

Land, Wood, Water, & SPACE: Senator Robert S. Kerr, Congress, and Selling the Space Race to the American Public

Jessica Hayden
Matthew J. Geras
Nathan M. Gerth
Michael H. Crespin
University of Oklahoma

Objective: We examine the contribution Sen. Robert S. Kerr made in promoting NASA and space exploration to Oklahoma and the general public while serving as chair of the Senate Committee on Aeronautical and Space Sciences.

Methods: Using newspaper articles as well as speeches and press releases from the archival papers of Robert S. Kerr we estimate a topic model to uncover the dimensions of debate concerning space. We also use the communications from Kerr's office to provide substantiation and context to the way the Senator promoted space in Oklahoma and elsewhere.

Results: We find that contrary to the conventional wisdom, Cold War concerns about national security and primacy were not all that fueled arguments for pursuing space technology. We demonstrate here that particularized benefits, state-level leadership, economic development, and technological advancements were all used to "sell space" at the during NASA's infancy.

Conclusion: While it is easy to give credit to the executive for achieving national goals, it is almost impossible to get to the desired outcomes without buy in from the legislature. In turn, this means members of Congress need to sell the policy to constituents back home.

Weeks after the Soviets successfully launched cosmonaut Yuri Gagarin into orbit, President Kennedy delivered a “Special Message to the Congress on Urgent National Needs.”¹ In section nine of ten of his address, Kennedy turned to the subject of outer space. Here, Kennedy first acknowledges the lead the Soviets have in the space race and then urges Congress to increase funding for particular programs. While the general theme is beating the Russians to the moon, the particular funding requests focus on the Rover nuclear rocket and satellites for communications and weather observations.

While scholars have written extensively on President Kennedy and Lyndon Johnson’s efforts in pushing the U.S. space effort, relatively few have researched other important players beyond the headliners. As the role of Congress is often overlooked we delve into the congressional papers of Senator Robert S. Kerr. Kerr played a vital role after he succeeded Johnson as chair of the Senate Committee on Aeronautical and Space Sciences in 1961. Using a blend of text analysis topic modeling and rich descriptions of Kerr’s speeches and press releases, we want to determine how Kerr communicated and “sold” space to Oklahomans and others around the country. We argue that like many issues that come before Congress, Kerr will use a mix of broad national themes as well as more local parochial concerns. In some ways, the Space Race was little different than other traditional pork barrel projects.

Below, we provide some background into the launching of NASA before discussing some of the reasons the U.S. joined the space race. We then introduce Robert S. Kerr and his role in the process. Next, we present our data and methods before presenting the results of our topic

¹ https://www.jfklibrary.org/Research/Research-Aids/JFK-Speeches/United-States-Congress-Special-Message_19610525.aspx [Accessed 10/3/2016]

model. We then delve deeper into some of Sen. Kerr's speeches before offering some concluding thoughts.

History of NASA's Establishment

On October 4th, 1957, the Soviet Union launched the world's first artificial satellite, Sputnik, into space where it successfully circled the Earth. In the midst of the Cold War, the launch of Sputnik and its successor Sputnik II, which carried Laika the dog into space, shook the United States because it revealed an apparent area of Soviet technological superiority (Garber, 2007). As a result, the United States immediately responded with plans to expand their own satellite programs and their space exploration efforts with the goal of surpassing the Soviet Union. Within only a few months of the launch of Sputnik, Congress established congressional committees with the charge of creating an American space agency. On February 6th, 1958, the Senate formed the Senate Special Committee on Space and Aeronautics led by Majority Leader Lyndon Johnson and on March 5th, 1958, the House of Representatives formed the House Select Committee on Astronautics and Space Exploration led by majority leader John McCormack (Dick, 2008). These congressional committees along with the Presidential Science Advisory Committee began laying the groundwork for the establishment of an official space agency.

NASA formally opened on October 1st, 1958, almost one year to the day after the launch of Sputnik I. At the point of its creation, NASA had 8,000 employees, a \$100 million budget, and three major research labs (Garber & Launius, 2005). T. Keith Glennan, president of the Case Institute of Technology and a former member of the Atomic Energy Commission became NASA's first administrator and the head of NACA Hugh Dryden became his deputy (Garber & Launius, 2005). After the Soviet Union successfully sent the first man into space on April 12th,

1961, President Kennedy made it the goal of the United States to place man on the moon with a generation.

While Kennedy's vision was lofty, NASA showed it was up to the challenge. In 1961, Alan D. Shepard Jr. became the first American in space and in 1962, John H. Glenn Jr. became the first astronaut to orbit the Earth as part of one of NASA's first missions, Project Mercury (Garber & Launius, 2005). Soon after, Edward H White Jr. completed the first recorded space walk in 1965 as part of Project Gemini (Garber & Launius, 2005). After these early successes, NASA turned to the Apollo Project, with the goal of reaching the moon. Ultimately, the Apollo Project became the largest nonmilitary technological endeavor by the United States in the country's history; about 25.4 billion dollars were spent over the life of the Apollo Project (Garber & Launius, 2005) On July 20th, 1969, NASA achieved Kennedy's ultimate goal, in terms of space exploration, when Apollo 11 landed on the moon.

Selling Space: National Motivations

While NASA has accomplished some of the most important scientific advancements in the course of human history, the initial motivations for the Apollo Project and much of American space exploration in general probably had very little to do with the desire of technological advancement. Although some, like historian Robert MacGregor, reject the view of "Sputnik as a technological saltation" and instead argue "NASA's rise in the 1960's as an engine of American international prestige was rooted in atomic diplomacy" (Dick, 2008, 5), most observers believe the motivations for the Apollo Project and advanced space exploration in general were mostly political in nature. Historian Gerald DeGroot (2007) believes that the successful launch of Sputnik and the potential for a Soviet Union, United States space race made space exploration an

advantageous political issue that potential 1960 presidential candidates John F. Kennedy and Lyndon Johnson attempted to use to their advantage. Similarly, he argues that by 1961 almost everyone closely involved with the Apollo Project had some form of political motivation to send Americans to the moon. Specifically, he believes Secretary of State Robert McNamara wanted to save the aerospace industry, Vice President Johnson wanted to restore American prestige, members of Congress wanted contracts for their constituencies, and President Kennedy wanted to improve his image after the Soviet Union sent the first man into space and the failed Bay of Pigs mission occurred in quick succession (DeGroot, 2007). While DeGroot acknowledges Kennedy's concern for national security in regards to Soviet space exploration, he clearly believes politics played a major role in most aspects of U.S. space policy.

In addition to politics, crisis management appears to have been another major motivation for the Apollo Project. Historian and former NASA Chief Historian Roger Launius (2012) states "JFK's decision to go to the Moon took place in a brief moment in time during a crisis situation in April and May of 1961. The decision bore every imprint of crisis management with an emphasis on short-term political payoff to save face for the administration" (168). Moreover, Launius points to the fact that Kennedy's May 25th speech calling to put man on the moon within a generation was titled "Urgent National Needs." From this perspective, the Soviet Union's advances in space exploration were seen to Kennedy as a national crisis, which he had to manage in order to maintain his political appeal, and to protect national security.

Beyond agreeing that politics was a key motivation for the Apollo Project, DeGroot (2007) and Launius (2012) are also in consensus that after his initial push for the Apollo Project, President Kennedy attempted to reign in NASA and looked for ways to reduce the amount of funding directed towards space exploration. Finally, both also ponder whether the Apollo Project

would have deescalated had Kennedy not been assassinated in 1963 and argue that Kennedy's assassination further spurred the desire to beat the Soviet Union to the moon as quasi-monument to Kennedy's legacy.

Regardless of the underlying motivations beneath the Apollo Project, reaching the moon and the successes of space exploration in general, are often attributed to presidential leadership. Specifically, President Kennedy and President Johnson, who both served during the Apollo Project, are often quoted and memorialized for their commitment to United States' space policy. In response to the launch of Sputnik I, then Majority Leader Johnson was influential in the push for increased U.S. space exploration warning, "Before long the Russians will be dropping bombs on us from space like kids dropping rocks onto cars from the freeway" (DeGroot, 2007, 11).

During his time as president, Kennedy was perhaps even more outspoken about the importance of the U.S.'s role in space exploration. In one of many speeches about astronautics, Kennedy declared "The exploration of space will go ahead, whether we join it or not, and it is one of the greatest adventures of all time, and no nation which expects to be the leader of other nations can expect to stay behind in this race for space" (Kennedy, 1962). While speeches such as these were no doubt important in expanding American's role in space exploration and Kennedy and Johnson were both influential figures in the development of space policy, as former presidents, their leadership often overshadows other key individuals who were equally important in NASA's successes.

One such individual was Senator Robert S. Kerr. Kerr embodied the strong will and folksy charm that has become an archetype in the United States Senate in the minds of Americans. Remembered by some as the "uncrowned King of the Senate," or the "King of Pork" (Gallant 2014, p. 275), his campaign slogan "Land, Wood, & Water" underlined the overt

emphasis he placed on appropriations and program development in Oklahoma during his career in the Senate. With this reputation, it may at first appear incongruent that during his last two years in office Kerr chaired the Senate Committee on Aeronautics and Space Science. Kerr, however, seemed to pursue this position in order to bring resources to Oklahomans.

Kerr balanced his Washington-centered accumulation of legislative power and appropriations with regular press releases that read more like letters home than reports from principal to agent. In his series of “Senator Kerr Says” publications, he demonstrates a fondness for puns, quippy one-liners, and quirky anecdotes. A space-related example published on April 20, 1961 highlights this communication style well. After recounting the news about a recent Russian space-exploration success, he mollified his constituents’ anxiety with a story depicted in Figure 1.²

Behind the scenes that same day, however, President Kennedy sent Kerr a memorandum demanding to know whether we could beat the Soviets to the moon, and if so how much it would cost.³ Within 2 weeks, Senator Kerr sent his constituents a press release that the space program would need 20 – 25% more money than the original budget of \$1,235,000,000 (Public Relations, Box 12, Folder 6). By May of the following year, the Senate unanimously approved a bill authorizing more than \$3.8 billion in funding to NASA (Public Relations, Box 12, Folder 19). Congress and the relevant committees acted as an influential decision maker in regards to space policy and without them, NASA’s successes were unlikely to be possible.

² Absence of Weight: After conferring with President Kennedy as chairman of Senate Space, I returned to Capitol Hill and unexpectedly experienced a feeling of “weightlessness” -- at sub ground level in the Senate Office Building cafeteria. I am a member of the Building Commission and frequently lunch there. Nevertheless, when I called a waitress for my customary second cup of coffee, she looked longingly at the proffered quarter but responded “I am sorry, but I can give personal service to Senators only. Oh well, maybe my new look of boyish slimness was deceiving, (a record low of 210 pounds). At that moment, I was short on pull of either “Rank or Gravity.” (Political and Campaign, Box 13,, Folder 26).

³ Online document from Kennedy’s presidential library <http://history.nasa.gov/Apollomon/apollo1.pdf>

Figure 1 – Senator Kerr Says on Space

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KERR KERNEL: It's not so much how you feel but how others feel for you.

This example is just one among the countless ways Senator Kerr pitched space as the best way to support the economy, grow industry, and advance technology both around the nation and in the state of Oklahoma. Below, we use rich descriptions of Kerr's speeches and press releases as well as topic models to analyze how Senator Kerr used his position as Chairman of the Senate Space Committee to sell space in Oklahoma.

Data and Methods

In this paper we analyze Kerr's communications concerning space during his time as chairman of the Senate Space Committee from 1961 until his death in January of 1963. In Kerr's papers are 12 unique speeches and 28 press releases that discuss space. In addition to Kerr's

communication to constituents, we are also interested in understanding how Kerr's promotion of space was being interpreted by the media for public consumption. To this end, we also include in the analysis the 88 newspaper articles published by *The Oklahoman* during 1962 and 1963 that mentioned both Kerr and either space or NASA.⁴

We use a mixed-methods approach to explore how Kerr promoted NASA and space exploration through these communications. First, we use the speeches, press releases, and newspapers as a source of quantitative evidence to generate topic models using the R package "topicmodels."⁵ Topic models have become relatively mainstream in political science although they are rarely used in conjunction with archival research. This particular package employs Gibbs sampling, which utilizes a Markov chain Monte Carlo algorithm to approximate the most probable, distinct topics present in either the press releases, the speeches, or the corpus of both documents. The unsupervised topic modeling process generates keywords separated by topic from word choices in the corpus. The user can then infer and label broad substantive topics. This method is ideal for our purposes because it allows us to interpret the topics and draw meaningful connections between Kerr's word choices and the broader political context (Quinn et al. 2009). Second, we use the communications from Kerr's office concerning space more qualitatively, to provide substantiation and context to the way the Senator promoted space in Oklahoma and elsewhere.

⁴ In order to keep the focus on Kerr's constituents, we only included articles in the *Oklahoman*. We searched each of these articles to be sure that only articles that used the word space in a way relevant to this research are included.

⁵ In order to ready the documents for analysis we scanned them at 300 DPI, saving them as raw .TIFF files. We then used the OCR function of ABBY Finereader to capture and export .TXT files. The size of the sample allowed for manual examination of the files to ensure their quality met the basic standards needed for the topic modeling. Though some of the documents did feature handwritten marginalia and other notes, the limitations of existing OCR software did not allow us to capture these characters. The number of topics in these models is set by the user. We ultimately settled on five and our results and conclusions would not substantively change if we used more or less topics.

Results

Overall, the topic modeling and qualitative analysis reveal that Kerr focused primarily on several broad subjects to sell space across the different types of documents. These included national interests, a global communications system and its accompanying bill, general Oklahoma’s interests and NASA Director Jim Webb. Within Oklahoma’s interests Kerr focuses on industry, oil, education, and employment. Additionally, while the topic models did not identify this topic, we also include the appointment of Jim Webb as a way Kerr sold space to Oklahoma, the reasoning for which we discuss in detail below.

Table 1: Topics for Newspaper, Speeches, and Press Releases, Compared

	Speeches	Press Releases	Speeches and Press Releases	Newspaper Articles
Topic 1	First in space	Communications bill	Global communications	Satellite Bill
Topic 2	Global communications	Public works programs	Developing industry	Oklahoma industry
Topic 3	Oil and industry	First in space	Washington activity	NASA flights
Topic 4	Science education	Oklahoma industry	Oklahoma	Washington activity
Topic 5	Oklahoma	Washington activity	First in space	John Glenn
N	12	28	40	88

As demonstrated in Table 1,⁶ the pursuit of a global satellite communications system dominated both Kerr’s communication and the media’s attention in Oklahoma during the years 1962 and 1963. It is the first or second most common topic for each type of communication we

⁶ Much of the work involved in topic modeling is the inferences made by the researcher after the most common topic words are identified by a software program (Quinn et al. 2009). Tables 1 and 2 represent the topics as we labeled them from the topic modeling output, coupled with our reading of Kerr’s communications. For the original, stemmed, topic model word list output for each communication medium, see the Appendix.

analyze herein. The general benefit to Oklahoma and its industries is almost equally as prominent, as it is either the second or third topic identified in each media. Advertising the importance of space exploration as a national endeavor is the most common topic in speeches, but takes the rank of third or lower for all other categories. Finally, particularized benefits to Oklahoma like education, oil, and industry are scattered among the categories consistently but at different levels of probability.

Table 2: Topic Categories’ Presence by Type of Media

Topic Categories	Speeches	Press Releases	Both	Newspaper
Satellite communications	X	X	X	X
Oil	X			
Industrial development	X	X	X	X
Oklahoma	X	X	X	X
Public works		X		
Washington activity		X	X	X
National Interest	X	X	X	X
Science education	X			

The differences in topics are also elucidating (see Table 2). Only through press releases—distributed to Oklahomans generally—did a topic appear that highlights his longstanding legislative priorities by referencing water projects, land development, and other public works-related talking points. On the other hand, only in his speeches did Kerr avoid talking about the president, Congress, and Washington legislative activity. He opted instead to highlight the particularized benefits that could accrue to the oil industry and scientific education in Oklahoma, respective of his audience. In a state that voted strongly for Nixon, on a committee that was tied

closely with Kennedy in the mind of the public, advertising the tangible benefits of space exploration to a specific audience was a strong strategy for Kerr to “sell space” to those who elected him.

As demonstrated in Tables 1 and 2, each media type’s topics overlap considerably. Oklahoma, industrial development, national interest, and satellite communications are included as a topic for each forum of communication. These are clearly the most important ways Kerr could sell space, and the news media echoed Kerr’s strategy in important ways. These four common topics balance the monetary interests of Oklahomans and Oklahoma businesses, the national benefits of space exploration, and the possibility of a global communications system. In the next section, we delve deeper into the key subject areas revealed by the topic model. In the following sections we more thoroughly discuss how Kerr discussed each of these topics.

National Interests

The topic we define as “national interest” includes keywords that refer to getting to the moon, achieving space exploration goals, and being first in space in the race against the Russians. This topic was one of the top five for each media, and for good reason. As we look back through the Cold War and the rhetoric surrounding the United States and the Russians, it is easy to see the debate as being wholly framed by the race for advancement and the desire for global dominance. Selling space as an investment in national security, national economic interests, and global peace seems like the obvious choice. Indeed, both Kerr’s communications and newspapers highlighted advancement of the nation and its interests around the world.

The promise of national scientific advancements alone preoccupied the American imagination during Kerr’s time in office, and he made a point to advertise these possibilities to

Oklahomans whom he wanted to be excited about space. As Kerr wrote to President Kennedy in 1961, “a scientific and cultural phenomenon is now taking place in the world as a result of our own technological speed-up...which has a profound meaning for all mankind” (Speeches, Box 7, Folder 33). He regularly touted that the most useful new technologies were being continually developed by space researchers, like x-ray machines, surgical lasers, ingestible cameras, and heart rhythm controlled devices. He also lauded the advancements of the near future like health monitors that would provide a doctor vital information about patients remotely that was originally developed to monitor astronauts. And, he made bold—what may have seemed outlandish claims—about what could come beyond the horizon: increasing the average lifespan by a decade (Speeches, Box 7, Folder 43), accurate forecasting that would inform famers, fishermen, and football-audiences alike, and he looked to the future of computers, electronics, and communications (Speeches, Box 6, Folder 85). “Who would have believed, 50 years ago” he asked, that we would be able to communicate by “shooting information via the ether from one set of vacuum tubes to another?” (Speeches, Box 6, Folder 85).

We now know, of course, that Senator Kerr’s optimism about computer technology was well placed, even understated. Instrument firms—the heart of space age technology—he claimed, would be so productive in creating new more powerful computers that “computers will become so important to our everyday life” that the Space Age would soon be known as the Age of the Computer. “This branch of science” he argued, “grows faster than any other, *for the computer today is the basic instrument in the acceleration of scientific knowledge*” (emphasis added, Speeches, Box 6, Folder 85). In one speech in Tulsa, given to a conference about space exploration, he predicted that telephone companies were developing a computer that could transmit the equivalent of 3,000 words of data per minute. This computer would be able to

“gather and store information far faster than we ordinary mortals” (Speeches, Box 6, Folder 85). He pitched this promise to Oklahomans in 1961, and it is one of few—in part due to his untimely death—that we can say with certainty has been delivered. If we do include space exploration as a cause of the communications revolution in the late 20th century, then Senator Kerr’s prediction that “our adventure into space will be the most dynamic stimulant ever given to our economic growth and progress” (Speeches, Box 7, Folder 12), seems modest in hindsight.

National security, of course, was a top priority. He acknowledged, “Even the so-called peaceful purposes of space research in meteorology, navigation, and communications have military implications” (Speeches, Box 7, Folder 18). However, it was important to Kerr that we lead the space race, not only to beat the USSR for the sake of winning, but to be a leader to free nations around the globe. Specifically, Kerr valued that the U.S. was transparent in its pursuits and shared modern scientific knowledge with the world.

Senator Kerr contended that whatever the military benefits, the U.S. motivation for space exploration was still primarily peaceful because the discoveries would be shared and because we would continually seek out and foster international cooperation. Kerr expressed hope that outer space would “never be the scene or the cause of conflict” (Speeches, Box 7, Folder 18), and maintained that history would prove that science “knows no national boundaries; neither does it flourish behind barbed wire, barricades, or stone walls” (Speeches, Box 7, Folder 18). The “basic goal of the space program” he argued, “is not the moon or the stars alone, but the continuation of human freedom and peace on earth” (Speeches, Box 7, Folder 18). Both NASA director Jim Webb and President Kennedy, whom he referenced respectfully in several speeches on the topic of peaceful space exploration, shared these positions.

Satellite Communications Systems

While the national interest was a common topic in speeches, press releases, and newspapers, it is by no means dominant as a singular topic. Instead, the topic with the highest probability of inclusion in both press releases and in the newspapers concerned the promise of global communications, and the bill about ownership of the satellite communications facing the Senate. As was common in the era, Senator Kerr expressed a belief that reliance on the principles of free enterprise were integral to beating communism globally. Senator Kerr was committed to protecting business interests in space exploration technological development. In speeches made at privately-owned space technology centers in Alabama and California, Senator Kerr touted the promise of private enterprise to grow space-based research and development for the benefit of all free people. According to Senator Kerr's communications, a minority faction in the Congress favored complete government control of satellite communications developed through space technology.⁷ This vocal minority, he argues, gave the nation the impression that Washington is anti-business, and was too focused on immediate profit to see the limitless promise of a new frontier (Speeches, Box 6, Folder 85). On the contrary, at the dedication of the first privately funded space research laboratory, Kerr freely announced that neither he nor the President wanted to make business "the captive of government nor does he want government to usurp the functions of those elements within the business community which have provided the self-discipline that goes with good business citizenship" (Speeches, Box 7, Folder 38).

This pursuit culminated in the Satellite Communications Act of 1962, which the Senate Committee on Foreign Relations described as "a reasonable first step toward the development of a global communications system" (quoted in *Harvard Law Review* 1962, p. 400). As a bill, it was

⁷ This assessment of intense minority opposition is confirmed in The Communication Satellite Act of 1962. (1962) *Harvard Law Review*. 76(2): 388-400.

known as the Kerr-Magnuson Bill, as Kerr was a co-sponsor and advocate for its enactment. According to a 1962 paper published in the *Harvard Law Review*, the Act “represents an effort to develop guidelines for the progress expected in space communications...[and] provides basically for a private corporation subject to an elaborate system of regulation” (p. 388). By 1963 the corporation Comsat fulfilled the role required by the Act, and international cooperation was sought to establish multilateral agreements to facilitate global communications. By 1969, 63 nations had joined the communications satellite system (Johnson, 1969: 6th annual report on activities and accomplishments under Communications Satellite Act, 1962).

Oklahoma's Interests

It is not surprising that each forum—speeches, press releases, and newspaper articles—Oklahoma was discussed enough to be considered a topic in the model. Kerr’s Senate career—even as chairman of the nationally-oriented Senate Space Committee—orbited around bringing money, jobs, and resources to Oklahoma. His slogan, “Land, Wood, and Water” represented his commitment to conserving the natural resources vital to Oklahoma’s economy, and supporting businesses that thrived on them. As a member of the public works committee he pursued his states interest in land, wood, and water vigorously (Murphy, 1972). In 1961, then, his choice to chair the Senate Committee on Aeronautics and Space Sciences may have seemed to be purely an effort to climb the ladder to national power—a diversion from his focus on bringing money and benefits to Oklahoma. However, when Kerr introduced his modified slogan, “Land, Wood, Water, & SPACE” (Press Release: 1/19/1961, Speeches, Box 6, Folder 73), he fully intended to use space as Oklahoma’s next major natural resource. Sure to not abandon his campaign promises and legislative agenda, he noted that, “There is but one way to build our strength on

earth, and to support our exploration into space. That is the proper conservation of our basic natural resources—land, wood, and water” (Public Relations, Box 12, Folder 3, 1/19/61).

In all his communications concerning space spanning his appointment to chairman of the Senate Space Committee until his death, he touted the benefits space exploration would have for his constituents, Oklahoma universities, and Oklahoma businesses, including oil and gas corporations. As chairman, he promised to “get a full measure of both private and public facilities and projects” related to space exploration (Speeches, Box 6, Folder 73).

In the minds of most Americans, space exploration and technology development is a reminder of the Cold War and the space and arms races that accompanied it. It is certainly the case that the President convinced the nation that space progress was important, and Congress provided funding to NASA, in order to maximize national security and pursue national interests. The billions a year spent by the U.S. government was astronomical for the early sixties, but the promise of beating the Russians, global satellite communications, and untold, unimaginable opportunities for the entire nation awaited. As Senator Kerr said in a speech given to the Oklahoma City Rotary club in 1961 “It is our national security that the Congress had uppermost in mind when the decision was made to accelerate the space program. Knowledge is power in a cold war as well as in a hot war...Now in the cold war, the mysteries of space beckon...” (Speeches, Box 7, Folder 12).

But, to read from Senator Bob Kerr’s communications, NASA’s goals and priorities were made to order for Oklahoma’s economic growth. As Chairman of United States Senate Aeronautics and Space Sciences Committee, he fought for NASA and space technology growth with fervor, but his goals were to continue to provide income and education for Oklahomans.

Kerr often characterized space exploration as a “pioneering effort” (Speeches, Box 7, Folder 18) and described Oklahomans’ pioneering spirit as particularly inclined to reap the benefits that visionaries do at the precipice of a technological revolution. When new to the chairmanship, he announced to Oklahomans that “[w]e have the God-given talents—physical, mental, and spiritual—to power us into unlimited progress” (Speeches, Box 6, Folder 85). He cited their dedication to hard work as the avenue for both the research and development and the industrial plants that would be required by this new frontier, stating of the pioneers in Oklahoma

Such men of vision and imagination tackle the future with confidence and courage.

Spurred by the daring of their pioneer forbears, these leaders of today will certainly move forward and take their place in the sun of a New Age. I am thrilled and excited to see what appears to be just over the horizon for Oklahoma.

Kerr not only noted that Oklahomans had the temperament to be a leader in space exploration, but also highlighted how this legislative arena could create benefits like industrial development and the courtship of manufacturing companies to Oklahoma. Only in the keywords for press releases is a clear pitch about factories apparent. Included with the word industry are the words “develop,” and “project,” which are present as keywords only in his press releases. Notably, the word “year” is also included. This word stem is frequently used by Kerr to describe the short-term benefits of space exploration, like getting a plant this year, or improving the economy over the next ten years. For example, Kerr wrote the following about the need for more scientific education to fill the industry’s needs:

We are doubling in this country the amount being spent on research and development about every 4 or 5 years, but we are doubling the number of persons qualified to conduct such programs only about every eleven years. (Speeches, Box 7, Folder 43)

This presented a challenge, but also hope for Oklahomans, as he argued that he expected Oklahoma to “develop one of the most important new industrial structures in the space age” (Political and Campaign, Box 12, Folder 3, 1/19/61). He wrote to his home state that

The space industry is in its infancy. Many firms now engaged in space projects will decentralize, opening new facilities in mid-America. Oklahoma’s advantages are numerous and compelling. It will be my purpose to help advertise them in every way possible. (Political and Campaign, Box 13, Folder 26, 5/4/1961)

This promise had only begun to be realized only months before Kerr’s untimely death, when the announcement was made that a space research and development plant would be built in Oklahoma City which would employ more than 100 persons (Political and Campaign, Box 12, Folder 3, 1/19/61).

Oil and gas is a specific industry important to Kerr both personally and professionally.⁸ Not surprisingly, one of the topics within Kerr’s speeches concerned oil, due in large part to the speech given to the Oklahoma oil and gas industry on December 6, 1961. As a self-professed “oil man” and the co-owner of Kerr-McGee industries, the Senator was well respected in this area. Highlighting this fact to elites in the oil and gas industry in Oklahoma not only provided him with the much needed credibility he needed as a Democrat in a conservative state, but also allowed him to sell space to an audience that may not have been accessible to other Senators.

In many ways it represents a significant diversion in content from the ways he spoke to more general interests. He did not begin with his typical openers about “Our Place in Space” or a comment on how he, the audience, and the world were hurtling together at 67,000 miles per hour through space as the Earth rotates around the sun. Instead, he thanks the audience for their invitation, and launches directly into challenges facing the petroleum industry in the coming

⁸ Kerr was a founder of Kerr-McGee Oil Industries Inc.

decades, and compares these challenges to those of space exploration: specifically, the rate of failure, failure's enormous expense, and the requirement that we continue to invest despite failure. The entire speech is highly technical, and Kerr never once apologizes for a lack of scientific knowledge—an admittance he makes in nearly every other speech to every other audience. Moreover, it is only in this speech that Kerr identifies with the audience beyond being an American or an Oklahoman. By identifying himself with this phrase, "To us in the oil industry" (Speeches, Box 7, Folder 21), he not only signals not only that he will protect oil interests in Oklahoma, but that his monetary interests are at stake as well.

Hand-in-hand with industrial growth and employment opportunities, Kerr saw avenues for advancement in education as both a cause and effect of breakthroughs in space research. This is likely a separate topic due to a singular speech given to educators in Oklahoma about the need for more funding for scientific education. In this speech, he remarks, "Frances Bacon's oft-quoted adage 'Knowledge is power,' was never truer than today, and, if there are degrees of truth, it will be even truer tomorrow." (Speeches, Box 6, Folder 85). This, he believed, could only be addressed by diverting more money toward education. He argued that, "You cannot conquer dizzying heights by shopping in bargain basements. Our education system needs to be beefed up with bucks that have no strings attached" (Speeches, Box 7, Folder 30). This was not only necessary at collegiate and advanced-degree levels of education, but began with our elementary schools teaching rigorous and well-rounded curricula. In his speech to educators he warned that the U.S. should not mirror Russia in its narrow focus on creating astronauts or space technicians, but should prepare for the future by cultivating knowledge in every discipline. He also foresaw a "prime need" for adult education that would equip older generations to reach the advancements that new technologies and a changing economy would demand.

In this same vein he advertised that the promises of the Space Age were already upon us, as “At the University of Oklahoma School of Aeronautical and Space Engineering, the faculty reports more than 90 per cent of the graduates had accepted jobs weeks before they began ‘cramming’ for their final examinations.” And, in his two years as chairman, he frequently lobbied for and notified students who received scholarships or funding to attend space camps, or were pursuing space related college majors.

In some ways, Kerr’s speeches on education typified his communication about space exploration. He saw it as something that needed new, extravagant, and immediate investment of resources in order to achieve long-term goals, but he also saw it as a source of immediate and tangible benefits for Oklahomans of every age and walk of life.

Finally, Kerr sold Jim Webb as a way space programs were already benefitting Oklahoma. Jim Webb is neither a topic nor a keyword in any of our models. However, the appointment of James E. “Jim” Webb as director of the National Aeronautics and Space Administration in January of 1961 was described by Kerr’s office as win for Oklahoma and for Senator Kerr. President Kennedy made the appointment at the insistence of both Kerr and Vice-President Lyndon Johnson; Kennedy pursued Webb even after an initial rejection due to Kerr’s and Johnson’s persistence (Murphy, 1972).

The successful appointment is a clear indication of Kerr’s power in space policy, beyond the jurisdiction of the Senate Space Committee. And while perhaps, at first glance, it would seem that this appointment would be considered as a topic included under Washington activity or national security, for Kerr, Jim Webb’s appointment was a benefit to Oklahomans. Not only did Kerr claim Webb as a friend of his and of Oklahoma’s, he also claimed that Webb was an Oklahoman, despite Webb having lived most of his life in North Carolina. Kerr conferred

Webb's honorary Oklahoman status upon him because from 1953 until his appointment in 1961 he lived and worked in Oklahoma City for the Kerr-Mcgee Oil Corp. Though Webb was already well respected in Washington circles, Kerr's influence in the choice of Webb as director of NASA was substantial. The duo was so closely linked that Gregory P. Gallant (2014) describes them as the "Kerr-Webb leviathan" (p. 275).

Kerr advertised this coup regularly, lauding his friend in the process. In a press release published on December 9, 1961, Kerr described Webb's appointment this way:

And now...there comes another big lift for Oklahoma and the Nation. This is in the appointment of our good friend, Jim Webb, who distinguished himself as a national leader, and then moved to Oklahoma and became a devoted booster of our state. All those who know Jim Webb are confident that his leadership will provide the greatly needed lift for the United States in space, and in gearing the nation for its best performance, held already by those well-informed on what Oklahoma can best do to play a significant role. (Political and Campaign, Box 13, Folder 28)

Despite his federal-level executive role, Webb did seem to assist Kerr in promoting Oklahoma's interests in space. For example, Webb accompanied Kerr to the White House to request President Kennedy's presence or involvement in an "Oklahoma project," a conference held in Tulsa that would include a session on how space exploration would benefit Oklahomans (Political and Campaign, Box 13, Folder 28. "Senator Kerr Says" 4/20/1961).

Conclusions

Senator Kerr's short time as chairman of the Senate Space Committee was cut short by his unexpected death. However, in that short time he successfully led Congress to expand the

budget and scope of NASA through legislation. Using both an in-depth exploration of Kerr's papers concerning space, and the topic modeling we find, and demonstrate here, that contrary to the conventional wisdom Cold War concerns about national security and primacy were not all that fueled arguments for pursuing space technology. We demonstrate here that particularized benefits, state-level leadership, economic development, and technological advancements were all used to "sell space" at during NASA's infancy.

Kerr used both press releases and speeches to strategically communicate the benefits that would accrue to Oklahomans from space programs. In speeches, Kerr tended to describe the potential benefits to the specific audience. He emphasized to educators the importance of funding science and math education advancements; to the oil industry the future fuel needs of the space industry; and to universities the potential research and development opportunities as well as future employment for students. The benefits emphasized in press releases were directed toward Oklahoma generally: public works programs, industrial development, and the potential growth in communications technology. Kerr successfully used his position as chairman of the Senate Space Committee to create these readily traceable credit claiming opportunities.

We also demonstrate the important role congress plays in the policy realm. While it is easy to give credit to the executive for achieving national goals, it is almost impossible to get to the desired outcomes without buy in from the legislature. In turn, this means members of congress need to sell the policy to constituents back home. The easiest way to do this is to link national goals with local concerns.

Finally, this paper also emphasizes the value of using text as data, even when the text was sitting on a shelf in an archive. Using this type of text analysis revealed something valuable and

therefore could be used elsewhere to analyze archival documents related to other topics in political science and other disciplines.

Reference List:

- Committee on Aeronautical and Space Sciences, United States Senate 1958-1976*. 1977. Washington, D.C.: US Government Printing Office.
- Day, Dwayne A. 2004. "From the Shadows to the Stars: James Webb's Use of Intelligence Data in the Race to the Moon." *Air Power History* 51(4): 30–39.
- DeGroot, Gerard. 2007. "The Dark Side of the Moon." *History Today* 57(3): 11–17.
- Dick, Steve. 2008. "From the Chief Historian." *NASA History Division, Office of External Relations* 25(2).
- Garb, Solomon. 1964. "Congress and Space Projects: Imbalance in Hearings." *Science, New Series* 145(3628): 109.
- Garber, Steve. 2007. "Sputnik: The 50th Anniversary." *NASA History Website*. <http://history.nasa.gov/sputnik/>.
- Garber, Steve, and Roger D Launius. 2005. "A Brief History of NASA." *NASA History Program*. <http://history.nasa.gov/factsheet.htm>.
- Goldstein, Edward S, Gregory La Rosa, and David Schuman. 2011. "Present at the Creation: Paul G. Dembling, Author of NASA's Founding Legislation." *NASA Website*. http://www.nasa.gov/50th/50th_magazine/demblingInterview.html.
- Kennedy, John F. 1962. "Address at Rice University on the Nation's Space Effort."
- Kerr, James R. 1965. "Congress and Space: Overview or Oversight?" *Public Administration Review* 25(3): 185–92.
- Kerr, Robert S. Collection, Political and Campaign, Carl Albert Center Congressional Archives, University of Oklahoma.
- Kerr, Robert S. Collection, Public Relations, Carl Albert Center Congressional Archives, University of Oklahoma.
- Kerr, Robert S. Collection, Speeches, Carl Albert Center Congressional Archives, University of Oklahoma.
- Lambright, Henry W. 2009. "Leading NASA in Space Exploration: James E. Webb, Apollo, and Today." In *Leadership and Discovery*, Palgrave Macmillan, 79–97.
- Launius, Roger D. 2012. "Why Go to the Moon? The Many Faces of Lunar Policy." *Acta Astronautica* 70: 165–75.

Morgan, Anne Hodges. 1977. *Robert S. Kerr: The Senate Years*. University of Oklahoma Press.

Murphy, Thomas P. 1972. "Congressional Liaison: The NASA Case." *The Western Political Quarterly* 25(2): 192–214.

APPENDIX:

Table 1: Five Topics for Press Releases Only

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
state	new	First	oklahoma	senat
bill	water	May	develop	committe
communic	one	Program	project	presid
govern	includ	Mrs	industri	nation
oper	build	Use	releas	administr
success	know	Russian	year	aeronaut

Note: n=28

Table 2: Five Topics for Kerr's Speeches Only

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
program	govern	Year	age	new
unit	world	Research	senat	nation
moon	system	Industry	educ	state
first	communic	Oil	must	develop
scientif	technolog	Now	scienc	one
scientist	administr	Today	need	oklahoma

Note: n=12

Table 3: Five Topics for both Kerr's Speeches and Press Releases

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
world	year	Senat	new	nation
govern	industri	committee	oklahoma	first
communic	research	Presid	age	program
system	develop	administer	mani	state
satellit	nation	Aeronaut	one	scientif
peopl	engin	include	may	moon

Note: n=40

Table 4: Five Topics for Newspaper Articles Mentioning Kerr and either Space or NASA

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
senat	oklahoma	Program	committe	sen
bill	new	Nation	presid	first
one	state	Man	hous	glenn
communic	citi	Flight	kennedi	know
satellit	industri	Orbit	year	call
vote	plant	astronaut	chairman	john

Note: n=88