tranquility Base. This is Houston. Could you . . . could we get both of you on the camera, please, for a minute? Neil and Buzz. The President of the United States is now in his office and would like to say a few words to you.
ARMSTRONG: That would be an honor.
CAPCOM: Go ahead, Mr. President. This is Houston.
NIXON: Neil and Buzz, I am talking to you by telephone from the oval room in the White House. And this has certainly been the most historic telephone call ever made. I can't tell you how proud we all are of you. For every American, this has

to be the proudest day of our lives, and for people all over the world, I am sure that they too join with Americans in recognizing what a feat this is. Because of what you have done, the heavens have become part of man's world.
And you talk to us from the Sea of Tranquility, it inspires us to double our efforts to bring peace and tranquility to earth. For one precious moment in the history of man, all the people on the earth are truly one—in their pride at what you have done, and one in our prayers that you will return safely to earth.
ARMSTRONG: Thank you, Mr. President. It's a great honor and privilege for us to be here, representing not only the United States but men of peace of all nations, and with interest and curiosity for the future. It's an honor for us to be able to participate here today.
NIXON: And thank you very much and I look forward . . . all of us look forward . . . to seeing you on the former in Thursday.
ARMSTRONG: Thank you.
ALDRIN: I look forward to that very much, too.
PAO: Heart rates for both crewmen have been averaging between (garbled) and they are in great shape. The blue color of my boots has completely disappeared now, but that's all right. I don't know exactly what color to describe this color than grayish brown color. Apples are covering most of the white part of the boot. . . very fine particles.
ALDRIN: In general, rim spots in the shadow doesn't seem to have any thermal effect. Inside our suit. There is a difference, of course, in the radiation in the helmet. . . so I feel a little cooler in the shadow than in the sun.
ARMSTRONG: As I look around the area, the contrast in general is . . . comes about completely by virtue of the data (garbled). Roger. The EVA is progressing beautifully. I believe they are getting up the flag now.
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CAPCOM: Tranquility Base. This is Houston. Could you . . . could we get both of you on the camera, please, for a minute? Neil and Buzz. The President of the United States is now in his office and would like to say a few words to you.
ARMSTRONG: That would be an honor.
CAPCOM: Go ahead, Mr. President. This is Houston.
NIXON: Neil and Buzz, I am talking to you by telephone from the oval room in the White House. And this has certainly been the most historic telephone call ever made. I can't tell you how proud we all are of you. For every American, this has

Figure 33. The Times, "Special Moon Report: Looking ahead to Apollo 20," Tuesday July 22, 1969, p. 3.

The image is just large enough to reveal a black rectangular box indicating two highlighted landing sites with no legend or title accompanying the image. However, the image caption identifies the two locations as the Apollo 11 landing site as well as the projected Russian *Luna 15* site.⁷⁹ The map is located in the bottom left hand corner of the newspaper layout accompanying a short four column article about the future of the Apollo space missions, specifically mentioning experimental geological goals for the Apollo 12 mission. Three television photographs depicting the astronauts' live broadcast from the lunar surface accompany two other articles on the newspaper page. The landing site map is the smallest photograph in the layout and does not depict any specific action relating to the astronauts' work. However, the image does reference where the astronauts have been and where NASA can send people in the future two days before the Apollo 11 astronauts return to share their experiences. A systematically oriented image, such as a map, provides a sense of validity and belief rooted in scientific imagery that offers reasoning behind the selection of this image at a time when no other imagery was available to track the narrative visually. Moreover, there are plenty of stories that cannot be explained through words and photographs, especially stories whose meaning requires visual explanation, which justifies the use of graphics as illustrations.⁸⁰

Overall, the map functions as a smaller piece of a larger narrative present on the entire page. The image acts as a visual anchor for the article that concludes the other articles in the layout that chronicle the astronauts' discussions with the mission control center and discussed what types of material scientists hoped to get from the astronauts when they returned. Regardless of the landing site map's ability to produce scientific information other photographs can't, there were only six images found in the publication survey that make up the LROC and landing site map category, each one only published a single time. Thus, it can be concluded that these types of images were not primarily chosen to represent the events surrounding Apollo 11.

⁷⁹ As the world was fixated with the Apollo 11 saga unfolding in July 1969, the Soviet response, *Luna 15*, was a final effort to land, acquire, and return lunar soil to Earth ahead of the American manned landing. However, it was an unmanned probe that was launched on July 13, three days before the Apollo 11 crew and it was estimated that the craft would return a few hours after the Apollo astronauts did. *Luna 15* crashed into the lunar surface as it attempted descend and was destroyed on July 20, 1969, a few hours after Armstrong and Aldrin set foot on the moon. See, Dominic Phelan, "The Eagle and the Bear" in *Footprints in the Dust, The Epic Voyages of Apollo, 1969-1975*, ed. Colin Burgess (Lincoln: University of Nebraska Press, 2010), 43-77.

⁸⁰ Harold Evans, *Pictures on a Page*, 287.

Thirty-eight photographs were found published that fall under the crew and equipment pre-flight image category. The thirty-eight photographs made up thirteen percent of the identified photographs, the majority being posed astronaut portraits. Only five percent of the photographs in this category depicted still equipment shots, astronauts training or preparing for the expedition; the rest were cropped headshots either from the formal NASA portraits or from other snapshots taken of the crew.

Figure 34 depicts NASA's three-quarter view portrait of Neil Armstrong used for the cover of the weekly magazine *Newsweek* dated July 21, 1969. In the picture, Armstrong stands smiling at the viewer while dressed in his moon-suit beside the helmet he will wear during the Apollo 11 expedition. The colour portrait is shot with an image of the moon in the background and the title



Figure 34. *Newsweek*, July 21, 1969, cover page.

text falls just behind the top of Armstrong's head giving the picture a slight three-dimensional quality. Armstrong's left arm on the right side of the page boasts the American Flag patch which is situated diagonally from the sub-heading on the cover allowing the viewer to follow the layout and reads, "Apollo 11 Commander Neil Armstrong." A banner with the text, "The Great Adventure" sits in the upper left hand corner announcing to the viewer in large bold letters the biggest story in the magazine, drawing viewers to the cover photograph that has been specifically selected to tell the story.

The cover of the weekly news magazine acts as a tool to lure viewers to the rest of the content and to ultimately purchase the publication. The July 21 issue of *Newsweek* came five days after the Saturn V shuttle launch and one day after Armstrong and Aldrin Jr. walked along the surface of the moon. As a result, people may have already been familiar with the faces of the three astronauts traveling through space since this particular photograph was found reproduced at least three times.⁸¹ The photograph of Armstrong may have also been chosen for the cover based on the fact that he is the commander of the mission, the most important role an astronaut can take on, and this role is one people trust when conveying information, specifically information about a scientifically based mission. Thus, by selecting and publishing Armstrong's photograph, the cover is piquing the reader's interest through both credibility as well as familiarity when seeing his portrait on the cover of a national magazine.

In a similar fashion, three headshots of Armstrong, Aldrin and Collins sit at the top of page five in the *New York Times* published on the same day as the *Newsweek* issue (Figure 35). The black and white photographs are cropped from their original NASA format and sit in a line alongside one another. All three astronauts look directly at the viewers with smiles on their faces and their names run underneath each image to identify them clearly. This set of NASA portraits was reproduced in the illustrated press at least three times, highlighting the popularity of the images.⁸² The article paired

⁸¹ Printed in, *The Times* July 16, 1969, p.4; *The Times* July 21, 1969, p.1; *Newsweek* July 21, 1969, cover. This reproduction number is based on publication survey completed for this thesis project.

⁸² Printed in *New York Times*, July 21, 1969, p. 5; *The Times*, July 16, 1969, p. 4; *The Times* July 21, 1969, p. 1. This reproduction number is based on publication survey completed for this thesis project.

with the pictures begins on the front page of the newspaper and offers the recorded conversations going on between the astronauts and the mission control center in Houston, Texas during the expedition. The layout pairs the astronauts' portraits with the text as a way to remind the readers visually who is participating in the printed dialogue below.

The other pages of the conversational article also include photographs of television screens broadcasting the astronauts on the moon shot from the film camera on the lunar module. Since the pictures of the moon expedition as captured by the NASA astronauts were not released until after the crew's return to Earth, this period of pictorial coverage (between the shuttle launch and the astronauts' return) relies on highlighting the perspectives of the mission with other visual means for effective "spot news."⁸³ Frequently, an editorial department used headshots to provide a recognizable record of physiognomy for important public figures such as the Apollo 11 astronauts.⁸⁴ Thus, the published formal portraits taken by NASA produce a record of people worth documenting and assisted in familiarizing readers with the figures that were soon to be featured in other stories. While pre-flight equipment stills were available, they were not found published in the survey completed. These still equipment shots provide illustrational information about the tools being used by the astronauts, however, they do not evoke a personality as successfully as a portrait, making them less appealing to editors attempting to construct a sense of significance. Additionally, the television pictures and portraits of the astronauts were already available for the newspapers and weekly news magazines to utilize for effectively illustrating articles about Apollo 11, which further explains their selection and corresponding publication.

The Saturn V rocket preparation and launch category made up nineteen photographs and account for only seven percent of the total NASA photographs found in the publication survey. Almost all nineteen NASA photographs depict the Saturn V rocket launch, which is similar to the holdings in the Black Star Collection and opposed to the multitude of pictures that demonstrated the rocket preparation in the online image library. While this category is the second smallest in terms

⁸³Peter Galassi, "Pictures of the Times," in *Pictures of the Times, A Century of Photography from the New York Times* (New York: The Museum of Modern Art, 1996), 18. "Spot News" is referred to as a notable event reported as rapidly as possible.

⁸⁴Harold Evans, *Pictures on a Page*, 151.



Figure 36. *Life*, “To the Moon and Back,” August, 11, 1969, p. 75-76.

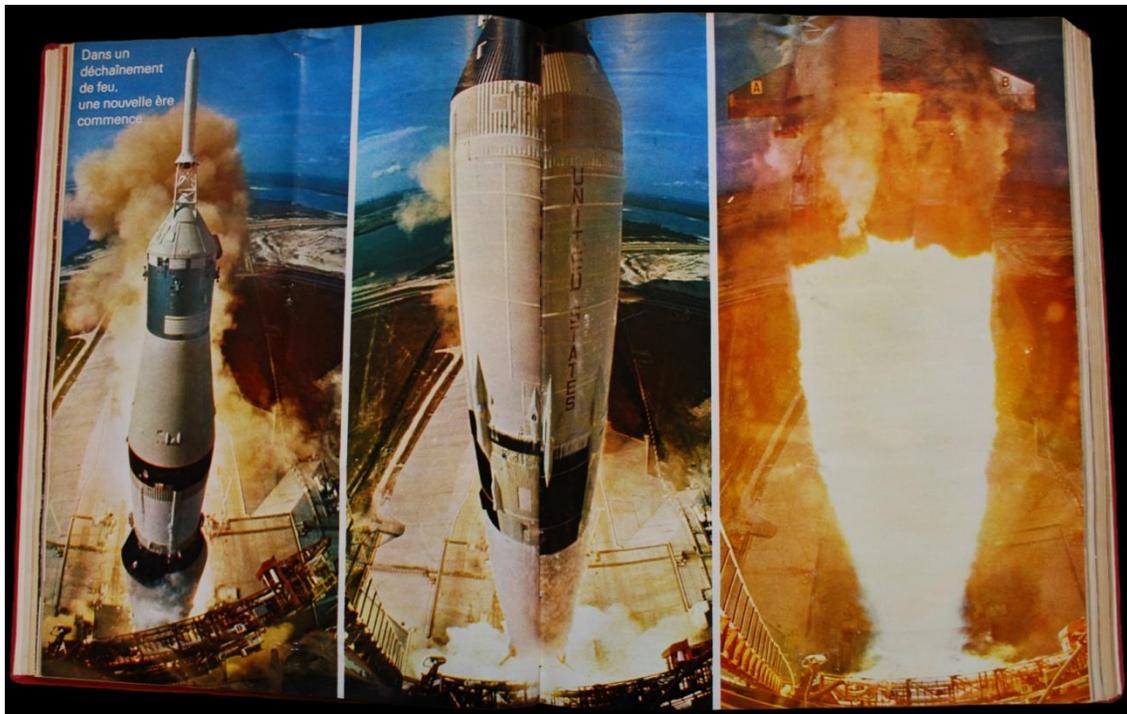


Figure 37. *Paris-Match*, “Les Premiers Hommes Sur La Lune,” August 16, 1969, p. 32-33.

of the number of photographs found in the publication survey, one particular image of the launch was reproduced six times in five different publications.⁸⁵

Figure 36 illustrates this particular shuttle launch image laid out in the centre (third image from the left) of a series of five colour action shots over a double page spread in the August 11, 1969 issue of *Life*. The photographs were taken from the camera mounted on the swing arm on the launch pad as the rocket pushed off from the Kennedy Space Center. Each image is cropped vertically to focus the perspective on the rocket in the centre of the composition. The vehicle moves farther and farther towards the top of the page as the reader's eye moves from left to right, simulating the spectators' view on the day of the launch. There is no textual information or captions on the pages which allowed the sequenced photographs to highlight the action of the moving rocket and explain this portion of the event's story visually. By allowing readers to interpret the images as a whole, the layout has employed a principle dubbed by Wilson Hicks as the *third effect*: "When two or more pictures are brought together their individual effects are combined and enhanced by the reader's interpretive and evaluative reaction."⁸⁶ Similarly, in the August 16, 1969 issue of *Paris-Match* the same photograph is placed within a series of two other rocket launch snapshots over a double page spread (Figure 37).

Both *Life* and *Paris-Match*'s Saturn V rocket series illustrated the movement of the shuttle launch and allowed the colour photographs to simulate the reality that was seen by the spectators on July 16, 1969. The colour images presented a perspective that had yet to be seen by the majority of readers as the newspapers and television broadcasts around the world had predominantly displayed their Apollo 11 imagery in black and white. Since colour, the most technologically advanced mode of photography available in the 1960s not only allowed for the presentation of precise detail of the rocket characteristics, it was also associated with reality, action, and important news. Thus, it is only fitting the colour Saturn V rocket launch photographs were chosen for publication in a series to simulate the movement of the vehicle and mark the beginning of the significant mission in the

⁸⁵ Printed in the *New York Times*, July 18, 1969, p. 12; *The Times*, August 7, 1969, Special Supplement, p. ii; *Paris-Match* July 26, 1969, p. 22; *Paris-Match*, August 16, 1969, p. 32-33; *Time*, July 25, 1969, p. 13; *Life*, August 11, 1969, p. 75-76.

⁸⁶ Wilson Hicks, *Words and Pictures*, pg 34.

magazine's story. Moreover, the layout and selection of a colour series by the two picture magazines published almost three weeks after the astronauts' return allowed for a more detailed perusal of the photographs and signaled a reflective element to the magazine's stories; these pictures were pictures worth looking at for more than a few seconds.

As in the two photographic collections discussed in this thesis, the Apollo 11 expedition category as seen in the publication survey has the largest number of photographs, totaling 185 pictures, and accounting for sixty-three percent of the published NASA imagery. Pictures depicting the astronauts in flight and their activities conducted on the moon are the most prominently reproduced images, which include depictions of Aldrin conducting experiments, shots of the astronauts' movement down the ladder of the lunar module, and standing beside the American flag posted in honour of the mission's successful landing.

This group of NASA Apollo 11 expedition photographs indicates a selection of action shots, rather than the selection from the copious amount of orbital photography captured by the astronauts during their mission travels. The most commonly reproduced picture found in all of the publications surveyed came from the expedition photograph category; the image of astronaut Edwin "Buzz" Aldrin Jr. as he stood on the barren moon surface photographed by commander Neil Armstrong was found published eighteen times in seven different publications.⁸⁷

The first instance of the image in the survey appeared on August 1, 1969 in the *New York Times* (Figure 38). The single square photograph was printed in black and white and placed in the middle of the front page of the newspaper with the headline, "Standing on the Moon: Aldrin, in Photograph Taken by Armstrong."⁸⁸ The full body snapshot taken by Armstrong, revealed Aldrin in his full moon suit facing the camera with his body that cast a shadow diagonally along the left hand

⁸⁷ Printed in: *Life*, August 8, 1969, p. 26-27; *Life*, August 11, 1969, cover and p. 9-10; *Life*, December 26, 1969, p. 28-29; *Newsweek*, August 11, 1969, cover and p. 68; *Newsweek*, December 29, 1969, cover; *Time*, August, 8, 1969, p. 24; the *New York Times*, August 1, 1969, p. 1, 17; *The Times*, August 2, 1969, p. 7; *The Times*, August, 6, 1969, p. 1; *The Times*, August 7, 1969, Special Supplement, p. I; *Paris-Match*, August 16, 1969 cover, p. 46-47; *National Geographic*, December 1969, cover, 736-737.

⁸⁸ Excluding colour newspaper supplements, the *New York Times* did not publish colour photographs throughout their block text pages until 1997. Thus, the newspaper pictures discussed in the publication survey are all black and white photographs. See, "New York Times Timeline 1971-2000," accessed May 15, 2011, http://www.nytc.com/company/milestones/timeline_1971.html.

The Aldrin visor photograph has elements that reference many parts of the Apollo 11 expedition. The image illustrated to the viewer what the astronauts looked like within the lunar environment, which included the lunar surface, sky, and mission equipment. Furthermore, the image content provides context surrounding the capture of the photograph; Armstrong, the camera and the surrounding equipment is visible in the reflection of Aldrin's visor, and the visible crosshairs throughout the frame indicates the intention of scientific measurement. Thus, this single image reveals many aspects of the mission acting as a successful emblem for the mission as a whole.

By using the single photograph of Aldrin on the front page with just basic information guiding readers through the rest of the paper, the *New York Times* uses the image as a symbol of reference for the rest of the Apollo 11 imagery. *The Times* also utilized the Aldrin visor photograph as an Apollo 11 reference and printed a small, cropped black and white version of the photograph on the front page of their August 6, 1969 issue. The clipped photograph drew attention to the upcoming special supplement that promised, "The best colour and black-and-white photographs taken by the Apollo 11 astronauts."⁸⁹ Additionally, *Newsweek*, *Life*, *Paris-Match* and *National Geographic* published the same Aldrin visor photograph on their front covers, indicating that this photograph was indeed the icon used to represent the expedition and the activities surrounding it, drawing people to purchase the magazines and newspapers to read about the event.⁹⁰

So, why was the photograph of Aldrin on the moon so widely selected for publication and used as a symbol to draw readers into the folds of magazines and newspapers? In order to engage readers and hold interest in both a picture and a story, the photograph should not only depict news, notoriety, and action, but also eye-stopping appeal. Kenneth Kobré defines "eye-stopping appeal" as based on the editors Kalish and Edom's approach from the manual *Picture Editing* as a photograph that has "...interesting patterns, strong contrasts in tonal value, or those that can be uniquely cropped."⁹¹ It is far easier to see the "appeal" of the Aldrin visor photograph as published in colour on August 8, 1969 in *Life* (Figure 39). The first colour version of this photograph found in the

⁸⁹ The *Times*, August 6, 1969, front page.

⁹⁰ See note 84

⁹¹ Kenneth Kobré. *Photojournalism: The Professional's Approach*, 6th ed. (Amsterdam: Focal Press, 2008), 196.

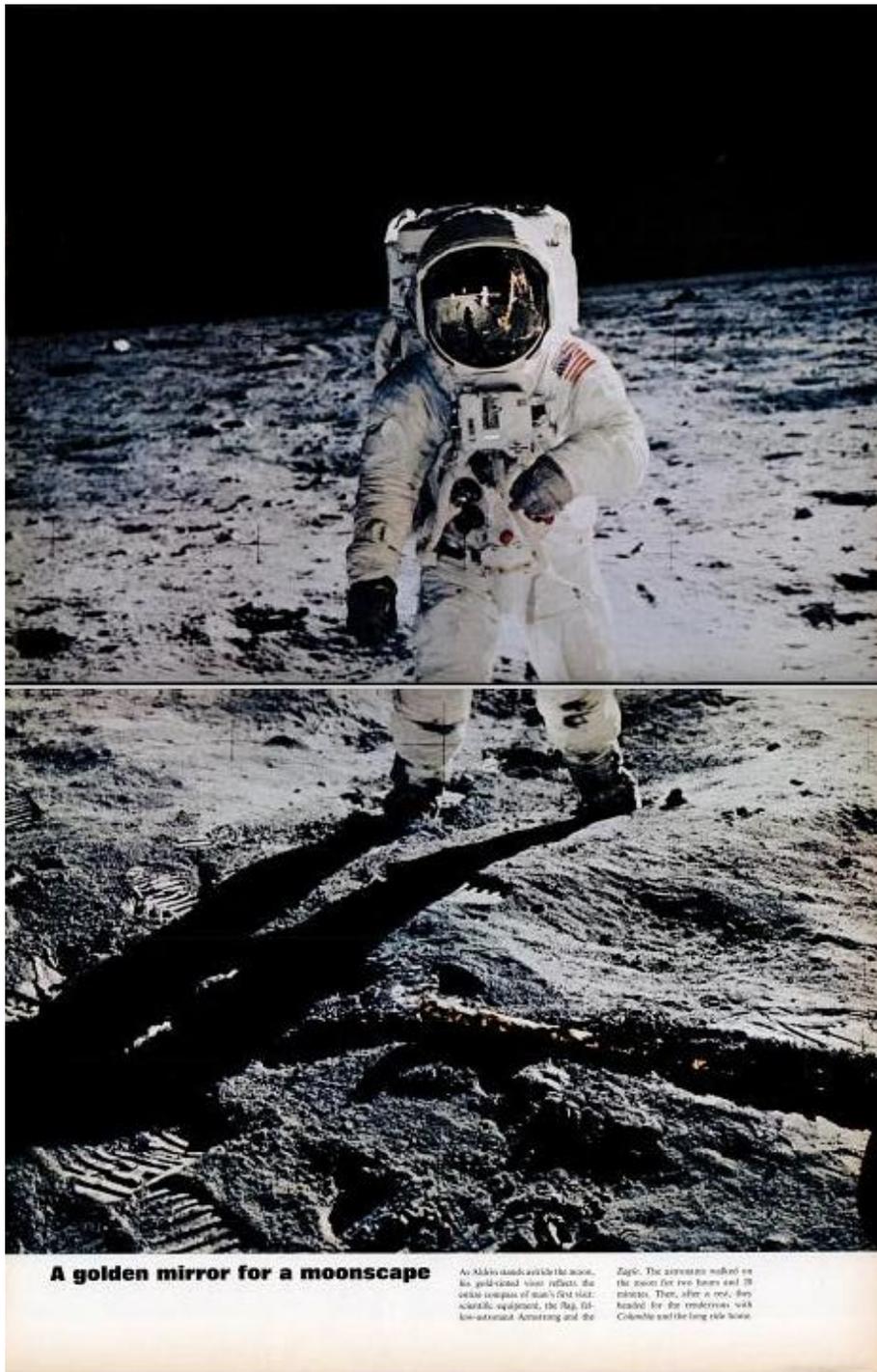


Figure 39. *Life*, "Down to the Moon... And the Giant Step," August 8, 1969, p. 26-27.

survey, *Life* published the image over a double page spread placing the vertically oriented picture horizontally over the two pages so the reader had to flip the magazine around to view the photograph's composition, right-side-up. The printed photograph in colour, originally shot on Ektachrome film, allows the many details of the image to be more clearly visible than in the black and white versions of the photograph. Aldrin's white spacesuit contrasts sharply with the black sky that sits overtop of the blue-grey lunar soil that looks grainy and dusty, highlighting the dark shadows of both Aldrin and the patterned footprints along the foreground of the image. The reflection in Aldrin's visor is more clearly visible and his spacesuit looks bent at the knee, indicating Armstrong may have released the shutter as Aldrin moved towards him, a detail that was not clearly identifiable in the black and white photograph. *Life's* double page spread also highlights the qualities of the photograph that make it a successful picture. The appealing image has a clearly defined background and foreground, emphasizing the simplicity of its composition and amplifying its impact, its colour, and the photographic 'copy' that retains the picture's effective contrast on the printed page.⁹² Simplicity, impact, photographic quality, and beauty are four of the five definitive characteristics of a successful photograph as described by other picture magazine editors.⁹³ Strong visual merits combined with sharp communicative story-telling mark the visor photograph as an excellent choice for publication in the popular press.

Paris-Match also utilized a cropped colour version of the Aldrin visor image in addition to the un-modified version on the cover page of the August 16, 1969 issue (Figure 40). The photograph only includes a view of Aldrin's body from the shoulders up and the enlarged image reveals a clear, detailed view of the reflection. The gold-tinted, oblique visor conveys the landscape before him in a warm tone and allows readers to see what was in Aldrin's view. Armstrong's body is a sharp white shape against the dark background - the lunar module *Eagle*, and the equipment placed in the lunar soil are all easy to make out. The crop of the Aldrin visor image makes this photograph visually intriguing, informative, and sets the capture of the photograph in the scene in which it was originally

⁹² Vitray, Mills Jr., and Ellard, *Pictorial Journalism*, 30. "Photographic copy" is defined as the effective reproduction of the photographs in newspapers or magazines.

⁹³ Daniel D. Mich and Edwin Eberman. *The Technique of the Picture Story: A Practical Guide to the Production of Visual Articles* (New York: McGraw-Hill Book Co., 1945), 46-47.

taken, presenting an element of reality to readers who want to understand the story. The *Paris-Match* layout with the Aldrin photograph includes four other images of Aldrin conducting experiments, arranged asymmetrically along the left hand side of the spread. The use of Hick’s tool, the *third effect*, can be seen in the *Paris-Match* layout not only over the entirety of the two pages but is also emphasized in the cropped image of Aldrin’s head shot; the crop illustrates the combination of a portrait of the astronaut and a snapshot of the surrounding landscape within Aldrin’s visor. Paired alongside the four photographs of Aldrin conducting his experiments on the lunar surface, the visor photograph acts as a visual reminder, emphasizing the scientific impact of the photographic documentation the astronauts were conducting. Thus, the layout reinforces the aura of evidential proof that the astronauts did indeed travel to the moon, successfully landed on the surface, and documented the affair with the best technology available.



Figure 40. *Paris-Match*, “Les Premiers Hommes Sur La Lune,” August 16, 1969, p. 46-47.

While orbital photography was the type-majority of the images captured by the astronauts during their nine-day mission, this type of picture was not as commonly selected for publication, based on the fact that they do not represent action or communicative capability as successfully as the

example discussed above. The Aldrin visor photograph acts as an example for all of the mission photographs selected for publication. Pictures from the mission category that were found throughout the publication survey represent what the astronauts completed on the lunar surface and provided a visual context in which the photographs could be interpreted as proof that they successfully completed the mission. The selection of photographs from the expedition category further exemplifies the perspective through which the story was told - through the eyes of the heroic astronauts who victoriously landed on the moon, successfully completed their assignments and returned home.

Thirty-five photographs made up the recovery and post-flight image category and accounted for twelve percent of the total published NASA photographs found in the publication survey. The post-flight NASA pictures, for the most part, depict the astronauts traveling to, being contained in, and celebrating in the mobile quarantine unit during press conferences.

Figure 41 depicts the newspaper page of *The Times* August 7, 1969 issue bearing the black and white image illustrating the astronauts' travel from the recovery helicopter to the mobile quarantine unit named *Hornet + 3*, which accompanies the article, "Upside down but home." The vertically oriented snapshot captured the astronauts wearing biological isolation garments and waving at cheering spectators on either side of them. A NASA crewmember holds the quarantine door open for them as they move from the stairs of the *USS Hornet* helicopter. The photograph is printed on the left hand side of three other photographs (not identified or credited to NASA) that depict the recovery operations and astronauts looking through the window of the mobile quarantine unit, contextualizing the photographs with the celebration and experience of their return. The image depicting the arrival of the astronauts after a successful recovery from the Pacific Ocean evokes a victorious emotive response that humanizes a scientific mission that the United States was able to accomplish.

Similarly, in the August 2, 1969 issue of *Paris-Match*, a photographic layout chronicled the astronauts return to earth, the command module landing in the ocean, the men waiting for the recovery helicopter, and finally, the astronauts shown through the window of the *Hornet + 3*. The

largest reproduction is one showing the three astronauts laughing and looking out through the window of the mobile quarantine unit. The black and white image takes up almost the entire right page of the spread and runs over the gutter onto a small portion of the left page. The men are

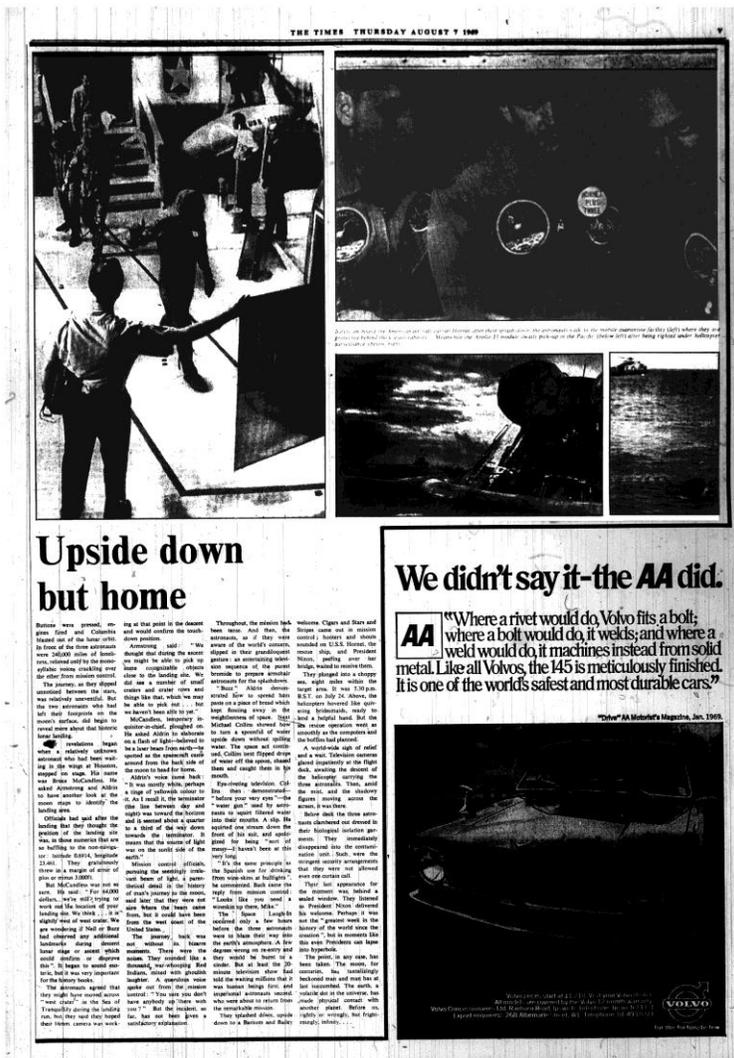


Figure 41. *The Times*, “Special Moon Report: Upside down but home,” Thursday, August 7, 1969, p. 5.

dressed in Apollo 11 jumpsuits and gaze towards their right, all looking elated to be sharing their adventures with the rest of the world. The smiling astronaut photograph anchors the other three smaller images in the layout and acts as a conclusive visual cue that the mission was complete.

Both recovery images discussed present the context in which the astronauts safely returned to Earth by pairing them with other recovery pictures that highlight the emotional response of victory

and reunion celebrated by NASA and the rest of the world. The two recovery layouts present a different kind of portrait than found at the beginning of the mission's coverage. In contrast to the formal, stoic headshots published to introduce the astronauts to the readers of the world, now there are published candid shots of the astronauts moving through the recovery options. The published examples from the post-flight category embody the idea of the pictured celebrity who becomes familiar to readers through the documentation of his or her experiences.⁹⁴ The selection of Apollo 11 photographs throughout the entire coverage period, which depicted the victory of the astronaut's return, most definitely describes the astronauts as the celebrities representing the mission.

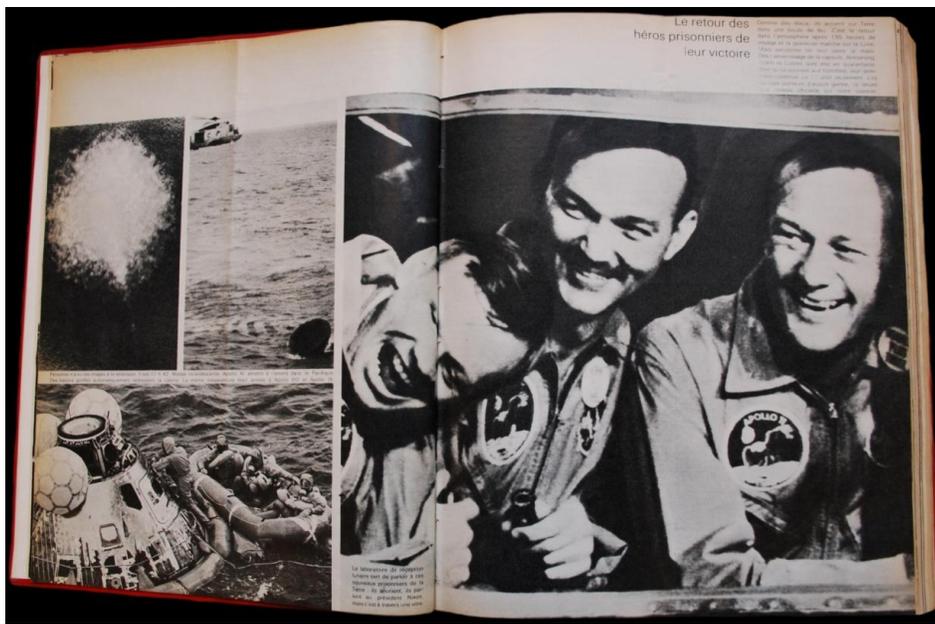


Figure 42. *Paris-Match*, “LES 22 HEURES QUI ONT CHANGÉ L’HISTOIRE DE L’HUMANITÉ,” August 2, 1969, p. 20-21.

There were no NASA photographs found in either the *Saturday Evening Post* or *Look* magazine throughout the publication survey period. One can only speculate the reasons as to why there was no Apollo 11 coverage in either of these magazines, but an advertisement in the *New York Times* has led to a possible hypothesis. The advertisement is for a special thirty five page magazine edition titled *On The Moon* published by both the *New York Times* and *Look* magazine that was

⁹⁴ Peter Galassi ed., *Picture of the Times*, 21.

available by special order as well as on newsstands for a limited time.⁹⁵ In an effort to create demand for the special edition, *Look*'s editors may have chosen to keep the photographs they wanted to publish exclusively for their special edition magazine, fuelling demand and sales for readers and current subscribers. The photographs that were selected for publication in the other magazines and newspapers did not have a large variance in the type of subject, all presenting the same median percentages of photographs as discussed in the different image categories. However, the newspapers and magazines did have a variance in the number and colour of photographs selected to publish.

The magazines surveyed presented, on average, 15 to 30 photographs that were selected for publication, almost five times more than the photographs presented in the newspapers. The number of photographs and layouts published in magazines reveals a larger, introspective reflection of the events that took place and offered a visual interpretation of the event for readers to consider at a greater length. Conversely, the newspapers often attempted to report the events as they happened and included shorter articles and fewer pictures which were almost always in black and white. Monthly magazines, such as *National Geographic*, held the most selected photographs as they had more time and space to dedicate their articles around specific photographic themes.

Additionally, since most of the NASA photographs found in the weekly and monthly magazines were published in colour, the majority of the total NASA photographs found in the entire survey were in colour. This may indicate that publishing in black and white in magazines may have been an aesthetic choice, presenting the subjects in black and white to suggest a traditional, historical look.⁹⁶ Publishing the NASA photographs in colour gave the magazines a contemporary, newsworthy edge over the television broadcasts and newspapers in an age where picture magazines were heavily competing with the evolution of television. As discussed in the previous examples, choosing to publish in colour provided information, detail, and a sense of reality in photographs that was not conveyed through the black and white television imagery and the grainy newspaper photographs.

Moreover, the photographs selected for publication from each category had several characteristics necessary for effective pictorial journalism, including appealing compositions, good

⁹⁵ Advertisement as seen in the *New York Times*, Sunday, August 10, 1969.

⁹⁶ Kenneth Kobré, *Photojournalism: The Professional's Approach*, 137.

story-telling ability through format, and graphic simplicity for eye-catching appeal. Mainly, the photographs selected were those that illustrated the perspective of the Apollo 11 from the astronauts' point of view, emphasizing the victory of the mission and acting as visual evidence that the first lunar mission had been completed by the people of the United States of America.

The categorical analysis of the NASA photographs selected for publication reveals that regardless of the type of publication (newspaper, magazine, international, or domestic) the photographic subjects chosen to represent the Apollo 11 events are similar. The selection of photographs depicting action, emotional response, intrigue, and "eye-catching appeal" tend to be the most popular images published, with the candid, colour expedition snapshots and portraits of the astronauts accounting for the majority of images selected. With the selection of images identified, a general similarity in the perspective of the visual story has emerged. The narrative, which utilizes candid snapshots and photographs depicting the American astronauts' activities highlights and verifies their success and victory in completing the first manned lunar mission.

Figure 43. Total Number of Apollo 11 Photographs per Category Identified Throughout the Publication Survey

Apollo 11 Image Categories	Number of Images Identified
Lunar Reconnaissance Orbiter Images & Landing Site Maps	6
Crew and Equipment Pre-Flight	38
Saturn V rocket preparation and launch	19
Apollo 11 Expedition	185
Recovery and Post-Flight	35
Total	283

Figure 44. Total Percentage of Apollo 11 Photographs per Category Identified throughout the Publication Survey.

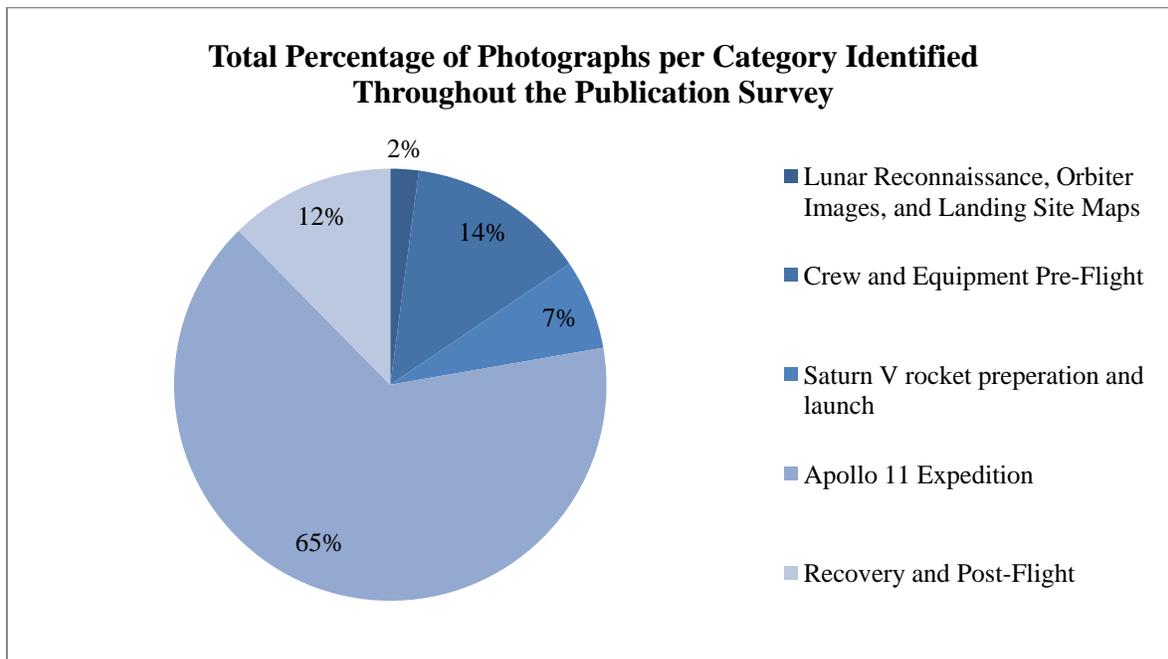
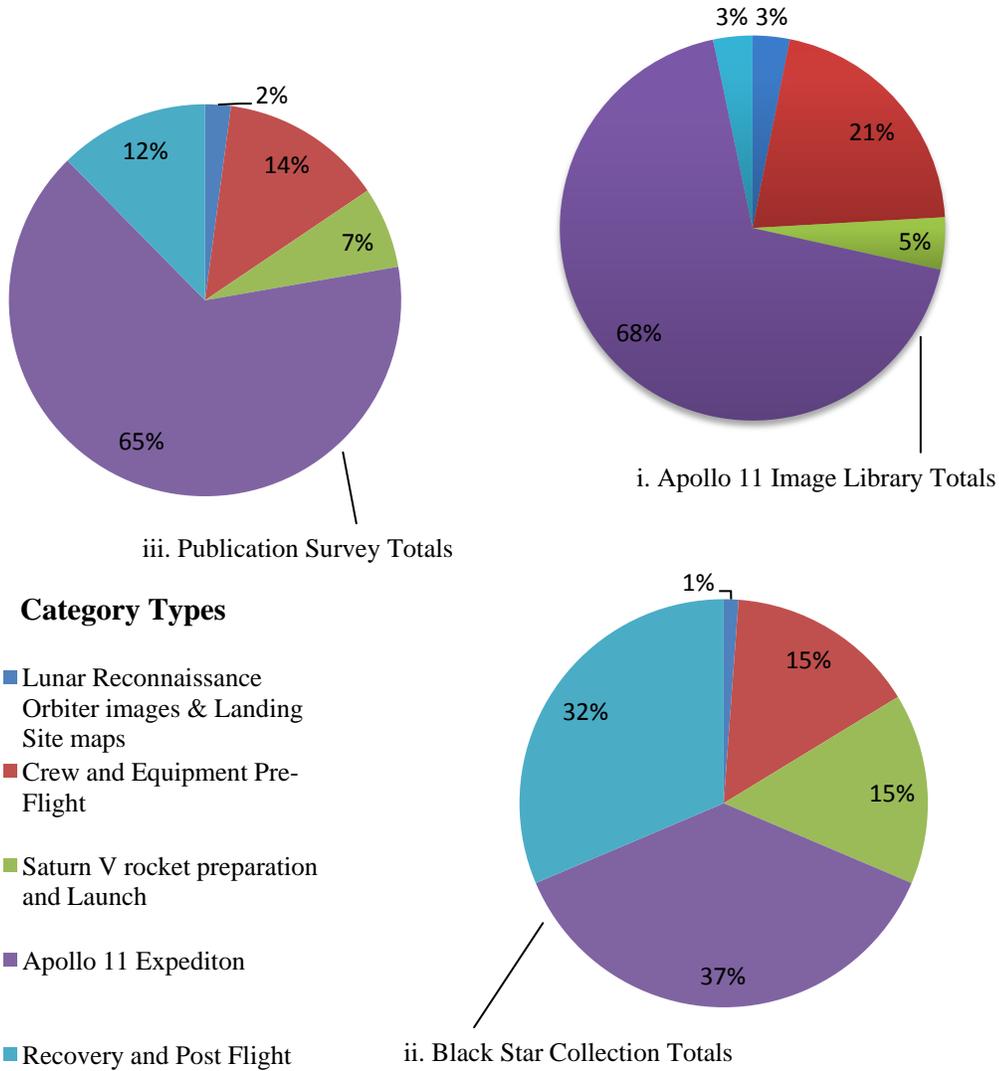


Figure 45. Total Percentage of Apollo 11 Photographs per Category within the Online Image Library, the Black Star Collection and the Publication Survey.

Total Percentage of Apollo 11 Photographs per Category within the Online Image Library, the Black Star Collection and the Publication Survey



7. CONCLUSION

By studying the groups of photographs present in the Apollo 11 image library, the Black Star Collection, and a selection of key examples from the illustrated press, I was able to analyze the process of image selection that contributed to the construction of this event's visual story. Each group of Apollo 11 photographs represents a step in the selection process: NASA produced, Black Star diffused, and the picture editor made the final selection for publication. Thus, the motives behind the image choices made by each principal body to further reduce the photographs available can also be determined.

As discussed in the first chapter, the NASA online image library represents the most comprehensive body of images released by NASA that could have been chosen for reproduction in the illustrated press. It in the Apollo 11 image library that the perspective of the original maker, in this case NASA as a whole, can be identified throughout the captions, organization, and original format of the photographs which emphasized the narrative of the event with 2,124 different types and colour of photographs. The categorical analysis revealed a large variation of the type of photographs used to represent the event including scientific cartographic maps, training, mission, and launch snapshots, still images of equipment as it was assembled, and posed astronaut portraits. The former selection of photographs provided a scientific and technical account of the Apollo 11 mission, before, during and after the expedition. Since NASA is an American government agency, the selection of photographs available also illustrates the narrative's political motives. By providing a comprehensive, technical visual narrative with many different image types and photographic subjects, the United States was able to provide a verifiable representation of the event in order to further their goal of spreading the success of the mission internationally.

The Black Star Collection was examined as a case study with the same categorical frame as the Apollo 11 image library in order to understand how a selection of Apollo 11 photographs was made by a photo-agency to provide a smaller set of 149 images for their clientele. The analysis revealed a more equal number of photographs per category presenting a balanced representation of the event to Black Star's customers. However, the selection revealed a lack of photographs

representing technical maps, training activities, and moon samples, and offered more snapshots, action-shots, and candid portraits depicting the astronauts during the expedition and the astronauts moving through the recovery options. Thus, Black Star transformed the original body of work into a more efficient group of photographs for their commercial purposes. Not only did the agency narrow down the group of images to provide equalized perspectives of the entire event, but it also selected photographs that were considered the most editorially successful; snapshots and portraits depicting action, victory, and the success of the astronauts and their activities on the moon, were the most common types of photographs. These pictures were the choices Black Star's clientele had access to when acquiring imagery from the agency.

The publication survey analysis represented the selection of the 107 published NASA photographs that were originally chosen from a possible group of 2,124, with only sixteen images making up almost half of the published photographs found. The pictorial coverage of Apollo 11 identified in the illustrated press from July to December, 1969, revealed a chronological narrative depicting the details of the mission from inception to conclusion in order to emphasize the success of the mission to their readers when the astronauts did indeed return to earth. Technical image maps, astronaut portraits, and television captures were published initially to illustrate the news surrounding the event before the astronauts returned with their own photographs of the mission. Once the mission photographs were released, astronaut portraits and colour snapshots of the activities on the moon dominated the published layouts and became the prevailing symbols of the entire expedition.

Orbital photography, still images, and astronaut training views were no longer the most useful in illustrating the success of the Apollo 11 mission. The snapshots and portraits that were used depicted the astronauts as celebrity-like heroes by illustrating the event through their personal experiences. Moreover, the photographs selected for publication from each category were found to have editorial qualities that picture editors deemed necessary for successful page design which often included action, beauty or visual impact. The published layouts, and the selection of photographs chosen to represent the Apollo 11 chronology throughout the publication survey, not only accentuated the corresponding victory and proof that the three astronauts completed the lunar

mission, but emphasized the characteristics of photography chosen that could successfully sell news. Thus, the photographs in the publication survey revealed a combination of political, commercial and editorial variables that contributed to the decisions made when selecting photographs for publication.

As this thesis had demonstrated, research surrounding pictorial journalism requires first generation prints, magazines and newspapers in order to facilitate analysis of contemporaneous characteristics such as layout, size, colour format, and quality of photographic 'copy'. Unfortunately, the sheer size, time, and monetary commitment required to store newspapers and magazines often necessitates other storage options such as microfilm, which, once reproduced by scanning, photocopying, or printing, degrades the original composition of the published page. Thus, a number of publications that contain Apollo 11 photographs could not be considered for this analysis as original formats were not available for examination. The former points to the necessity of acquiring and preserving first generation material in order to analyze areas of photojournalism previously unexamined, including editorial tools like selection.

At the beginning of the second half of the twentieth century, purveyors of journalism had increasingly relied upon the camera to promote news arrangements as uncomplicated renderings of events occurring beyond the reader's direct experience.⁹⁷ Conversely, the selection of published photographs narrowing the perspective of Apollo 11's visual story reveals not an exact pictorial reflection, but rather a planned representation of victory and success. This was employed by several agencies and both American and international newspapers and magazines, signalling the United States as winners of the Space Race, a landmark achievement in the Cold War era. This analysis pinpoints the selection process as beginning sooner than on the photo-editor's desk - starting with the photographs' original creator, NASA, who framed the event's depiction. NASA was able to provide a body of images that told the story in the way they wanted the world to see it. Black Star then narrowed the story to provide an efficient body of images for their clientele. Finally, photo-editors made a choice from photo-agencies' edits and other sources to effectively tell the victorious story that would serve the political, editorial, and commercial agendas of their respective publications.

⁹⁷ Michael Griffin, "Picturing America's War on Terrorism," 382-383.

APPENDIX

Table 1. Periods of Publications Reviewed

List of Publications Surveyed	Dates Covered in Survey
<i>Life Magazine</i>	July 1969 - December 1969
<i>Look Magazine</i>	July 1969 - December 1969
<i>Saturday Evening Post</i>	July 1969 - December 1969
<i>Newsweek</i>	July 1969 - December 1969
<i>National Geographic</i>	July 1969 - December 1969
<i>Time</i>	July 1969 - December 1969
<i>Paris-Match</i>	July 1969 - December 1969
<i>New York Times</i>	July 1969 - August 1969
<i>The Times</i>	July 1969 - August 1969

Table 2. Total Number of Issues and Articles with Apollo 11 Pictorial Coverage

Publication Title	Number of issues found with Apollo 11 pictorial coverage	Number of illustrated Stories about Apollo 11 within the issues found
<i>Life</i>	8	8
<i>Look</i>	0	0
<i>Saturday Evening Post</i>	0	0
<i>National Geographic</i>	1	1
<i>Time</i>	5	6
<i>Paris-Match</i>	6	7
<i>Newsweek</i>	18	19
<i>The New York Times</i>	28	30
<i>The Times</i>	18	19
Total	84	90

Table 3. Total Number of Photographs in each Apollo 11 Mission Photograph Magazine⁹⁸

Apollo 11 Mission Photograph Magazine Number	Number of photographs captured
Magazine 36/N (colour)	142
Magazine 37/R (colour)	123
Magazine 38/O (B &W)	181
Magazine 39/Q (B&W)	107
Magazine 40/S (colour)	129
Magazine 41/P (B&W)	189
Magazine 42/U (B&W)	189
Magazine 43/ T (B&W)	191
Magazine 44/V (colour)	157
Magazine 45/W (B&W)	35
Overall total	1443

Table 4. Total Number of Photographs by Category Type Assigned

Apollo 11 Mission Photograph Category Type	Number of photographs with the category captured
Orbital Activities & Views	480
Lunar Surface Activity	963
Overall Total	1443

⁹⁸ See mission photographs by magazine number in, Eric M. Jones and Ken Glover, “Apollo 11 Image Library,” *NASA Apollo Lunar Surface Journal* (October 2010), accessed February 12, 2011. <http://www.hq.nasa.gov/office/pao/History/alsj/a11/images11.html>.

Table 5. Number of Identified Apollo 11 Mission Photographs found Published⁹⁹

Number of Apollo Mission Photographs	Number of Apollo Mission Photographs Found Published in Survey
1443	37

Table 6. Number of Identified Apollo 11 Mission Photographs found Published

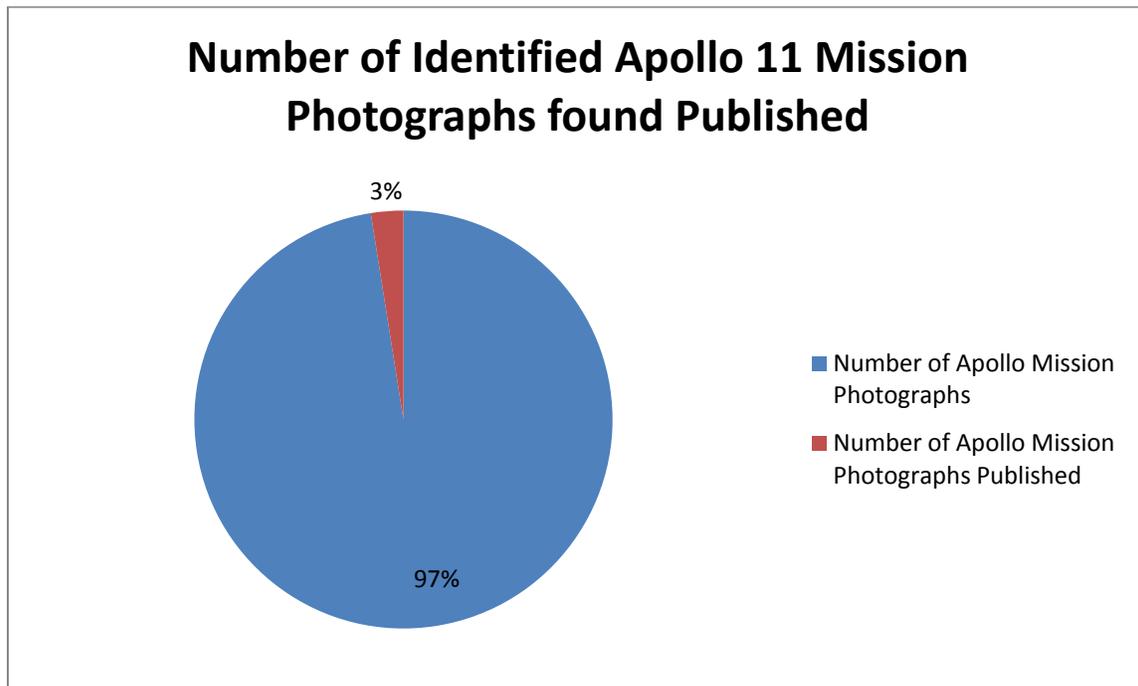


Table 7. Total Number of Black And White & Colour Photographs captured during the Apollo 11 Lunar Landing Mission

Apollo 11 Mission Photograph Media Type	Number of photographs captured
Black and White	892
Colour	551
Overall Total	1443

⁹⁹ For Table 5 and 6, the totals represented do not include duplicate image reproductions.

BIBLIOGRAPHY

a. Primary Sources

*All the magazines and newspapers consulted for this thesis' analysis were primary sources.

The titles and dates referenced are located in the Appendix (Table 1).

Anderson, A.T, C.K Michlovitz, and K. Hug. "National Space Science Data Center Report 70-06: Apollo 11 Lunar Photography." *Apollo 11 Lunar Surface Journal* (April 1970).

Accessed February 12, 2011. [http://www.hq.nasa.gov/office/pao/](http://www.hq.nasa.gov/office/pao/History/alsj/a11nssdc70-06.html)

[History/alsj/a11nssdc70-06.html](http://www.hq.nasa.gov/office/pao/History/alsj/a11nssdc70-06.html). Dunn, Phillip. *Press Photography*. Sparkford: Oxford Illustrated, 1988.

Evans, Harold. *Pictures on a Page: Photojournalism, Graphics, and Picture Editing*. New York: Holt, Rinehart and Winston, 1982. First edition published in 1978.

Flight Planning Branch, Flight Crew Support Division, National Aeronautics Space Administration. "Apollo 11 Flight Plan." *Apollo 11 Lunar Surface Journal* (July 1, 1969).

Hicks, Wilson. *Words and Pictures: An Introduction to Photojournalism*. New York: Arno Press, 1973. First published 1952 by Harper and Row Publishers, Inc.

Jones, Eric M. and Ken Glover. "Apollo 11 Image Library." *NASA Apollo Lunar Surface Journal* (October 2010). Accessed February 12, 2011. <http://www.hq.nasa.gov/office/pao/History/alsj/a11/images.11.html>.

Kalish, Stanley E. and Clifton C. Edom. *Picture Editing*. New York: Rinehart & Company, 1951.

Kobré, Kenneth. *Photojournalism: The Professional's Approach*, 6th ed. Amsterdam: Focal Press, 2008. First published in 1980.

McDougall, Angus. *Picture Editing and Layout: A Guide to Better Visual Communication*. Columbia, MO: Viscom Press, 1990.

Mich, Daniel D. and Edwin Eberman. *The Technique of the Picture Story: A Practical Guide to the Production of Visual Articles*. New York: McGraw-Hill Book Co., 1945.

Rothstein, Arthur. *Photojournalism: Pictures for Magazines and Newspapers*, 2nd ed. New York: American Photographic Book Pub. Co., 1965.

Vitray, Laura, John Mills and Roscoe Ellard. *Pictorial Journalism*. New York: Arno Press, 1973.

b. Secondary Sources

Albert, Pierre and Gilles Feyel. "Photography and the Media." In *A New History of Photography*, edited by Michel Frizot, translated by Susan Bennett, Liz Clegg, John Crook, Caroline Higgitt, 359-369. Köln: Könemann, 1998.

Allen, Michael. *Live From the Moon: Film, Television and the Space Race*. New York: I.B Tauris and Palgrave Macmillan, 2009.

Baynes, Ken ed. *Scoop, Scandal and Strife: A Study of Photography in Newspapers*. New York: Hastings House, 1971.

Benson, Richard. *The Printed Picture*. New York: Museum of Modern Art, 2008.

Brennen, Bonnie and Hanno Hardt ed. *Picturing the Past: Media, History and Photography*. Urbana: University of Illinois Press, 1999.

Brooks, Courtney G., James M. Grimwood and Loyd S. Swenson Jr. *Chariots for Apollo: A History of Manned Lunar Spacecraft*. Washington: National Aeronautics and Space Administration, 1979.

Burgess, Colin ed. *Footprints in the Dust: The Epic Voyages of Apollo, 1969-1975*. Lincoln: University of Nebraska Press, 2010.

-----". "Prologue: Realization of a Dream of Ages." In *Footprints in the Dust: The Epic Voyages of Apollo, 1969-1975*, edited by Colin Burgess, 1-5. Lincoln: University of Nebraska Press, 2010.

Chapnick, Howard. *Truth Needs No Ally: Inside Photojournalism*. Columbia: University of Missouri Press, 1994.

- Cosgrove, Denis. "Contested Global Visions: One- World, Whole-Earth, and the Apollo Space Photographs." *Annals of the Association of American Geographers* 84, no. 2 (June 1994): 270-294.
- Doss, Erica ed. *Looking at Life Magazine*. Washington: Smithsonian Institution Press, 2001.
- Evans, Harold. *Front Page History: Events of our Century that Shook the World*. London: Quiller Press in association with Photo Source, 1984.
- . *Good Times, Bad Times*. New York: Atheneum, 1984.
- Finn, Bernard ed. *Presenting Pictures*. London: Science Museum, 2004.
- Frizot, Michel, ed. *A New History of Photography*, translated by Susan Bennett, Liz Clegg, John Crook, Caroline Higgitt. Köln: Könemann, 1998.
- Galassi, Peter. "Pictures of the Times." In *Pictures of the Times: A Century of Photography from the New York Times*, edited by Peter Galassi and Susan Kismaric, 16-23. New York: The Museum of Modern Art, 1996.
- Galassi, Peter and Susan Kismaric ed. *Pictures of the Times: A Century of Photography from the New York Times*. New York: Museum of Modern Art, 1996.
- Gernsheim, Helmut, and Alison Gernsheim. *The History of Photography: From the Camera Obscura to the Beginning of the Modern Era*. London: Thames and Hudson, 1969.
- Gervais, Thierry. "De part et d'autre de la « garde-barrière » Les errances techniques dans l'usage de la photographie au sein du journal L'Illustration (1800-1900)/ On Either Side of the 'Gatekeeper': Technical Experimentation with Photography at L'Illustration (1880-1900)." *Études Photographiques* 23. (May 2009): 51-63.
- . "« Le plus grand des photographes de guerre » Jimmy Hare, photoreporter au tournant du XIX^e et du XX^e siècle." "The 'Greatest of War Photographers,' Jimmy Hare, A Photojournalist at the Turn of the Twentieth Century." *Études Photographiques* 26. (November 2010): 35-49.

- ". "L'invention du magazine: La photographie mise en page dans "La Vie au grand air."
Études Photographiques 20 (June 2007): 50-67.
- Godwin, Robert ed. *Apollo 11: The NASA Mission Reports, Compiled from the NASA archives*.
Burlington, ON: Apogee Books, 1999.
- Goldberg, Vicki. *The Power of Photography: How Photographs Changed Our Lives*. New York:
Abbeville Press, 1991.
- Griffin, Michael. "Picturing America's 'War on Terrorism' in Afghanistan and Iraq:
Photographic Motifs as News Frames." *Journalism* 5, no. 4 (2004): 381-402. Accessed
May, 2011. doi:10.1177/1464884904044201.
- Gunther, Thomas Michael. "The Spread of Photography." In *A New History of Photography*,
edited by Michel Frizot, translated by Susan Bennett, Liz Clegg, John Crook, and
Caroline Higgitt, 554-580. Köln: Könemann, 1998.
- Hariman, Robert and John Louis Lucaites. *No Caption Needed: Iconic Photographs, Public
Culture, and Liberal Democracy*. Chicago: The University of Chicago Press, 2007.
- Hill, Jason E. "De l'efficacité de l'artifice: *PM*, Radiophoto et discours journalistique sur
l'objectivité photographique." "On the Efficacy of Artifice: *PM*, Radiophoto, and the
Journalistic Discourse of Photographic Objectivity." *Études Photographiques* 26.
(November 2010): 71-85.
- Kennedy, John F. "State of the Union Address." May 25, 1961 in *Footprints in the Dust: The
Epic Voyages of Apollo, 1969-1975*, edited by Colin Burgess, xxvii-xxxiv. Lincoln:
University of Nebraska Press, 2010.
- Lacayo, Richard and George Russell. *Eyewitness: 150 Years of Photojournalism*. New York:
Time Inc. Magazine Co. and Oxmoor House Inc., 1990.
- Launius, Roger D. and J.D Hunley. "An Annotated Bibliography of the Apollo Program."
Aerospace History 2 (July 1994). Accessed February 12, 2011.
<http://www.hq.nasa.gov/office/pao/History/Apollobib/contents.html>.

- Launius, Roger D. "The Legacy of Project Apollo." *NASA History Office Online*. Accessed December 3, 2010. <http://history.nasa.gov/ap11-35ann/legacy.html>.
- Lebeck, Robert and Bodo Von Dewitz. *Kiosk: Eine Geschichte der Fotoreportage 1839-1973/ A History of Photojournalism*. Göttingen: Steidl, 2001.
- Leblanc, Audrey. "La couleur de Mai 1968: *Paris Match* face aux événements de mai et juin 1968 / The Colour of May 1968: Paris Match and the Events of May and June 1968." Translated from French by James Gussen. *Études Photographiques* 26 (November 2010): 179-189.
- Marien, Mary Warner. *Photography: A Cultural History*. New York: Harry N. Abrams, 2002.
- Meijer, Emile and Joop Swart ed. *Photographic Memory: Press Photography- Twelve Insights*. London: Quiller, 1988.
- Morris, John G. *Get the Picture: A Personal History of Photojournalism*. Chicago: University of Chicago Press, 2002.
- Neubauer, Hendrik. *Black Star: 60 Years of Photojournalism*. Köln: Könemann Verlagsgesellschaft, 1997.
- "New York Times Timeline: 1971-2000." The *New York Times* website. Accessed May 15, 2001. http://www.nytc.com/company/milestones/timeline_1971.html.
- Newhall, Beaumont. *The History of Photography: From 1839 to the Present*, 5th ed. New York: Museum of Modern Art, 1982.
- Newton, Julianne H. *The Burden of Visual Truth: The Role of Photojournalism in Mediating Reality*. Mahwah, NJ: Lawrence Erlbaum Associated, 2001.
- Parry, Dan. *Moon Shot: The Inside Story of Mankind's Greatest Adventure*. Chatham. Ebury Press, 2009.
- Panzer, Mary. *Things as They Are: Photojournalism in Context since 1955*. London: World Press Photo, 2005.

- Perlmutter, David D. and Nicole Smith Dahmen. "(In)visible evidence: pictorially enhanced disbelief in the Apollo moon landings." *Visual Communication* 7, no. 2 (2008): 229-251. Accessed May, 2011.doi: 10.1177/1470357208088760.
- Phelan, Dominic. "The Eagle and the Bear." In *Footprints in the Dust, The Epic Voyages of Apollo, 1969-1975*, edited by Colin Burgess, 43-77. Lincoln: University of Nebraska Press, 2010.
- Ritchin, Fred. "Close Witnesses: The Involvement of the Photojournalist." In *A New History of Photography*, edited by Michel Frizot, translated by Susan Bennett, Liz Clegg, John Crook, Caroline Higgitt, 590-612. Köln: Könemann, 1998.
- Rosenblum, Naomi. *A World History of Photography*, 3rd ed. New York: Abbeville Press, 1997.
- Schwartz, Dona. "To Tell the Truth: Codes of Objectivity in Photojournalism." *Communication* 13 (1992): 95-109.
- Smith, Cynthia Zoe. "Émigré Photography in America: Contributions of German Photojournalism from Black Star Picture Agency to 'Life' Magazine, 1933-1938." PhD. Dissertation, University of Iowa, 1983.
- Verbin, Rachel. "Photographic Retouching: The Press Picture Editor's 'Invisible' Tool (1930-1939)." Master's thesis, Ryerson University, Art Gallery of Ontario and George Eastman House, 2010.