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**Fifty years of NASA and the public:**

**What NASA? What publics?**

The history of the relationship between NASA and the public involves the Agency's approach to informing the public about its activities, public opinion and public understanding about the U.S. civil space program and efforts to foster public support for it, the evolution of "NASA" and "the public" over time, and the role of political appointees in NASA's public affairs operations, among other things.

This history has unfolded in the context of an evolving cultural environment, shaped by the Cold War, the post-Cold War period, the state of journalism, government-citizen relations, government-journalism relations, and other factors. A half century of public opinion polling

about the space program, as well as media coverage of the space program, is a part of this cultural history.

The subject of “50 years of NASA and the public” stretches over a huge research space. The historical record of NASA’s relationship with the public is immense, including official records and other archival materials, scholarly research, popular literature, media content, and public opinion. In exploring this research space, one must consider how best to go about interpreting the historical record of the space program. What counts? What, or who, is credible? What motivates official statements? What is missing from the record?<sup>1</sup>

The analysis approaches the subject of “NASA and the public” from several different perspectives. The history of NASA’s public affairs office and operations is reviewed, drawing primarily on official and other archival records. NASA’s efforts to fulfill its statutory responsibility, articulated in the 1958 National Aeronautics and Space Act, to effect the “widest practicable dissemination” of information on NASA activities, are examined.

NASA’s relationship with various “publics” is also examined: how NASA has dealt with “the public” over its first 50 years and how “the public” has responded to NASA and its programs. That public response encompasses public opinion, public interest, public support, public protest, public ignorance, public apathy, the permeation of popular culture with images and ideas about space exploration. These are all different aspects of NASA’s relationship with “the public.” NASA “in” public is scrutinized – its public image, its public face, public

perceptions of and public interest in NASA. From a critical perspective, the space program will also be considered as a cultural spectacle.

This review of “NASA and the public” is a mix of scholarly analysis and personal history, or participant observation, in social scientific parlance. In exploring the first 25 years of NASA and “the public,” the author draws primarily on archival materials, focusing on the origins of the agency and its public relations apparatus. For the second 25 years, 1983 to the present, she draws on her own observations and experiences as a participant-observer<sup>2</sup> along with primary and secondary sources. This review does not offer a panoramic, “god’s eye” view of this history, as feminist scholar Donna Haraway<sup>3</sup> would call it. It does offer what feminist scholars call “lived experience,” informed by relevant theory and research.

### *The history of NASA’s public affairs office and operations*

Even before NASA was created, U.S. engagement in space exploration was shaped by official concerns about public image. U.S. activities in space were intended to be seen as an assertion of scientific and technological expertise, political power, and global dominance. From its inception, NASA was part of a larger national political effort aimed at “winning hearts and minds” in a bifurcated world of free and Communist nations. Early records of the NASA Public Information Office (later renamed the Public Affairs Office) show that NASA’s intent was to establish with “the public” that the United States had a national space program, that NASA was in charge of it – not the Air Force or the Navy or any other military group – and that this program served the purpose of supporting national policy goals. The aim was to make it clear, to

U.S. citizens and people around the world, that NASA's space program was open while the Soviet space program was secret.

Early NASA information policy documents cited the Agency's statutory responsibility to "provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof."<sup>4</sup> This policy, on paper and in practice, also aimed to control the flow of information to the public, including the mass media. At the same time, the media were invited in, by design, to help tell the story of U.S. leadership and conquest in space. NASA officials aimed to make it clear, to U.S. citizens and people around the world, that their space program was open, while the Soviet Union's space program was secret.

In a memorandum to NASA Administrator T. Keith Glennan dated September 9, 1958<sup>5</sup>, Walter T. Bonney, Assistant to the Executive Secretary of the National Advisory Committee on Aeronautics (NACA) and in charge of public relations there, noted that NASA, unlike NACA, was created to "be employed as an instrument of U.S. policy." NASA's objectives were to preserve space for peaceful purposes, promote international cooperation in space, and advance U.S. leadership in science and technology. To meet these objectives, NASA must master the art of communication – "to use effectively the techniques of information transmission," said Bonney, who would soon become NASA's first director of public information. "The United States must wage peace not only by what we do but by what we say," he continued. "Our problem is not only to explore outer space for peaceful rather than military purposes but to insure that the world knows what we're doing. We must use the truth to counter the Communist lie."<sup>6</sup>

Elaborating on NASA's statutory responsibility to disseminate information, Bonney said, "NASA must tell the truth, modestly, clearly, and with enough vigor to be heard.... [A] positive information policy will provide at least partial control of 'the situation'." <sup>7</sup> The agency must not even "permit the appearances of engaging in...a competition with the Russians to see who can produce the most spectacular space stunts." At the same time, he said, Congress and "the public" need to know "how much is being accomplished how rapidly by NASA.... Here, as in all aspects of its information program, NASA needs to maintain a nice sense of balance." In a January 22, 1959, memo to Glennan <sup>8</sup> Bonney argued, "There is a need to exercise control over the public statements made by NASA staff." He recommended adopting the policy he established at NACA: "No information regarding NACA activities should be imparted to the press without knowledge of, and approval by, Mr. Bonney." Glennan complied.

Bonney wrote to Glennan later that year <sup>9</sup>, "So far as the world is concerned, the nation which first succeeds in" putting a man into Earth orbit "will be credited with having demonstrated a measure of scientific superiority of enormous and incalculable value.... Around the world," he wrote, "we are fighting for the minds of men." <sup>10</sup> At the same time, "The distinction between publicity and public information must be kept constantly in mind," he noted. "Publicity to manipulate and 'sell' facts or images of a product, activity, viewpoint, or personality to create a favorable public impression has no place" in NASA. A few months later, Bonney reported to Glennan <sup>11</sup>:

There is a need...for a sharpening of the public focus on the picture of NASA and its activities, thus to assure awareness and understanding that our leadership is hard-driving as well as intelligent, that our staff is talented as well as dedicated, that our planning is

boldly imaginative as well as sensible, that our prosecution of the job is vigorous and massive as well as urgent.... NASA must show itself to be big enough, lusty enough, and courageous enough to accomplish what must be done in space....

Jet Propulsion Laboratory public affairs officer Chris Clausen wrote to Bonney in 1959<sup>12</sup>:

There is a distinct payoff to Russia if it can maintain the fiction that Communism is superior to capitalism simply because Russia can fire larger and heavier payloads than can the U.S.... [We are] in this competition certainly not by its choice and generally on terms dictated...by the Russians.... What we have to do now...is stress [the] differences [between the Soviet and U.S. space programs] over and over until everyone understands them.

The most important message for NASA to convey, Clausen wrote, is that the Agency's space program is open while the Soviet program is secret:

It can be shown that our policy of honesty and candor in reporting our entire program...represents...one of the basic differences between our philosophy and the Russian doctrine. It is the difference between rubber stamp elections and free elections...it is the difference between a civilization that is sure and proud of its strength and a dictatorship whose insecurity must be protected by secrecy." [Note: Another important NASA message, Clausen continued, is that NASA's space program is "a national space program." Getting across this message should minimize "the amount of scrambling different services perform in order to grab public credit for NASA programs. All of this points up the dreadfully difficult task one encounters when one tries to act in a

democratic manner. A nice balance must be struck between the attitudes of dictatorial inflexibility and foolish anarchy.<sup>13</sup>

From the start, then, there was a tension between NASA's democratic task of informing the public and its political objective of controlling image and message. Whether the Agency's public affairs officials explicitly recognized this tension is not clear.

By 1960, the Agency had codified the functions and authority of the Office of Public Information in a NASA Management Instruction<sup>14</sup>: disseminating public information, advising NASA officials on "public information matters," reviewing public information "for content and policy adherence," and preparing and distributing information for the media. At this point, the office already had a motion picture section and an art and exhibits section. NASA was well along the way to infusing popular culture with the spectacle of space exploration.

In January 1960, Bonney told Glennan<sup>15</sup> that NASA public information efforts should "avoid selling" the space program. A few months later, Bonney's deputy Joe Stein told the Administrator<sup>16</sup>, "Never should the OPI staff, nor others connected with NASA, attempt to pressure or 'sell' NASA information, nor to play favorites among editors, reporters, writers, broadcasters or publications anywhere." Stein continued, "OPI seeks, not to tell other members of the staff what they can and cannot say, but what is consistent with accuracy and policy, and the effects achieved thereby...."

In December 1960, Administrator Glennan asked Benjamin McKelway, editor of the *Washington Evening Star* and president of the Associated Press, and Russell Wiggins, editor of the *Washington Post* and *Times Herald*, for advice on persuading the media to avoid building up public expectations in advance of Mercury missions. Glennan told the editors that NASA's goal was "no undue limit on reporting of events but rather better informed and more responsible interpretation."<sup>17</sup> Wiggins told Glennan that NASA was not the first organization "to find that in spite of its best efforts to make facts available, they are not always reflected in print as might be desired." The editors did not share NASA's view that "pre-launch use of [NASA] background information" could raise public expectations and lead to "a letdown if the experiment were postponed or fell short." The editors suggested that NASA engage with the National Association of Science Writers and other leaders in science news about communicating guidelines to journalists on how to report on "the trial and error nature of the Mercury experimental launches."<sup>18</sup>

Bonney left NASA at the end of 1960. In November 1961, NASA's second Administrator James Webb approved a reorganization under which the Agency's Office of Public Information and Office of Technical Information and Educational Programs were merged into a new Office of Public Affairs (PAO). Hiden T. Cox was the first Assistant Administrator of the new PAO, serving for six months. In a 1962 memo to Administrator Webb,<sup>20</sup> NASA official Jay Holmes advised that while NASA enjoyed "extremely powerful public support" and "a favorable general public opinion...this does not pay off nearly so well as an aggressive, sophisticated lobby." Holmes recommended that Webb and other top NASA officials book speaking engagements "in greater numbers than at present at industrial and technical meetings,

around NASA installations, and in states like California and Florida, where space activity is heavy.”<sup>21</sup> While NASA focused on industry relations, it did not appear to be as concerned about responding to public queries. A few illustrative examples follow.

In 1962, college student Claudia Sperry of Albany, NY, wrote to NASA seeking information on the “policies, programs, and publics” of NASA’s “Public Relations program.”<sup>22</sup> Sperry asked:

What is your definition of Public Relations? What prompted the creation of your Public Relations Department? Who do you consider to be your publics? What is your Public Relations Department doing to influence public opinion into thinking that our country needs to spend billions of dollars on space projects instead of concentrating solely on...problems we have here on Earth...?

NASA Assistant Administrator for Public Affairs Hiden T. Cox replied to Sperry<sup>23</sup>:

We do not have a public relations office.... I do not believe a Public Relations Department is necessary in this field. I believe we would discharge our responsibilities adequately if we were able to provide the widest practicable dissemination of information concerning NASA’s activities.... The entire American people constitute [NASA’s] public.... We do, however, have an Office of Public Affairs, whose function is to help NASA officials cope with...enormous demands...for information about NASA activities and their results.

As to what prompted the creation of NASA’s public relations department,” Cox said, “as phrased, the question does not apply.” He concluded:

You seem to assume public relations activity is in progress to create a favorable image and acceptance of the national space program.... Even if we wanted to engage in public relations activities, it would be impossible to do so in view of the other demands on our time.

In another example, a NASA public affairs officer took umbrage at questions about media access to information. In a 1965 letter to the Agency's Manned Spacecraft Center public affairs officer Paul Haney<sup>24</sup>, the president of the Greater Houston chapter of the Texas Civil Liberties Union asked for NASA to "reconsider the restrictive measures...imposed on the newspapers in regard to their coverage of the activities of the astronauts." Haney replied, "Your letter came as complete surprise and shock to us.... I can only conclude that your letter was based on misinformation."<sup>25</sup> He provided tallies of NASA's interactions with the public: numbers of visitors to the Manned Spacecraft Center, viewers of "film clips and TV presentations" about the MSC, press briefings and interviews conducted, and so on. In another letter to Read,<sup>26</sup> Haney wrote that the constitutional freedom of the press "is precisely that – a freedom, not a subpoena." NASA prefers to select its astronauts "by means other than a newspaper publicity contest," he wrote. "[M]ay we know what your policy is to be with regard to freedom of speech, particularly that of an individual?"<sup>27</sup>

Haney's response to Read provides an example of the NASA PAO's standard approach to assessing public interest: quantification. The PAO measures its (and NASA's) performance by counting hits on NASA's web site and stories about NASA in print, broadcast, and online media. Elite media coverage of NASA news is always of particular interest. Audiences for various

media may also be counted, though apparently with no attention paid to whether audiences actually receive the information that NASA disseminates and what audiences actually do with that information. For example, in a 1995 activity report, the NASA PAO stated that “last year an estimated three million people examined the Space Camp Exhibition when it tours state fairs.”<sup>28</sup> Such estimates do not have a clear meaning. Does this number mean that a total of three million people attended the fairs that hosted the exhibit? Or does it mean that three million people walked by the exhibit? Or does it mean that three million people learned something useful from the exhibit?

In mass communication research, audience studies and critical and cultural studies address what this quantified approach does not. How many readers, listeners, and viewers are paying attention to content? Who receives the messages that content providers are aiming to convey? What do people do with the information they acquire from the media? What does media content mean to all of its various audiences? What do people do with what they learn? How does media content influence public opinion? What do the PAO’s tallies say about what people know, or think they know, about NASA, and what they do with what they know? Answering these questions grows more complicated by the day, as the number and kind of media outlets, the volume and type of content they produce, and the technological means of interpersonal as well as mass communication, continue to proliferate. Add to this mix the increasing sophistication of marketing campaigns in the public and the private sectors, including NASA and its aerospace contractors, and the task of understanding “NASA and the public” appears daunting. It is important to consider that NASA does not have a single monolithic “public.” It has many different “publics,” and they are changing all the time.<sup>29</sup> Another important factor to consider in

examining NASA's public relations is its long-standing and intensive focus on maintaining good relations with Congress and the White House, which colors its relations with other publics.

### *Marketing the space program*

In assessing public opinion about, interest in, and knowledge of the space program, NASA and the space community have typically taken an advertising and marketing approach to the task, performing or commissioning administrative research. NASA has repeatedly turned to the advertising and marketing sector for help in “branding” and “selling” the space program. The result has been a string of similar studies and similar findings – including the finding that public knowledge of NASA is a mile wide and an inch deep – and a series of attempts to cultivate favorable public opinion, along with the increased public support that is erroneously assumed to accompany that favorable opinion, by “pitching” NASA to the public.

In the early 2000s, NASA Administrator Sean O’Keefe commissioned Harmonic International – “a strategic positioning company” – to help the Agency with “brand equity and message concept development.” Harmonic reported to NASA in 2004<sup>30</sup> that “NASA enjoys a strong favorable attitude” and positive “brand equity,” though people who hold these views have “a very weak knowledge foundation” for them. Thus, NASA communications “must help explain NASA, building a knowledge base” and reinforcing “the foundation of NASA’s brand equity” – that is, advancing knowledge and understanding the universe. A “cultural analysis” of space

exploration conducted as part of the larger Harmonic study<sup>31</sup> expanded upon the advertising-and-marketing approach, exploring “NASA and the public” in a broad social context:

The general public...believe space exploration is not a fantasy, but an achievable possibility...a noble endeavor. They have a generally positive view of NASA, based primarily on the success of the manned space Mercury and Apollo programs. But they do not believe the government should spend billions of dollars to achieve it.

In 2004, NASA created a new Office of Communications Planning and an Office of Strategic Communications Planning, headed by political appointees. The Office of Strategic Communications Planning was tasked with “developing a strategic communications approach for guiding the activities of the Offices of Communications Planning, Education, Legislative and Intergovernmental Affairs, and Public Affairs, including strategies and tactics that support NASA’s Mission.” The Office of Communications Planning was tasked with advising the Administrator “on new and innovative ways to engage and inform a broader cross-section of the...public”; identifying “audiences for...a wide variety of specialized and targeted resources, information, and messages”; “developing effective, data-driven strategic messages that can be employed Agency-wide and targeted to specific audiences...to provide for the widest practicable and appropriate dissemination of information concerning the Agency’s activities and results thereof and to increase public awareness and understanding of NASA and its mission”; and ensuring “message consistency and repetition across the Agency to increase the American public’s understanding of science, technology, and NASA’s mission.”<sup>32</sup>

In 2006, NASA adopted a new public information policy to demonstrate its commitment to open communications.<sup>33</sup> In a 2007 briefing to Agency officials,<sup>34</sup> NASA strategic communications chief Robert Hopkins asserted that NASA “is committed to a culture of openness with the media and the public that values the free exchange of ideas, data and information” and that “scientific and technical information from or about Agency programs and projects will be accurate and unfiltered.” Nonetheless, NASA’s “open” communications under this policy are subject to a complex, multilevel system of review and concurrence. Thus, “openness” in this policy is a relative term.<sup>35</sup>

Also in 2007, Hopkins distributed a “final NASA Message Construct” to Headquarters officials: “NASA explores for answers that power our future.”<sup>36</sup> He advised officials to use the message, verbatim, in their communications, and he steered them to NASA’s “Strategic Communications Framework Implementation Plan” and “Strategic Communications Implementation Handbook” for further guidance. A few weeks later, Hopkins advised officials that the intent of his “message construct” memo was not to deliver a “mandate” but “to provide some consistency on how we talk about NASA’s work with the public.”<sup>37</sup> He said the core message was not intended to be “a slogan or tag line,” and he encouraged officials to use the themes of “inspiration, innovation, and discovery” in their communications, “depending on whether they work.”

To sum up, during its first 25 years NASA’s desire to control image, message, and the overall flow of information from the Agency to the public was in tension with its need to tend to its statutory obligation of disseminating information. This tension has persisted over the last 25 years. Early on, NASA public affairs officials exhibited a tendency to contain or withhold

information that might not serve the purpose of boosting NASA's public image and reinforcing its chosen message, They have continued to do so over the 25 years that the author has been watching.<sup>38</sup> There is a tension between the goals and objectives of these political appointees and the civil servants who work with them on disseminating information.<sup>39</sup> The role of appointees is to make the President look good, by making NASA, headed by a leader of the President's choice, look good. Civil servants have the task of fulfilling the Agency's statutory responsibility to disseminate information on all of its activities. They are also compelled to keep their appointee bosses happy – a tough order on some days.

Over the last 25 years, the author has observed a continued institutional sensitivity at NASA about activities that might be construed as “promotional” – even though the Agency regularly engages in all sorts of activities that could easily be construed as promotional. For example, in 2008 NASA held a series of “Future Forums” in different cities around the country. NASA designed these events to inform the public about NASA's plans for executing the President's Vision for Space Exploration. NASA's press releases, background information, and official statements about the forums could easily be construed as promotional, a carefully orchestrated sales pitch with the tag line “NASA powers inspiration, innovation, and discovery.”<sup>40</sup> According to the Agency, the aim of these forums was to “discuss the role of space exploration in advancing science, engineering, technology, education and the economy that benefits your community and the nation” and to provide “an exciting preview of NASA's Constellation Program – America's return to the Moon and beyond.” NASA used these forums to talk about its contributions to what the Agency calls “The Space Economy” – “the full range of activities that create and provide value to human beings in the course of exploring, understanding and utilizing space.”<sup>41</sup>

## *NASA and the media*

A core function of the press, historically and presently, is to mediate the flow of information from government to citizens, and NASA has always depended on the mass media to get the word out about its public performances. Reliance on official sources has long been a standard journalistic practice, and by engaging in this practice, the media reinforce and perpetuate official opinions and world views.<sup>42</sup> This practice has served NASA well from the agency's inception to the present.

The history of Science Service, a news syndicate that operated from the 1920 through World War II, provides some insight into the long-standing cozy relationship between government and the press and the role of the media in science and technology boosterism. Newspaperman Edwin W. Scripps created Science Service, the first science news syndicate, in 1921, because he believed that science was the basis of democratic life and that scientists were “so blinded wise and so packed full of knowledge...that they cannot comprehend why God has made nearly all the rest of mankind so infernally stupid.”<sup>43</sup> The Science Service syndicate was controlled by a board of trustees representing prestigious science associations, including the American Association for the Advancement of Science and the National Academy of Sciences, “and its editorial policies were dominated by the values of the scientific community” Scripps chose to operate the syndicate as “a press agent for the associations” rather than an independent

news service. In line with the interests of Mr. Scripps, Science Service's stories "cast science as a new frontier and scientists as pioneers and discoverers."<sup>44</sup>

After WWII and throughout the Cold War, the U.S. media continued to serve the cause of science boosterism, and NASA rode this wave. At the same time, broadcast media began to supplant print media as the dominant source of news, highlighting the spectacular quality of space exploration. "More active or visual issues... became especially newsworthy."<sup>45</sup> Through the 1980s and '90s, consolidation of media ownership disturbed the traditional balance between the publishing (advertising, profit-seeking) and editorial (reporting and analysis) components of journalism. NASA has benefited from the related media trend toward producing more infotainment content and less news and analytic content in recent years. At the same time, NASA's public affairs, public outreach, and public education initiatives have been trending toward at least the appearance of infotainment. Today, the media are as dependent as ever on official sources – perhaps increasingly so in an increasingly competitive media environment and more tightly controlled government public affairs operations. Concurrently, NASA's public affairs office has become increasingly proficient at peddling the spectacle of space exploration, showcasing rocket launches and astronauts. As political communication expert Shanto Iyengar has observed, the boundaries between news and political marketing "have virtually vanished. The use – even manipulation – of the mass media to promote political objectives is not only standard practice, but in fact is essential to survival."<sup>46</sup>

The author has observed over the past 25 years that the view of the press as subservient to government is persistent at NASA. So is the one-way transmission or "bullet" conception, or

model, of communication, whose goal is to deliver a specific message to a specific target. The rhetorical objective of communication by this model is persuasion. This was the model employed in Cold War government propaganda campaigns. NASA's public affairs office has always been expert at knowing how to disseminate information to the media. The Agency is not so expert in understanding how journalism works, as a culture, a practice, a system of values. In addition, evidence is lacking of a matching expertise in understanding what people *do* with the information they receive from NASA. This disconnect may at least begin to explain the gap between NASA's good public reputation and its consistently low ranking as a spending priority.

#### *NASA's relationship with its various publics*

For all of its 50 years thus far, NASA has claimed a high level of public interest and a good reputation with "the public." It is not clear how much of this good feeling among citizens is a product of NASA's public affairs efforts and how much is due to other social factors – that is, the social and cultural context for the space program. Over the past 25 years, the author has observed that when NASA and other members of the space community talk about public interest and understanding and engagement, they are usually talking about their desire to expand public support. Public opinion research and studies of public understanding of science and technology have shown how and explored why public interest does not equate to public understanding and how and why neither interest nor understanding equates to public agreement or support.<sup>47</sup>

Numerous public opinion polls and surveys about NASA and space exploration have revealed this disconnect.<sup>48</sup> Poll and survey results have shown consistently over the years that

respondents tend to be interested in the space program and tend to value having one. In addition, results do not reveal wide endorsement of big-ticket human space flight programs such as the Apollo lunar-landing program and proposed human missions to Mars. And when asked to rank the space program as a government spending priority, respondents have consistently put NASA at the bottom of their lists. One factor that may contribute to this consistently low ranking is NASA's lack of a meaningful rationale for the space program. For people in the space community, the space program means many things: jobs, money, knowledge, progress, political capital, prestige. For 50 years NASA and the space community have promoted the economic, political, and security benefits of space exploration. And for 50 years, people outside the space community have not been clear about the purpose of the space program. The rationales that NASA has offered over the years<sup>49</sup> do not appear to be especially meaningful to the Agency's "external" audiences.

Over NASA's first 25 years, the Cold War was NASA's driving rationale for space exploration. Over the last 25 years, NASA has been weak on rationale, despite continual attempts to articulate one. What drove the U.S. space program in its early years, journalist John Noble Wilford observed, was "the pursuit of national prestige and power by a new means and in a new frontier." The lack of a durable rationale for space exploration "contributed eventually to a serious mid-life crisis for the American space effort, he said, deeming the Apollo lunar landings:

...a triumph that failed, not because the achievement was anything short of magnificent but because of misdirected expectations and a general misperception of its real meaning. The public was encouraged to view it only as the grand climax of the space program, a geopolitical horse race and extraterrestrial entertainment-not as a dramatic means to the greater end of

developing a far-ranging spacefaring capability. This led to the space program's post-Apollo slump... We had been conditioned to think of the space program in terms of the Cold War... The media no doubt perpetuated this attitude, for editors generally viewed every story in those days in terms of whether it meant we or the Russians were ahead. But NASA also played the game, because that was the surest route to the Treasury.<sup>50</sup>

Sylvia Fries Kraemer has also made note of this problematic lack of rationale. Citing “the relative poverty of...intellectual efforts to understand the significance of space travel...and the relative uncertainty of...rationales for a space program as a major, national undertaking,” she has observed that a sound rationale must “reflect the genuine needs and aspirations of real and important constituencies. The burden of our space program is that it has had only a marginal audience, and marginal constituencies.”<sup>51</sup>

In examining the history of NASA’s “public” relations, the Agency’s expectation that the mass media will help to foster those relations and generate favorable public opinion deserves attention. It is useful to consider that media discourse does not create public opinion, nor does public opinion create media discourse. They interact with each other and with other social phenomena as well, in a process of social construction.<sup>52</sup> Some interesting insights might be gleaned from mapping out the evolution of interactions among NASA’s public information efforts, media discourse, and public opinion.

*NASA in public*

In regard to “NASA in public” during the Agency’s early years, the power-and-prestige rationale for space exploration “exercised major influence” in national political circles at that time,<sup>53</sup> and astronauts and rockets quickly became the public image of the space program. From those early years into the present, NASA and the media have continually “contrived to present the astronauts as embodiments of the leading virtues of American culture.” The mythic astronaut was, and still is, depicted as “everyman,” “defender of the nation, “virile, masculine,” heroic.<sup>54</sup> In 1959, NASA introduced its first group of astronauts to the press, and the *Mercury Seven* became the public face of NASA virtually immediately. The Agency soon cut a deal with *Life* magazine to tell their stories. This deal was all about marketing, on both sides. NASA public affairs chief Walter Bonney approached Washington celebrity attorney Leo D’Orsey about helping the astronauts with publicity. D’Orsey agreed to represent them, for free, and peddled the rights to their “personal” stories. *Life* won the bidding at \$500,000.<sup>55</sup> In a retrospective report, Time-Life commented on the *Mercury* contract: “In 1959, as the seven original astronauts prepared for their missions in space, LIFE Magazine went along, producing four years of intimate coverage of their training, their historic flights and their heroic achievements. The Mercury Astronauts allowed LIFE into their homes and shared with the magazine's readers their thoughts before and after their journeys into space.”<sup>56</sup> NASA signed another, more complicated, contract with Time-Life and another partner for reporting the life stories of the *Gemini* and *Apollo* astronauts. According to *Gemini-Apollo* astronaut Michael Collins, media interest in the personal stories of the astronauts was “morbid, unhealthy, persistent, prodding.”<sup>57</sup> But even if unwanted, stardom came with the job. Consider this anecdote: *Apollo* astronaut Gene Cernan escorted two Soviet cosmonauts, on a U.S. visit after *Apollo 11*, to a party at the home of actor Kirk Douglas, where “every star in Tinsel Town wanted to glitter for the men from space.”<sup>58</sup>

Guests included Clint Eastwood, Goldie Hawn, Lee Marvin, Groucho Marx, Yul Brynner, Natalie Wood, and Frank Sinatra. The cosmonauts didn't recognize any of them since they had not been exposed to American media content. Everybody recognized the spacemen.

As this cultural spectacle was unfolding, not everyone in official Washington thought the astronauts should serve as the public face of NASA. In his NASA transition report to President-Elect John F. Kennedy in 1961, advisor Jerome Wiesner wrote:

We should make an effort to diminish the significance of [the *Mercury*] program to its proper proportion before the public.... We should find effective means to make people appreciate the cultural, public service and military importance of space activities other than space travel.<sup>59</sup>

In 1969, President Nixon's Space Task Group, assembled to consider options for a post-Apollo space program, reported that it had "found strong and wide-spread personal identification with the manned flight program and with the outstanding men who have participated as astronauts." At the same time, "We have found questions about national priorities" and the cost of human space flight. The group recommended that "a decision to phase out manned space flight operations, although painful, is the only way to achieve significant reductions in NASA budgets over the long term."<sup>60</sup> What came next at NASA was the Space Shuttle program, a transportation system with nowhere to go but Earth orbit. Then came a Space Station program, whose schedule and budget ballooned over time while its functions and purpose narrowed.

In 1985, President Reagan appointed a National Commission on Space to develop a 25-year plan for U.S. space exploration. As part of its research, the Commission conducted a series

of public forums around the country to ask citizens what they wanted in a space program.<sup>61</sup> Among the 1,800 people who participated were “former astronauts, folk singers, lawyers, members of Congress, philosophers, teachers, and students. Most participants “had no direct link to the space program.” The Commission reported that it was “overwhelmed by the high caliber of comments obtained, and duly impressed by the commitments of the citizens in attendance to respond intellectually to the call for participation.”<sup>62</sup> The result of this exercise is that, more than 20 years later, NASA is still struggling over how to execute the sort of long-term plan for human exploration laid out in the Commission’s report.

When Daniel Goldin took charge as NASA Administrator in 1992, he held a series of town meetings nationwide to ask citizens for their views on the space program, “with the goal of developing a shared vision for the future of NASA.”<sup>63</sup> More than 4,500 people attended these meetings, with half claiming some affiliation with the space program. The results of this exercise included the finding that meeting participants “were interested in all aspects of” NASA and believed that “NASA should do a much better job of communication with the public, both through the news media and via direct means.”<sup>64</sup> NASA committed to improving the quality of its public information, upgrading NASA TV and radio programming. Some changes were made, in fact, though the new and improved NASA TV was short-lived due to budgetary limitations. While Goldin was committed to improving and expanding communication, with special attention paid to science communication, his successors Sean O’Keefe and Michael Griffin appeared to be more comfortable with the conventional control-and-persuasion approach established in NASA’s early years and maintained through the 1980s.<sup>65</sup> In its relations with its publics throughout the Bush Administration, NASA has continued to take the marketing approach to engagement with

its publics, with persuasion the objective.

### *NASA and public opinion*

From the beginning of the U.S. space program to the present, polling firms<sup>66</sup> – commissioned by the aerospace industry, aerospace associations, the mass media, and NASA – have been attempting to gauge public opinion on the space program. As previously noted, in assessing public opinion about, interest in, and knowledge of the space program, NASA and the space community have typically taken an advertising and marketing approach to the task, soliciting what we call administrative research. NASA has repeatedly turned to the advertising and marketing sector for help in “branding” and “selling” the space program. The result has been a string of similar studies and similar findings – public knowledge of NASA is a mile wide and an inch deep – and a continuing series of attempts to cultivate favorable public opinion, and the increased public support that is erroneously assumed to accompany that favorable opinion, by “pitching” NASA to the public. NASA has paid considerable attention – arguably, too much – to quantitative indicators of public interest provided by public opinion polls and surveys. But it appears that the Agency has paid little attention to the limits of poll data and the practice of polling itself. NASA and others in the space community continue to interpret high levels of public interest as indicators of public support, a correlation which poll results themselves show to be spurious. Roger Launius<sup>67</sup> has examined the history of public opinion polling about the space program and pointed out that “consistently throughout the 1960s a majority of Americans did not believe” NASA’s Apollo program “was worth the cost.” He has also noted that while

NASA has consistently earned favorable ratings in public opinion polls, respondents consistently rank the space program low as a national spending priority.

Practitioners like to say that public opinion polling allows “the people” to speak for themselves. Research has shown that this is not necessarily the case. Public opinion polling has been described as “a cultural practice that sustains and affirms deeply held founding mythologies about community, democracy, and vox populi.”<sup>68</sup> Researchers have explored how cultural elites “use public opinion polls to manage and control public opinion.” It has been argued that polls “legitimate the authority of the state by appealing to the mythical sovereignty of the people without actually, or in practice, doing so.”<sup>69</sup> Weaknesses of public opinion polling and public opinion research include a lack of reporting on survey non-response rates and insufficient research on the sources and effects of nonresponse.<sup>70</sup> Survey researchers have also found bias in the other direction – people who are interested in the topic of a survey are more likely to respond to it, and this factor can bias survey results.<sup>71</sup>

While polling methods have improved in some respects over the years, polling is still subject to what practitioners call non-sampling error – that is, non-quantifiable sources of error or uncertainty ranging from “interviewing problems to flawed interpretive theories”; the context and timing of surveys; the gender, race, or class of interviewers and respondents; and the phrasing and order of questions and response options. If they are to be useful, poll data “must be interpreted both in terms of larger historical or social trends, and within the context of public debate and discussion.”<sup>72</sup> To better understand the limits of polling data and the practice of polling itself, it helps to look into the history of the business of public opinion research.

In 1935, George Gallup founded the Gallup Organization<sup>73</sup> to do public opinion research. Gallup had come out of the advertising and marketing business, where he had been head of the marketing department at the New York advertising firm Young & Rubicam. Gallup created and employed a “rhetoric of scientific democracy” in attempting to construct legitimacy for what he called the new “science” of polling. Gallup succeeded in legitimizing polling, in part by deflecting questions about methods and accuracy with “a rhetoric of ‘scientific mystification’.”<sup>74</sup> The Roper Center for Public Opinion Research founded by Elmo Roper, a colleague of George Gallup, after World War II, has maintained an archive of polling data, collected by a variety of organizations, ranging from the 1930s to the present.<sup>75</sup> Louis Harris & Associates (LHA) – now known as Harris Interactive – was founded in New York City in 1956 by Louis Harris, who served as John F. Kennedy’s pollster during his 1960 campaign for the presidency.<sup>76</sup> Harris Interactive bills itself as “one of the largest market research and consulting firms in the world and the global leader in conducting online research.”<sup>77</sup> This long-standing marketing bias, which continues to characterize the public opinion business today, is an important factor to consider in interpreting poll data. Another important factor to consider is the considerable difference between political polling and other types of polling.

Early on, NASA enlisted scholars and analysts to help define the Agency’s image, message, purpose, and publics. But NASA apparently paid little attention to their findings. But apparently “NASA ignored its own early opinion research.... [F]indings which argued against widespread knowledge or interest in NASA programs were ignored.”<sup>78</sup> During NASA’s first few years, social psychologist Donald Michael pointed out to NASA the importance of

“understanding...the relation of events to attitudes and values” when considering public opinion about the space program. In the case of public response to the launch of Sputnik I, for example, “for many people everywhere, their own affairs, Little Rock, and the World Series took precedence over the Soviet leap into space.”<sup>79</sup> Michaels urged the space community to consider “the socio-psychological context in which efforts to explore space will evolve,” pointing out that space exploration would proceed within a “vast matrix of already existing social and psychological values and beliefs, and behaviors which define our society today.”<sup>80</sup> “There is,” he said:

*No good reason to believe that there will be strong pressure from the public for effort and expenditures in this area, unless very special efforts are made to elicit it....* The matter is not close enough to most people’s way of life to fit in with the values and behavior they have learned are important for successfully coping with day-to-day reality.<sup>81</sup>

Today the range of issues people are thinking about may be different, but the situation is the same. While many people may view the space program as a salient issue, they typically do not put it at the top of their list of things they need to think about. NASA continues to struggle to make space exploration relevant to people’s lives. The Roper Center’s archive of polling data contains the results of numerous surveys about NASA, and typifying this body of work are New York Times/CBS News polls conducted in 1994, 1998 and 2004, which asked respondents about space exploration:

- Is the government spending “too much, too little, or about the right amount” on space exploration? In 1998, 32 percent of respondents answered “too much.” In 2004, 40 percent answered “too much.”

- Should the United States send astronauts to Mars? In 1994, 55 percent favored and 40 percent opposed human missions to Mars. In 2004, 48 percent favored and 47 percent opposed.
- Would it be worth it to build a permanent base on the Moon? In 2004, 58 percent said “not worth it,” while 35 percent said “worth it.”<sup>82</sup>

In 2003, for the *Houston Chronicle*, Zogby International polled people on their views about NASA:

- “How would you rate the job being done by the space agency, NASA (the National Aeronautics and Space Administration)?” Sixty nine percent of respondents gave NASA an “excellent” or “good rating, while 23 percent gave it a “fair” to “poor” rating.
- “Do you feel that the amount of tax dollars the government now spends on the U.S. space program should be increased, kept at the present level, decreased, or ended all together?” Zogby reported that “a plurality of people (44%) feels that the amount of tax dollars the government now spends on the U.S. space program should be kept at the present level. One-third (32%) thinks this amount should be increased.”<sup>83</sup>

A poll conducted in 2004 by Ipsos Public Affairs for the Associated Press asked:

- “The United States is considering expanding the space program by building a permanent space station on the moon with a plan to eventually send astronauts to Mars. Considering all the potential costs and benefits, do you favor expanding the space program this way or do you oppose it?” Among respondents 48 percent favored a human mission to Mars while 48 percent opposed it.

- “On the whole, do you think our investment in space research is worthwhile or do you think it would be better spent on domestic programs such as health care and education?” Among respondents 42 percent said investing in space research would be “worthwhile” while 55 percent said it would be “better to spend on domestic programs.”<sup>84</sup>

A USA Today/Gallup poll conducted in 2006 found that 48 percent of respondents deemed NASA’s investment in the Space Shuttle “worth it” while 48 percent said the money would have been better spent elsewhere. At the same time, 57 percent of respondents said NASA was doing a good to excellent job, while 37 percent rated NASA “fair” to “poor.” In reporting these results, Gallup observed, “The fact that less than a majority endorses the spending on a space program is not a new phenomenon. During the 1960s, when the United States increased spending on sending astronauts to the moon, a higher percentage of Americans consistently said it was not worth spending the money to accomplish the feat.” At the same time, “ratings of NASA have generally been positive since Gallup first asked this question in 1990.”<sup>85</sup>

A Harris Interactive poll conducted in 2007 asked, “If spending had to be cut on federal programs, which two federal programs do you think the cuts should come from?” Fifty one percent of respondents put the space program at the top of the “cut” list, followed by welfare at 28 percent.<sup>86</sup> A poll conducted by Rasmussen Reports in 2007, for the University of California-Berkeley’s BioMars astrobiology research team, asked, “How important is it for the United States to have a manned [sic] space program?” Thirty percent of respondents said it was “very important,” 27 percent said it was “somewhat important,” 22 percent said it was “not very important,” and 13 percent said it was “not at all important.”<sup>87</sup>

In the 1980s and '90s, NASA called on political scientist Jon Miller, an expert in public opinion research and public understanding of science, to study “the information needs of the public concerning space exploration.” In a 1994 report to NASA, Miller broke up the bloc of “interested” respondents reported by pollsters for decades into more precisely defined groups. He distinguished between “informed” and “attentive” audiences and also reported on gender- and age-based differences of opinion. And “even among those citizens with a high level of interest in space exploration and who believe themselves to be well informed” – a small percentage of respondents in the surveys he drew on<sup>88</sup> – “there are vast areas of ignorance and misunderstanding.”<sup>89</sup> He also pointed out that people who are “attentive” to the space program may not necessarily support new initiatives or budget increases.

Over the past few years, Dittmar Associates has conducted market studies aimed at gauging public interest in and support for NASA.<sup>90</sup> In a 2004 marketing study of space exploration, Dittmar found a widespread public perception that “the space program is disengaged from and uncaring about the public.” Participants in these studies expressed a “desire for a responsive NASA – one that goes out of its way to involve interested citizenry in real and meaningful ways beyond traditional ‘outreach and education’.” This desire “emerged repeatedly in response to questions asking about relevance of the space program to their daily lives.” Dittmar found strong interest in and endorsement of the space program among Caucasians, Asians, males, and people 45-65 years old, and “little interest and less endorsement among women, Hispanics, and younger adults.” Among 18-25 year olds, Dittmar found “very little excitement or interest about NASA or its activities” – including the Vision for Space Exploration

– “with the exception of Mars rovers.” Participants in this age group expressed “confusion about and lack of interest in what NASA does” and a “strong sense that NASA wasn’t about them.” In a 2006 market study of “Gen Y” (ages-15-35) and space exploration, Dittmar found an “absence of a relationship with NASA, no participation, no interactivity.”

### *Space exploration as spectacle*

Another way of examining the history of NASA and the public is to consider it as 50 years of spectacle. Author Tom Wolfe the *Mercury* astronauts’ press debut as a theatrical event, spotlighting not the astronauts’ piloting abilities but their relationships with “god, family, country.” Overnight, he said, the astronauts became “national heroes.”<sup>91</sup> The story of the *Mercury 7* provides insights into the role of the mass media in the social construction of reality – in this case, the spectacular hyperreality of the astronauts as superhuman, fearless yet god-fearing, patriotic family men.

In his famous essay, “Society of the Spectacle,” published in 1967 at the peak of U.S. space frenzy, French critic Guy Debord (1931-1994) argued that in contemporary industrialized, commercialized society, image had supplanted reality as our social reality. He observed:

In societies where modern conditions of production prevail, all of life presents itself as an immense accumulation of spectacles. Everything that was directly lived has moved away into a representation.... Spectacle is not a collection of images but a social relation among people, mediated by images.... The society which rests on modern

industry is not accidentally or superficially spectacular, it is fundamentally spectaclist.... The spectacle presents itself as something enormously positive, indisputable and inaccessible.... The attitude which it demands in principle is passive acceptance which in fact is already obtained by...its monopoly of appearance.... In the spectacle, which is the image of the ruling economy, the goal is nothing, development everything. "The language of the spectacle consists of signs of the ruling production.... As information or propaganda, as advertisement or...entertainment, the spectacle [is] the omnipresent affirmation of the choice already made in production and its corollary consumption.... The spectacle's form and content are identically the total justification of the existing system's conditions and goals."<sup>92</sup>

The spectacle "is the opposite of dialogue," Debord concluded. In today's ever-more-mediated cultural environment, the society of the spectacle continues to thrive, and thanks to increasing numbers and varieties of media outlets and mass communication technologies and techniques, the space program is as spectacular as it ever was, and arguably more so. Debord's thinking offers an interesting way to think about the history of NASA and the public, in which goals are always changing while "development" always proceeds. One condition of "the existing system" today is the power and influence of the so-called military-industrial complex, whose primary goal is dominance in the global aerospace sector and in outer space itself.

Like Debord, culture critic Jean Baudrillard (1929–2007) argued that in contemporary consumerist, mediated, high-technology-dominated society, people live in a social reality of images, spectacles, and simulacra that is so disconnected from actual reality that "reality" is no longer meaningful.<sup>93</sup> "Abstraction today is no longer that of the map," according to Baudrillard.

“Simulation is no longer that of a territory.... It is the generation by models of a real without origin or reality: a hyperreal.... It is the map that precedes the territory...it is the map that engenders the territory.”<sup>94</sup>

In the 21<sup>st</sup> century, people know NASA by its representations – its space-walking heroes and their spaceships, the Hubble Space Telescope, and anthropomorphized rovers on Mars. What is missing in this pastiche of spectacles is the meaning of NASA for all of its publics.

### *Conclusion*

Throughout its 50 years, NASA has concerned itself with public opinion and public support for the Agency as an entity, or some specific program of the Agency. What people seem to care about is space exploration, in the broadest possible sense. People care as much about the *idea* of space exploration, the *idea* of human and robotic presence in space, as they do about the mechanics, the reality, of these things. When asked to place a value on the idea of space exploration, people rate it highly. When asked to put a price tag on the reality of space exploration, a different picture results.

President George W. Bush’s space commission<sup>95</sup> recommended that the space community adopt “techniques employed by the film industry” to “inspire and educate people.” Citizens might ask: Is the goal informing and engaging citizens? Or selling the space program and enlisting new advocates? The “space infotainment” trend in the aerospace community is disturbing, as the emphasis seems to be more on entertaining – the spectacle, the simulation – than on informing and empowering citizens. As former NASA official Alan Ladwig has

observed, “Basing decisions on thrill factors is fine for Hollywood studios, but it’s a dubious performance indicator for space science and exploration.” At NASA, “publicity shouldn’t be the float leading the parade,” Ladwig has said. “The legislative charter that created the agency was quite specific concerning priorities and goals.... The agency’s charter says nothing about excitement or entertainment.”<sup>96</sup>

NASA has always been good at framing stories about the space program to make a favorable public impression. A frame is a social construction used to organize stories and make meaning. Assumptions and beliefs, sponsorship (for example, official sources), and media practices (journalistic norms and conventions – for instance, the convention of balance) are among the factors determining what news frames will be and how they will work. In mass communication research, frames have been explored as functional structures<sup>97</sup>, structural forms of bias,<sup>98</sup> ideological processes,<sup>99</sup> structural *and* ideological forms of bias,<sup>100</sup> and special-purpose constructions of social reality.<sup>101</sup> The foreground and backgrounding of issues in a story frame contribute to public agenda setting, as it affects not only what issues audiences think about but also how they think about the issues.<sup>102</sup> It is not clear whether any in-depth understanding of what framing is and how framing works has undergirded these framing efforts.

Medium theory could also help NASA in fostering relations with its various publics. Medium theory describes how media are not simply means for disseminating information but also “are themselves social contexts that foster certain forms of interaction and social identities.” The proliferation of mass media and other types of communication technologies has “altered the nature of social interaction in ways that can not be reduced to the content of the messages

communicated through them.”<sup>103</sup> NASA continues to focus on message content and delivery, depending on counting how many times and to how many people messages are sent. It might be more useful to study whether and how people actually receive those messages, and what they do with them when they receive them. This qualitative sort of research is more difficult to do than the conventional quantitative assessment of Web hits, news clips, and air time. It offers, however, insights that quantitative assessments cannot. Cultivation theory posits that repeated exposure to certain media content or frames can cultivate “adoption of a particular point of view that is more in line with media presentation than with reality.”<sup>104</sup> It might be useful for NASA to consider what points of view, what attitudes, it has been cultivating, or attempting to cultivate, over time, and what perspectives and attitudes it has actually cultivated over its 50 years of existence.

NASA could benefit from engaging in some critical research on this topic of “NASA and the public.” In contrast with conventional administrative research, critical research “has to question existing conditions in terms of their historical preconditions and future possibilities.”<sup>105</sup> In contrast to administrative research, critical research takes its social responsibility seriously. Critical researchers take care to define the relevance and validity of their research questions. “The sense of being critical is expressed in sharing responsibility for the future by identifying those critical (empirical) conditions which stimulate or fetter humans an democratic developments and recognizing their historical roots.”<sup>106</sup>

NASA exists in a social reality where special interests – political and economic and business interests – will continue to ensure, for better or worse, the continuation of the civilian

space program. At the same time, most citizens arguably do not “get” space exploration in the same ways that special interests in the space community do. NASA and its advocates are framing space as a resource-rich environment to exploit for economic gain, as a money-making enterprise, as a guaranteed source of employment for scientists. It has not been established that this approach to space exploration best serves the public interest. To serve the public interest as well as special interests, NASA will need to talk with, listen to, and involve citizens in planning the U.S. future in space. It will need to look deeply into its history in contemplating its future. It is likely that U.S. citizens would not be happy if their government were to abandon the civilian space program. It is reasonable to assume that the space program has meaning for many citizens. By engaging with its citizenry, NASA could begin to find out what space exploration means to different people in different socioeconomic sectors and walks of life. Perhaps this perspective can provide a starting-off point for the next 50 years of “NASA and the public.”

## **Notes**

1. The researcher can determine, for example, who has donated their records to the NASA History Office or other archives. But the researcher cannot determine what is missing from these archives. The question is: how do we know what we do not or cannot know?
2. The author has worked in the Washington aerospace community since 1983, as a journalist, consultant, and researcher.

3. Donna J. Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991).
4. National Aeronautics and Space Act of 1958, As Amended, P.L. 85-568, Sec. 203(a)(3).
5. Walter T. Bonney, Memorandum to Administrator, "NASA Information Program," 9 September, 1958. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
6. Bonney, a former newspaper reporter and editorial executive, had served as NACA's public affairs chief since 1951. His goals at NACA were to establish the group as an equal partner with industry and generate "greater public recognition that the work of NACA represented one of the taxpayers' best investments.... The effort was to win and to keep the confidence of press representatives" (Ginger Rudeseal Carter, "Public relations enters the Space Age: Walter S. Bonney and the early days of NASA PR," Association of Educators in Journalism and Mass Communication, Chicago, IL, 1997).
7. Bonney did not explain in this memo what he meant by "the situation."
8. W.T. Bonney to T.K. Glennan, "Dissemination of Public Information," 22 January 1959. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
9. Walter T. Bonney, Memorandum for the Administrator, "NASA Public Information Program," 20 August 1959. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
10. This "winning hearts and minds" approach was then and still is popular in military and diplomatic circles.

11. Walter T. Bonney, Memorandum for the Administrator, "OPI Staffing," 24 November 1959. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
12. Chris Clausen to Walter T. Bonney, undated. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C. A note from Bonney dated 3 May 1973 and attached to the Clausen memo indicates it was written in early 1959.
13. It is worth noting that in this memo, Clausen characterized the U.S. media as "an ex officio part of the government" with a "valid right to poke its nose into government affairs." He said, "NASA recognizes and serves this right."
14. NASA Management Manual, Part I, General Management Instructions, Chapter 2, Functions and Authority – Office of Public Information. Effective date June 30, 1960. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
15. Walter T. Bonney, Memorandum for the Administrator, "NASA Office of Public Information," 16 January 1960. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
16. Joe Stein, Memorandum for the Administrator, "NASA Information Program," 14 October 1960. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
17. Shelby Thompson, Memorandum for the Administrator, "Conference with Messrs. McKelway and Wiggins – 12/8/60, 14 December 1960. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.

18. In a subsequent letter to National Association of Science Writers President Earl Ubell, Glennan solicited help in improving “public understanding of the truly experimental nature of our work.” He also told Ubell that NASA would be lifting its embargo on the use of pre-launch information, no longer prohibiting media use of the information until after a launch. T. Keith Glennan to Earl Ubell, 23 December 1960, Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
19. Robert L. Rosholt, *An Administrative History of NASA, 1958-1963*, Washington, D.C.: Scientific and Technical Information Division, National Aeronautics and Space Administration, 1966), p. 222.
20. Jay Holmes, Memorandum for Mr. Webb, “NASA’s Public Position,” 12 June 1962, Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
21. Activity calendars maintained by the Office of Public Affairs through the 1960s indicate that this advice was heeded. For example, the 1964 PAO calendar of events, marking NASA speeches, briefings, exhibits, and conferences, includes appearances at museums and state fairs nationwide, scientific and technical conferences, libraries and universities, Kiwanis Clubs, a “women’s study club” in Woodsville, Texas, and even a speech by NASA Administrator James Webb to the 23d Men’s luncheon of the Texas Rose Festival in Tyler. The author has observed that this practice has continued over the past 25 years into the present.

22. Claudia Sperry to Director of Public Relations, National Aeronautics and Space Administration, 2 April 1962. Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
23. Hiden T. Cox to Claudia Sperry, 9 May 1962, Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
24. Mrs. Clark P. Read to Paul Haney, 11 May 1965, Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
25. Paul Haney to Mrs. Clark P. Read, 12 May 1965, Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
26. Paul Haney to Mrs. Clark P. Read, 25 May 1965, Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
27. Clearly Haney and Read differed in their interpretation of NASA's statutory responsibility to provide for the widest practicable dissemination of information about its activities. NASA Assistant Administrator for Legislative Affairs Robert Allnut took a similar approach in responding to a query from U.S. Rep. Charles Goodell about NASA spending on public affairs. "NASA does not have what is commonly designated as a 'Public Relations' program," Allnut told Goodell. Referring to the Agency's statutory mandate, he said NASA's task is to disseminate information to the public, noting that in 1967, "530,000 people toured NASA facilities at Cape Kennedy...500,000 people toured the Manned Spacecraft Center at Houston," and NASA "distributed over 3 million publications...loaned over 70 thousand motion picture prints, scheduled 3,000 speakers, participated in 1,000 exhibits and conducted 11,400 spacemobile lecture demonstrations."

(Robert F. Allnut to the Hon. Charles Goodell, 16 January 1968, Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.)

28. Laurie Boeder, Memo to Distribution, "Weekly report of the Office of Public Affairs," 14 February 1995 and 9 November 1995, Office of Public Affairs Files, NASA Historical Records Collection, NASA Headquarters, Washington, D.C.
29. In recent years, NASA has given some recognition to the need for serving different publics in different ways. The Agency's approaches to dealing with different audiences can appear to be simplistic, however – for instance, compartmentalization of audiences to buttons on the NASA web site: "for public," "for educators," "for students," "for media," "for policymakers," "for employees."
30. Harmonic International. Brand equity and message concept development. Presentation to NASA Headquarters, Washington, D.C., 24 May 2007. The author attended and obtained a copy of this presentation.
31. Center for Cultural Studies and Analysis, "American Perception of Space Exploration: A Cultural Analysis for Harmonic International and the National Aeronautics and Space Administration, May 1, 2004, p. 3.
32. NASA Policy Directive NPD 1000.0A, August 1, 2008. NASA Governance and Strategic Management Handbook.  
[http://nodis3.gsfc.nasa.gov/npg\\_img/N\\_PD\\_1000\\_000A\\_/N\\_PD\\_1000\\_000A\\_.pdf](http://nodis3.gsfc.nasa.gov/npg_img/N_PD_1000_000A_/N_PD_1000_000A_.pdf).
33. NASA Policy on the Release of Information to News and Information Media, March 30, 2006. [http://www.nasa.gov/audience/formedia/features/communication\\_policy.html](http://www.nasa.gov/audience/formedia/features/communication_policy.html).  
NASA issued this 2006 policy on releasing information to the media in response to press reports that NASA public affairs officials tried to limit Agency climate-change expert

James Hansen's public statements. The policy states: "release of public information concerning NASA activities...will be made promptly, factually, and completely" and that "in keeping with the desire for a culture of openness, NASA employees may, consistent with this policy, speak to the press and the public about their work."

34. Robert Hopkins, "NASA media communications policy," Presentation to the NASA Senior Management Council, 11 July 2007.
35. The author's observations regarding openness pertain to NASA communications from the time the Agency announced its new public information policy in 2006 through December 2008 when this paper was completed.
36. Robert Hopkins, Memorandum to Officials-in-Charge, "NASA messages," 1 August 2007.
37. Robert Hopkins, Memorandum to Officials-in-Charge of Headquarters Offices Directors, NASA Centers, "Updated Guidance on NASA Messaging," 11 September 2007.
38. It is worth noting that NASA's core message has not changed much since the beginning of the space program. See Linda Billings, "Ideology, advocacy, and space flight – evolution of a cultural narrative," pp. 483-500 in Steven J. Dick and Roger D. Launius, eds., *Societal Impacts of Space Flight* (NASA SP-2007-4801), (Washington, D.C.: National Aeronautics and Space Administration, 2007).
39. The author has not been able to verify precisely when NASA adopted the practice of placing political appointees in charge of public affairs.
40. The author reviewed NASA information and media reports about these forums but did not attend any of the events.

41. Remarks as delivered by The Honorable Shana Dale, NASA Deputy Administrator, San Jose [California] Future Forum, May 14, 2008.
- [http://www.nasa.gov/50th/future\\_forums/sanJoseWithGallery.html](http://www.nasa.gov/50th/future_forums/sanJoseWithGallery.html). NASA executed another carefully orchestrated public performance by participating in the Smithsonian Institution's Folklife Festival in 2008. NASA's Future Forums and its presence at the Folklife Festival are promising material for case studies in "NASA and the public."
42. See, for example, Pamela J. Shoemaker and Stephen D. Reese, *Mediating the message: theories of influences on mass media content* (2d ed.), White Plains, New York: Longman, 1996; Donsbach, Wolfgang (2004). Psychology of news decisions: factors behind journalists' professional behavior. *Journalism*, 5(2), 131-157; Schudson, M. (2003). *The Sociology of News*. New York: W.W. Norton.
43. Dorothy Nelkin, *Selling Science: How the Press Covers Science and Technology* (revised ed.), (New York: W.H. Freeman, 1995), p. 81.
44. Nelkin, 1995, pp. 81-82.
45. Shanto Iyengar, "Engineering consent: the renaissance of mass communication research in politics." "The Yin and Yang of Social Cognition: Perspectives on the Social Psychology of Thought Systems – a Festschrift Honoring William J. McGuire." New Haven, Connecticut: Yale University, April 20-22, 2001, p. 3.
- [Http://pcl.stanford.edu/common/docs/research/iyengar/2001/mcguire.pdf](http://pcl.stanford.edu/common/docs/research/iyengar/2001/mcguire.pdf). The Watergate incident in the 1970s may have made the media more skeptical about official sources, but those effects were not necessarily long-lasting.
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