

History of Rocketry and Astronautics

**Proceedings of the Fifty-Second History Symposium of
the International Academy of Astronautics**

Bremen, Germany, 2018

Hannes Mayer, Volume Editor

Rick W. Sturdevant, Series Editor

AAS History Series, Volume 51

A Supplement to Advances in the Astronautical Sciences

IAA History Symposia, Volume 38

Copyright 2021

by

AMERICAN ASTRONAUTICAL SOCIETY

AAS Publications Office
P.O. Box 28130
San Diego, California 92198

Affiliated with the American Association for the Advancement of Science
Member of the International Astronautical Federation

First Printing 2021

ISSN 0730-3564

ISBN 978-0-87703-677-7 (Hard Cover Plus CD ROM)

ISBN 978-0-87703-678-4 (Digital Version)

Published for the American Astronautical Society
by Univelt, Incorporated, P.O. Box 28130, San Diego, California 92198
Web Site: <http://www.univelt.com>

Printed and Bound in the U.S.A.

Chapter 21

The Moon Landing as a Worldwide Case of Pop Science*

Maria Giulia Andretta[†] and Marco Ciardi[‡]

Abstract

On 20 July 1969, at 15:17 in Houston, Texas, the *Eagle* Module, hosting onboard Neil Armstrong and Buzz Aldrin, landed on the *Mare Tranquillitatis*. After centuries of fantastical, visionary, and surreal voyages, humanity had conquered Earth's satellite, the launch pad for space exploration. The Moon landing entered the collective imaginary and sparked a new interest in science, which included literature, goes through cinema, music, and fashion, and redefined the standards of communication, scientific disclosure, and dissemination. The attendance began with 78 television stations connected live from 40 different countries and ended with one billion viewers worldwide after the event. That long night was one of the most influential media events of the 20th century with an audience never seen before and perhaps never assumed.

In all the history of science, no event or discovery has had the same social and cultural impact as the Moon landing. The aim of this work is to demonstrate how this scientific goal created a link between the oneiric and science fictional view of the satellite and the technological value of its conquest. This chapter ex-

* Presented at the Fifty-Second Symposium of the International Academy of Astronautics, October 1–5, 2018, Bremen, Germany. Paper IAC-18-E4.3B.13.

[†] Department of History and Cultures, University of Bologna, Italy.

[‡] Department of History and Cultures, University of Bologna, Italy.

amines the media impact of the conquest of the Moon in the Italian press from July 1968 to July 1970.

The sample taken into consideration consists of the two weeklies and the two most widespread periodicals of the 1960s. In those years, the necessity of professional scientific journalists became concrete and many newspapers understood that they needed to reach an ever-larger audience with transversal topics. The Italian press started many collaborations with international periodicals and these partnerships will be very important for the realization of journalistic inquiries and will enter the history of Italian journalism.

The analyzed documents have confirmed that the conquest of the Moon should still be considered as one of the greatest scientific and technological achievements in the history of humankind. The worldwide growing interest in the Moon, which touched different aspects of knowledge, can be defined, and studied, as one of the most important *Pop Science* cases, and it would determine a real phenomenon of *Moon-mania*.

I. Introduction

The expression *Pop Science*, Popular Science, identifies science in a broad sense, and its target is the general audience. This genre uses books, films, documentaries, and articles aimed at so-called nonprofessionals and produced by both experts and mediators.

Pop Science creates real links between scientific disciplines, culture, and society. Its main objectives include the explanation of methods, research, and technology with an acceptable level of rigor. It tries to simplify specialized language, preserve coherence, and use the evocative power of metaphors and analogies to illustrate complex and abstract concepts. It informs, explains, and affirms the importance of progress and investigation. It attempts to reach ever-wider targets and make science easy to understand for everyone [1].

To retrace the steps, which have changed the communication of science, we must keep in mind that until the 19th century scientific discoveries were not accessible to most of society. Scientific knowledge was specialized and institutionalized, a prerogative of academies and universities. Only those who had studied and who had obtained official recognition by the scientific community could fully affirm new theories. Science was an increasingly exclusive field, and such specialization tended to separate scientific disciplines.

The general audience had no access to this knowledge. Only with the increase in industrialization and urbanization, together with the spread of new sociological theories and new ways of thinking, came the widespread necessity to

understand and satisfy their curiosity. Progress became attractive and was strategically brought into the everyday life of ordinary people. This radical change required promotion of the achievements of science inside and outside the scientific community. People started to believe that science could improve the quality of life and make the community more active in society.

Popular Science was born to overcome the specificity of scientific disciplines based on specialized languages and with the power of clarity and simplification allowed a lay audience to understand knowledge and individual members of that audience to study aspects of it in more detail [2]. In this scenario, the Moon landings provide an ideal opportunity to bring science into popular culture through the canons and codes already transmitted by science fiction literature, but also using modern mass media, cinema, music, fashion, and television.

II. Material and Methods

To confirm the popular aspect of the Moon landings, the media impact of the landing was analyzed through the study of the two Italian newspapers and weekly magazines with the largest circulation during that period: *Corriere della Sera*, *La Stampa*, *L'Europeo*, and *Epoca* [3].

The two-year period examined (20 July 1968 to 21 July 1970) proved to be satisfactory for following the trends in media interest and public opinion from the year before the first landing (July 1969) up to its first anniversary.

The material was acquired by consulting the historical archives of the newspapers. The weeklies were consulted at the *Istituto per la storia e le memorie del Novecento "Parri"* of Bologna. Some copies were bought on antiques markets and some from collectors, with greater focus on the summer 1969 editions. The research was carried out using three keywords: *Luna*, *Apollo*, and *Moon*. More than 1,600 articles were archived from the newspapers and over 300 from the weekly magazines.

III. Theory

III.1. The Cultural Context

In the collective imagination, the Moon has for centuries been linked to magical rituals, prophecies, superstition, and popular traditions. Its popularity has been handed down through myths, symbols, arcane divinations, proverbs, and mottos. This archaic dimension has persisted through the transfigured imagina-

tion of poetry and over the centuries; it has anticipated the dreams and fantastic trips to our satellite in the literature worldwide.

Following suggestions evoked by a full Moon in the night sky, humans saw the necessity for its exploration, together with the search for intelligent life forms that might inhabit the satellite. These imaginary creatures were often described as being very different from terrestrial species. Such literature forms the basis for the popularity of the idea of creating a human base on the Moon because it anticipates the various stages and grasps its intrinsic potential.

One of the first texts dealing with these themes and which would inspire the science fiction of the following centuries was the *Verae Historiae* by Luciano of Samosata (AD 2nd century) (Figure 21–1). Then, in the Italian Renaissance, these subjects returned in *Orlando Furioso* by Ludovico Ariosto. In the 17th century, while Johannes von Kepler imagined himself seeing the Earth from the Moon in his *Somnium*, Cyrano de Bergerac wrote *L'autre monde ou Les états et empires de la Lune*.

Following the 18th-century Rudolf Erich Raspe's *Adventures of Baron Munchausen*, the works of Jules Verne marked the birth of modern science fiction literature. In the 19th century, it was essential to make the fantastic narration plausible, and that is why writers introduced citations, contemporary technical innovations, and scientific ideas in their stories [4].



Figure 21–1: A typhoon raises the ship to the Moon.

Verne's diptych, published between 1865 and 1869 and composed of the two novels *De la Terre à la Lune* and *Autour de la Lune*, became a real prophetic anticipation of the American space program. As Verne predicted, the United States was the first country to reach the Moon with a human crew of three astro-

nauts, with the story's protagonists using a space train (Figure 21–2) very similar to the shape and size of the Saturn 5 and the Apollo Command Module, the launch site located in Florida, and the splashdown in the Pacific Ocean.

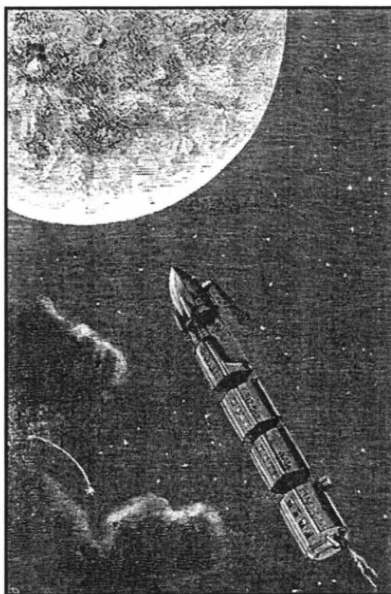


Figure 21–2: Space trains for the Moon, an illustration from the novel *From the Earth to the Moon* by Jules Verne; drawn by Henri de Montaut.

In the early days of movie production, the space projectile returned in one of the best-known films of the pioneers of the cinema: *Voyage dans la Lune* (1902), directed by the famous illusionist Georges Méliès. The father of science fiction cinema managed to reproduce the marvelous atmosphere of the journey and capture millennia of representations, books, and myths in a short film.

A few years later, Fritz Lang took up the theme of the landing with the silent movie *Frau im Mond* (1929), where a propelled rocket made its appearance for the first time. As had already happened in literature, one of the fathers of rocket construction, Hermann Oberth, was called in to collaborate for the scenography. George Pal, in 1951, for *Destination Moon* would also have the collaboration of one of the most important writers of post-war science fiction, Robert Heinlein, author of several stories about the exploration of the Moon.

2001: A Space Odyssey, in 1968, inspired by the novel *The Sentinel* by Arthur C. Clarke and realized thanks to his supervision, marked a turning point, both for the timing of its release in cinemas and for the ability to align the movie with the new space frontiers (Figure 21–3). NASA would exploit the great pro-

motional impact of Kubrick’s film, while the filmmaker produced a realistic movie thanks to the use of real technologies.

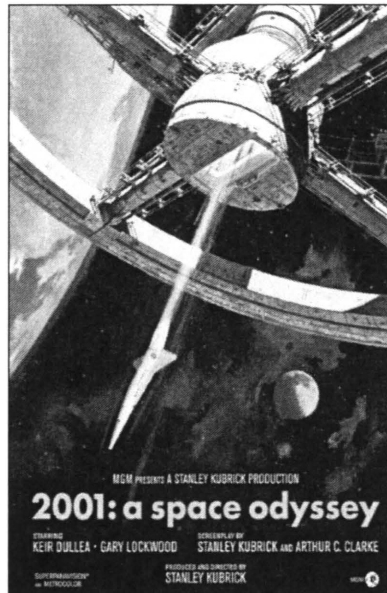


Figure 21–3: Movie poster with the spaceship inspired by the designers Harry Lange, who had worked on real spacecraft for Wernher von Braun.

Even the world of music and fashion did not remain aloof from the Moon fever that reigned at the end of the 1960s. Style became cult as André Courrèges and Pierre Cardin displayed on the catwalks the so-called space fashion (Figure 21–4), experimenting with new materials and fabrics, inserting geometric cuts under the banner of sidereal colors from white to silver.

There were also musical compilations dedicated to the conquest of the Moon, ranging from “Moon River” sung by Audrey Hepburn to “Fly Me to the Moon” by Frank Sinatra, which would be heard by the crew of Apollo 10 during their flight. “Space Oddity,” by David Bowie, would become the signature tune of the live services of the BBC.

The Space Age, characterized by many social and political changes and by the first real space adventures in history, shared in the collective imagination as a point of arrival for a fruitful and progressive modernity.

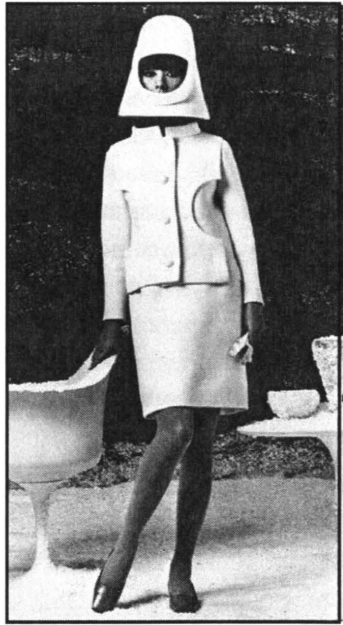


Figure 21–4: 1960s Moon Girl.

III.2. The Press Context

The popularity of the Moon landing can be quantified by studying the amount of space dedicated to the event in the mass media. Newspapers, weeklies, and television broadcasts drove the phases of man's journey to the Moon with increasing interest. In some cases, specific columns were created to answer the questions of readers enthused and intrigued by the high technological value of the mission and by the challenge it represented.

The 1960s were characterized by great industrial and economic growth and an increase in mass consumption. The media aligned itself with those changes, and such factors led to considerable cultural development. More financial resources were invested in technological developments, employment increased, more specialized profiles were created in a positive trend, which lasted up to the final consolidation of television news broadcasts.

Demand drove adaptation to these new trends and seizure of new opportunities through initiatives, promotions, and communication formulas aimed at involving the emerging middle class. The number of written works increased, publishing houses were founded, new encyclopedias, and economical pocket-sized series were proposed with the aim of reaching a wider audience. Within a few years, this became the great editorial system, which would form the basis of the

communication and the scientific dissemination of the conquest of the Moon. Its popularity started, not by chance, from these innovations.

LIFE magazine's editorial stance became a model for the European weeklies, which followed its iconographic and documentary approach. For the most important events, newspapers added special editions and inserts with reports, diaries, and interviews. Colored photos and recordings on disc, with the comments of the major names in the press, were also included. Satirical vignettes and the program schedules of television closely related to the theme were often present. Even advertisements used the media impact of lunar events.

III.3. Pop-Moon

With the term *pop*, it is possible to indicate a taste, an aesthetic sensibility, a style, a fashion, and an attitude. The Moon landing, having been one of the most important moments of the 20th century, falls into this category as it has influenced various areas of knowledge. Moreover, the event is part of the period of the *pop* affirmation in culture. Society has put itself in the hands of technology and has begun to respond to the new demands of the so-called mass culture. This is produced through new media, the mass media, which define a different relationship between subjects and innovation, transforming, finally, knowledge from local to mainstream.

Beyond the assimilation of the term *pop* with mass culture, we must keep in mind that it identifies a new way of communicating, with updated tenets. These different standards are an expression of new social phenomena, which have finally filled the gap between the masses and the elite under the banner of a democratic spirit of knowledge.

The word *pop* is an abbreviation of popular and in this sense, it is impossible to deny the resonance that the Moon landings and exploration had in the collective imagination, when icons dominated the media and visual immediacy and soundbites were able to express the maximum of meaning instantly.

The movie context is different, because it does not elaborate a *pop* vision of itself but uses it as a background to talk about other things. It reinterprets *pop* codes, revisits the themes, uses the scenarios, accompanies the events, and ends up conveying its forms without developing autonomously. *Pop* culture, not by chance, clearly manifests itself in the combination of movies and literature with the science fiction genre [5].

Instantaneity, sharing, new languages, immediacy, and multicultural approaches are the standards of the media success of the Moon landing. As many journalists who have dealt with space programs as writers and commentators recall, the main aspect of that new way of making scientific communication that

was being born in Italy, regarded understanding. That is, it was necessary to figure out the whole space world, and if necessary, to find the skills required.

From this point of view, NASA had the merit of sharing mission plans because journalists had to be practical with language and procedures. Months before the missions, the flight details arrived at the editorial offices of the whole world. These were volumes of information, which had to be studied and learned. Clarity and objectivity were assured, aiming to arouse interest and curiosity. Many of the journalists, reporters, envoys who work for television, newspapers, and magazines visited the space centers and were accompanied by officials and volunteers to see the launching pads and control towers. They met the heroes of space and saw with their own eyes the industrial sites where the rockets were built. They felt the most human aspects of the achievement, and they told it to the public all over the world.

Thanks to the first satellites for telecommunications, the Moon landing was one of the first examples of global communication, which brought science out of its specialized borders to enter the mainstream news outlets. However, it should be remembered that media coverage in July 1969, when compared to current levels, was limited. NASA's technical reports were very expensive, as were the colored images for both television and magazines. Newspapers, news broadcasts, and television provided timely flight updates, but photographs often lost their quality and detail, and videos often had low resolution and contrast.

In some countries, such as China, North Korea, and Vietnam, political regimes imposed control of television and radio transmissions, and even censorship. From their point of view, it was an event with a high propaganda value, and it is assumed that in 1969, approximately 750 million people did not know that man had landed on the Moon.

Before the *Apollo 11* mission, a lot of documentaries and reports were produced in Italy for the TV7 channel, with live broadcasts from NASA during the departure of the missions, but also explanatory visits to companies that had produced component parts for the missions in order to bring the public even closer to space. The television ratings show that the Moon landings created great interest, which soon extended the public's curiosity to fields of astrophysics, such as galactic exploration and black hole theories. These programs, through new elaborate models and simulations, attempted to show everything that could not be seen, until that moment, with the naked eye.

In 1967, ten months after the drama of *Apollo 1*, which had been a blow to the American space programs, the first Saturn rocket was launched with the unmanned flight of *Apollo 4*. The success of that mission gave new vitality to NASA, which, after a concrete risk of the program being cancelled, took on the

responsibility to try everything for a final attempt. The possibility that the Soviet Union could arrive in circumlunar orbit anticipated the first American flight around the Moon in a real race against time.

The year 1968 had been a terrible year from many points of view. The pacifist leader Martin Luther King in Memphis was murdered, and the presidential candidate Robert Kennedy suffered the same fate in Los Angeles. The war in Vietnam was dividing the country and on the university campuses, the first student demonstrations had begun. The country seemed on the verge of an irreversible crisis, but those three men orbiting the satellite on Christmas Day, who saw their planet for the first time from the perspective of another celestial body (Figure 21-5), reassembled and reunited the spirit and the mood of United States at least temporarily.



Figure 21-5: Earthrise, photograph AS8-14-2383HR made by William Anders on 24 December 1968 during the Apollo mission.

The *Apollo 8* mission had the merit of making Earth truly close to the Moon for the first time. The *Apollo 11* mission represents the absolute highest moment of the space race, because immediately afterward the priorities changed. Uncontrollable social changes prompted the government to review its plans. The race was over. America had won.

With success, however, came the loss of the spirit to continue exploration of the cosmos with the same rhythm. The technology needed to reach the Moon had overshadowed every other aspect of the NASA programs, the coalition that

had supported the *Apollo* missions was weakening, every decision had to be made based on detailed cost-benefit analyses, and the national needs were now too different from those at the beginning of the 1960s [6].

IV. Results

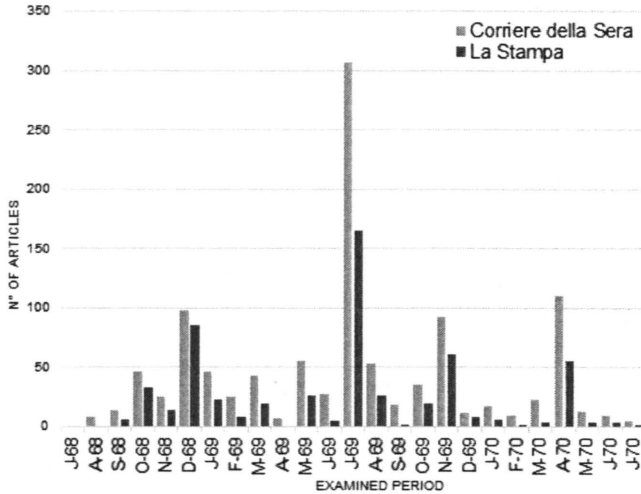


Figure 21-6: Articles of the daily newspapers.

	<i>Corriere della Sera</i>	<i>La Stampa</i>
Jul-68	0	0
Aug-68	9	0
Sep-68	14	6
Oct-68	47	33
Nov-68	25	14
Dec-68	98	86
Jan-69	47	23
Feb-69	25	9
Mar-69	43	20
Apr-69	7	0
May-69	56	26
Jun-69	27	5
Jul-69	307	166

Aug-69	53	26
Sep-69	19	2
Oct-69	35	20
Nov-69	93	61
Dec-69	12	8
Jan-70	17	6
Feb-70	10	2
Mar-70	23	4
Apr-70	111	56
May-70	13	4
Jun-70	10	4
Jul-70	5	2

Table 21-1: Articles of the daily newspapers.

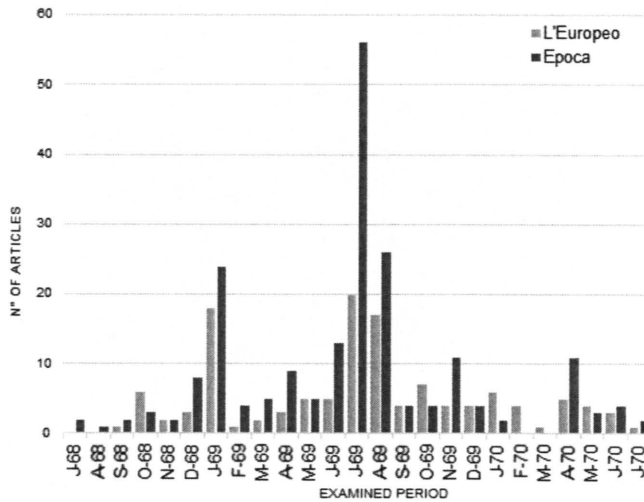


Figure 21-7: Articles of the weekly newspapers.

	<i>L'Europeo</i>	<i>Epoca</i>
Jul-68	0	2
Aug-68	0	1
Sep-68	1	2
Oct-68	6	3
Nov-68	2	2

Dec-68	3	8
Jan-69	18	24
Feb-69	1	4
Mar-69	2	5
Apr-69	3	9
May-69	5	5
Jun-69	5	13
Jul-69	20	56
Aug-69	17	26
Sep-69	4	4
Oct-69	7	4
Nov-69	4	11
Dec-69	4	4
Jan-70	6	2
Feb-70	4	0
Mar-70	1	0
Apr-70	5	11
May-70	4	3
Jun-70	3	4
Jul-70	1	2

Table 21-2: Articles of the weekly newspapers.

V. Discussion

V.1. Explanation of the Results

The graphs show the trends in public interest over the two years of the Moon landing. The peak between July and August 1969 comprising the actual landing is evident, with the other two significant moments coinciding with the flights of *Apollo 8* and *Apollo 13*, respectively, in December 1968 and April 1970.

Apollo 8 provided the general proof not only of the real possibility of reaching the satellite, but also of the whole media system, which would have to document the achievement. In deciding to make the mission coincide with Christmas, NASA made a strategic choice, because this catalyzed attention by amplifying the curiosity in the first great American space record. It was the first case in which the press could follow, phase by phase, a lunar mission of this stature, and it was important to underline the various technical, scientific, biograph-

ical, and transversal aspects catalyzed by this event in what would then be the media impact of the Moon landing.

The “Moon Days” began with Christmas Eve 1968 and inaugurated an ever-increasing interest culminating in summer 1969. The period leading up to *Apollo 11* showed a slight drop in interest, missions 9 and 10 being transition phases serving the ultimate goal for functional purposes. The numbers are extremely significant in the summer months when readers received detailed information on everything related to the mission in newspapers almost daily.

In November 1969, *Apollo 12* was already seen as a routine trip, while the *Apollo 13* accident and its “odyssey,” found a lot of space in the press because of the real risk of a tragedy. A year after the landing, few articles were published. The cultural phenomenon had been assimilated by the public and had already been delivered from chronicle to history.

The differences in the circulations of the two newspapers were due to their reader targets and their published editions. Both newspapers had valid correspondents abroad, dedicated columns, and space for readers’ letters, but *Il Corriere della Sera* (Figure 21–8) also involved famous writers, intellectuals, and opinion leaders known to their readers. *La Stampa* (Figure 21–9) did it less. For the weeklies, the situation was different because, when compared to *Epoca* (Figure 21–10), the articles of *L’Europeo* (Figure 21–11) are much longer and are presented in the form of surveys, diaries, and dossiers made in the United States—often by Oriana Fallaci, one of the greatest names in Italian journalism at that time.

Epoca also had the advantage of being published on Sundays, unlike *L’Europeo*, which came out on Thursdays, which allowed the former to report the issues immediately before departure, before landing, and immediately after the return of the mission. Its front covers for a whole month were dedicated to *Apollo 11*, and the volumes included special attached inserts, which together composed a real book of the Moon to reconstruct the stages of the big expedition according to the flight plans issued by NASA.



Figure 21–8: Cover of *Corriere della Sera*, 20 July 1969.



Figure 21–9: Cover of *La Stampa*, 20 July 1969.



Figure 21–10: Cover of *Epoca*, 13 July 1969.



Figure 21–11: Cover of *L'Europeo*, 31 July 1969.

V.2. Results Comment

Close to the departure of *Apollo 7* newspapers provided the first details about the mission, often accompanied by photographs of the crew and its prepa-

rations. The state of technological and scientific progress was explained, but there were also detailed analyses on the competition between the United States and the Soviet Union. The first articles on the media impact of the Moon missions appeared with dedicated film reviews and itineraries in the world of literature relating to journeys to the satellite.

The eleven days of the *Apollo 7* mission were followed with attention, because the tragedy of *Apollo 1* in January 1967 was still vivid in the collective imagination. Great attention was paid to detail, and readers were reassured about the resistance of the capsule both during its 164 orbits around the Earth and during splashdown.

The circumlunar journey, set for the month of December, began to make news both for the extraordinary nature of the event and for the record. What made news above all was the strategic choice of the period in which the flight took place, with a lot of scheduled programs and communications from the Moon to the Earth right near Christmas Day. A rich set of images of the crew, of the preparation of the mission, but also of the *Saturn 5* rocket ready for its debut with the first human crew accompanied the articles with details of the mission.

The Moon was getting closer, and the press updated readers on the maneuvers of rendezvous, docking, and extravehicular activities, recalling the live connections and the new goals achieved with a lot of roadmaps that allowed people to follow the flights of *Apollo 9* and *Apollo 10* phase by phase.

A great sense of expectation was created, and the first articles about the Moon landing concerned the live television programs to be broadcast between 20 and 21 July. The television marathon lasted over 24 hours, a record in Italian television history, both for the exceptionality of the event and for its duration. The images of the Moon and the first steps of the astronauts upon it were interspersed with live broadcasts from Houston, documentaries, interviews with scientists and experts, talks with Italian newspaper directors and television critics.

The journey of *Apollo 11* was followed with real-time, step-by-step updates. The readers became very interested in the daily life of the astronauts, in what they did, and in what they ate. Even the important experiments they had to carry out on the Moon were illustrated and simplified for the public audience. At the same time, it was explained how the Soviet spacecraft *Luna 15* continued, as planned, to orbit the Moon and that the two missions would not interfere with each other.

The landing of humans on the Moon was documented above all through the evocative images arriving from space in newspapers and on television. The weeklies sold colored dossiers and included special inserts, with attachments

ranging from posters, to reproductions of the plate left on the Moon, and even a vinyl recording of the historic journey.

On several occasions, the transcripts of the most important dialogues between the crew and Houston were reported, and people also became interested in the reactions around the world with focuses in the New York, Washington, London, Paris, Vienna, and Berlin press. The three astronauts were by then very popular and, after their splashdown in the Pacific Ocean, were celebrated after their period of necessary quarantine. This precautionary measure affected the public as much as the biological responses of the astronauts to their lunar permanence and the first results on the samples collected.

The wait for the next new mission then emerged as all the procedures and preparations followed for the Apollo missions had become just routine. Journalists left behind the success achieved and started to monitor the *Mariner* program toward Mars, which had become the new frontier together with creation of an *International Space Station*. The interest gradually diminished despite the results from the samples *Apollo 12* brought back from *Surveyor*, which demonstrated the survival of bacteria in the hostile lunar environment. Newscasts covered with great emphasis the frightening explosion aboard *Apollo 13* and the breathtaking “successful failure” of its mission.

When the first anniversary of the Moon landing was approaching, interest in Moon exploration had changed. News articles had already started to cover themes related to transversal space programs, and newspapers had created a lot of specific sections to deal with scientific contents and technological details. Despite this, the numbers of readers showed significant decreases.

An indicative choice of the public interest in the *Apollo* program was shown by the need for a series of articles explaining the reasons for the Moon missions. The tension animating the expectation was both for the human goal and for the technological achievement. The journey seemed like a science fiction story in the opinion of the average reader or viewer, even though the dramatic images of scientific progress leading to the atomic bomb on Hiroshima persisted. Progress is subject to unpredictable and inevitable accelerations. In addition, there were rhetorical questions, still very widespread, about whether the risks, the costs, and the efforts justified the goals.

The biographies of the astronauts were very attractive for the audience, as were the technical aspects of the launches and the capsules. The articles, when possible, were accompanied by diagrams, drawings, and photographs, which contributed to the immediacy and helped toward a greater understanding of the role in the missions. Some of their most important protagonists, including Wernher von Braun, the father of rocketry, who often aroused great curiosity notwith-

standing his controversial past, as well as Rocco Petrone, the pride of Italy, and at that time director of launch operations, became important figures.

The enormous popularity of the lunar mission was confirmed by all the opinions, the questions, the curiosities, and the perplexities that readers expressed in their letters to the newspapers. This activity modified the spaces dedicated to such information. The most recurrent themes were the sense of conquest, the competition between the two superpowers, the risks, and the costs, often considered too high. Public opinion was struck by the transparency of NASA compared to the information coming from Moscow, which was scarce and always postponed to the end of missions. Despite these differences, the press always tried to balance the news.

V.3. A New Communication

The evidence of a change in the way of presenting scientific information in Italy is given by the fact that at the end of the 1960s, *L'Europeo* inaugurated an important collaboration for exclusive and unpublished reports with the American magazine *LIFE*. Soon after this decision, the collaboration was extended to *TIME*, among the most widespread news magazines worldwide and to the British multidisciplinary scientific journal *Nature*, one of the oldest, most prestigious in the international scientific community.

Inserts, special supplements, and articles acquired through foreign publications brought the Italian public even closer to the *Apollo* missions. Technical rigor and professional scientific journalism made readers understand the magnitude of lunar exploration. The color iconographic supplements were essential, because it was impossible to fully appreciate the images either on live television or in the normal newspapers.

Advertising was powered up by the media impact of the Moon landing and increasingly used lunar scenarios to suspend clocks, credit cards, and domestic appliances in space. Design and furniture became white and minimalist like spaceships, and even radio, airlines, and insurance companies exploited the growing interest in their campaigns.

The dissemination of this content was widespread and spectacular, uncritical but able to fascinate an ever wider public audience. With such a model, we can recall that in the following years the complete decoding of the human genome could be presented worldwide in streaming, as well as the detection of the Higgs Boson, the discovery of (possibly habitable) exoplanets, and the measurement of gravitational waves.

Today there are many specialized television channels often presenting original and revisited documentaries about the Moon landings and space travel: *Sci-*

ence Channel, Discovery Channel, and History Channel are some examples. Many television series attempt to explain scientific topics, such as *Bill Nye the Science Guy* and *Cosmos*, the cornerstone of scientific disclosure by Carl Sagan.

For a decade, ESA told the ongoing stories of *Philae* and *Rosetta*'s trips to comet 67P / Churyumov Gerasimenko with a series of animated short films [7] illustrating these expeditions as real adventures. Even the most technical aspects were displayed with the immediacy and simplicity of the graphics and with a captivating narrative voice.

Cassini's Finale held the audience in suspense until its last dive into Saturn proving that there is curiosity about, and interest in, space exploration. The events organized during these missions have attracted audiences from an early age. The number of festival events are increasing, and space shows that tell the history of the space race, with reproductions of the capsules and original discoveries, are very successful.

All over the world, flight museums and scientific museums receive thousands of visitors, and thematic merchandise is popular with both the young and the old. Even Google, every time an important anniversary occurs, dedicates its doodles to space and science (Figure 21–12).



Figure 21–12: Google celebrates the 40th anniversary of the Moon landing.

Among the main factors that have led to the great success of the Moon missions, one must consider not only the astronauts, technicians, and managers, but also the synergy born between industry and government that brought together and coordinated individuals from very different realities. NASA immediately and publicly shared its successes and failures, running the risk of losing consensus, ending up with the creation of an organizational machine that had never been attempted before. It did all of this under the eyes of the entire world, managing communication in an exemplary way.

VI. Conclusion

Only three generations divide the moment of the first detachment from the Earth, the first manned flight, and the first manned orbit around the planet. Exploring the limits of imagination, in the “Moon years,” was a shared dream. The courage and spirit of those years allowed us to reach one of the most daring goals, not only for Americans, but also for the whole world.

With the Cold War propulsive drive and competition, the *Apollo* project owed its success to resources, technology, collaboration, and to the desire to look beyond the risks and uncertainties. The first live television broadcasts from space entered the houses of the general public, and some crews even received the Emmy Award for their reports transmitted during their journeys in orbit and on the Moon.

To help the dissemination of results, in the years of space travel NASA produced many manuals and much documentation ranging from project design and components, to technical maneuvers. It produced explanatory press folders for journalists, reports, and complete transcripts of communications, to which were added the more than 6,500 photographs and hours of filming and videos in black and white and color. All this material is available on request, is still being studied, and is still used as the technological basis of many objects now in everyday use.

Access to this information is one of the clear signs of the large-scale relapse in Moon exploration, but also of the ability of the United States to share their achievements and successes in order to make them available to all [8].

This approach, this new way of communicating science, was effective because it was convincing. The common man felt as if he was part of the achievement. The testimonies of the astronauts, heroes who succeeded in emotionally involving the public, were a further strong point in the popularity of the missions.

The need to know in greater depth and to document both the technical aspects and the transversal aspects, created in 1969 a real case of *Moon mania*. The Moon landing became so multidisciplinary that it can be seen as a phenomenon, which tended to close the gap between scientific elites and ordinary people. We must keep in mind that readers and spectators have given credit to information by overcoming the mistrust, which the complexity of the issue could have induced at first.

On 20 July 1969, *Apollo 11* realized one of man’s greatest dreams and did so in the name of all mankind. It was not a coincidence that the historical sentence pronounced by Neil Armstrong underlined exactly this aspect.

Acknowledgments

The collaboration of the Istituto “Parri” has been very important for this work. A special thanks to Tito Stagno and Piero Angela for sharing their personal experience and to Davide Hare and Professor Darek Jones for all the advice.

References

- ¹ W. McRae Murdo, *The Literature of Science: Perspectives on Popular Scientific Writing*, University of Georgia Press, Athens, 1993.
- ² O. Handlin, *Science and Technology in Popular Culture*, MIT Press, Cambridge, 1965.
- ³ P. Murialdi, *Storia del giornalismo italiano. Dalle prime gazzette ai telegiornali*, Gutenberg, Torino, 1981.
- ⁴ M. Ciardi, *Scienza e credenze. Storia di successi e di illusioni*, Hachette, Milano, 2016.
- ⁵ A. Mecacci, *L'estetica del Pop*, Donzelli Editori, Roma, 2011.
- ⁶ U. Guidoni, *Dalla Terra alla Luna*, Di Renzo Editore, Roma, 2011.
- ⁷ ESA Tv, *Once Upon a Time (Rosetta Cartoons)* from 20 December 2013 to 23 December 2016, https://www.esa.int/esatv/Sets/Once_upon_a_time_Rosetta_cartoons (accessed 31.08.18).
- ⁸ P. Attivissimo, *Moon Hoax: Debunked!* Amazon Fulfillment Wroclaw, 2010.