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86TH CONGRESS }
1st Session }

SENATE

{ REPORT
No. 100

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FINAL REPORT

OF THE

SPECIAL COMMITTEE ON SPACE AND
ASTRONAUTICS

OF THE

UNITED STATES SENATE

PURSUANT TO

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MARCH 11 (legislative day MARCH 9), 1959.—Ordered to be printed,
with illustrations

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86TH CONGRESS } SENATE } REPORT
1st Session } } No. 100

FINAL REPORT OF THE SPECIAL COMMITTEE ON SPACE
AND ASTRONAUTICS

MARCH 11 (legislative day, MARCH 9), 1959.—Ordered to be printed, with
illustrations

Mr. JOHNSON of Texas, from the Special Committee on Space and
Astronautics, submitted the following

REPORT

[Pursuant to S. Res. 256, 85th Cong.]

On February 6, 1958, the Senate established the Special Committee on Space and Astronautics by the passage of Senate Resolution 256, 85th Congress, second session. The special committee was directed to study the problems relating to the exploration of outer space with particular reference to the use of resources, personnel, equipment, and facilities, and to report its recommendations to the Senate.

This final report from the special committee to the Senate records the highlights of the work accomplished during the existence of the special committee. Many of the recommendations which were made as a result of the studies and investigations of the special committee have already been acted upon by the Senate and the Congress. The National Aeronautics and Space Act of 1958 was enacted, and the Senate recognized the importance of space exploration for the future of the Nation by establishing a standing Committee on Aeronautical and Space Sciences.

As a final duty, the special committee wishes to make recommendations to the new committee concerning important matters which will require its attention if we are to achieve an effective and efficient organization of all U.S. aeronautical and space activities.

SENATE RESOLUTION 256, 85TH CONGRESS, 2D SESSION

February 6, 1958—Considered, amended, and agreed to

RESOLUTION

Resolved, That there is hereby established a special committee which is authorized and directed to conduct a thorough and complete study and investigation with respect to all aspects and problems relating to the exploration of outer

support at the laboratory in respect of military matters to the Department of Defense.

Section 4. The Secretary of the Treasury shall immediately transfer from such appropriations of the Department of Defense pertinent to the functions transferred by section 1 of this order as the Secretary of Defense shall designate, to such appropriations of the National Aeronautics and Space Administration as the Administrator of the National Aeronautics and Space Administration shall specify, the amount of \$4,078,250.

DWIGHT D. EISENHOWER.

THE WHITE HOUSE, December 3, 1958.

ADDRESS ON THE PEACEFUL USES OF OUTER SPACE GIVEN BY SENATOR LYNDON B. JOHNSON BEFORE UNITED NATIONS COMMITTEE NO. I (POLITICAL AND SECURITY), NOVEMBER 17, 1958

I come today with one purpose. I am here to express to you the essential unity of the American people in their support of the goals of the resolution offered now in their name.

This resolution is presented, as our system requires, by the representative of the executive branch of our Government. I speak here today at its request.

The executive position in the United States is held by the Republican Party through the mandate of the people. I am here as a member of one house of the legislative branch, in which the majority position is held, also at the mandate of the people, by the Democratic Party, of which I am a member.

These are distinctions. They are not, on this resolution, differences. On the goal of dedicating outer space to peaceful purposes for the benefit of all mankind there are no differences within our Government, between our parties, or among our people. The executive and the legislative branches of our Government are together. United we stand.

There need be no differences among us here.

The very opportunity of the issue before this Assembly is to erase the accumulated differences of our earth's long and troubled history and to write across the vastness of space a proud new chapter of unity and peace.

Men have not faced such a moment of opportunity before. Until now our strivings toward peace have been heavily burdened by legacies of distrust and fear and ignorance and injury.

Those legacies do not exist in space. They will not appear there unless we send them on ahead.

To keep space as man has found it and to harvest the yield of peace which it promises, we of the United States see one course—and only one—which the nations of earth may intelligently pursue. That is the course of full and complete and immediate cooperation to make the exploration of outer space a joint adventure.

There is, I emphasize, no other course.

In saying this I express no personal belief alone, but rather I convey to you the conviction of my countrymen and the force of the American decision which has already been established.

Record of bipartisan congressional support

The American people, through their elected representatives in the Congress, have spoken their aims and their purposes. The will of the people is now fixed in our laws and our policies.

The end is peace. The means to that end is international cooperation. This is—and this will remain—the American decision.

Eleven months ago the Senate Preparedness Subcommittee submitted to the full Senate a report on an exhaustive inquiry into the satellite and missile program of the United States. In that report the bipartisan membership of the subcommittee made this unanimous declaration:

"The immediate objective is to defend ourselves, but the equally important objective is to reach the hearts and minds of men everywhere so that the day will come when the ballistic missile will be merely a dusty relic in the museums of mankind and men everywhere will work together in understanding."

The Senate Subcommittee on Disarmament, under the able leadership of Senator Humphrey, had recommended unanimously that the use of space for military purposes be banned. The subcommittee has also urged international cooperation for peaceful space exploration and development.

On July 29 of this year the Congress in an act signed by the President established in the executive branch an agency under civilian control to guide and direct our national efforts in the exploration of space. By the act creating this agency, Congress embedded in the permanent law of the United States the following declaration of policy:

"The Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind."

Further, in the same section of that act, Congress stated as a firm objective of the national efforts the following:

"Cooperation by the United States with other nations and groups of nations in work done pursuant to this act and in the peaceful application of the results thereof."

Subsequent to that, the majority leader of the House of Representatives, the Honorable John McCormack, introduced before that body a resolution expressly requesting the President of the United States to submit to the United Nations the question of international cooperation in dedicating outer space to peaceful purposes only. That resolution received the earnest support of the full membership of the Foreign Affairs Committee of the House, and it was adopted unanimously by the full membership of the House of Representatives.

In the Senate the Foreign Relations Committee under the chairmanship of the Honorable Theodore Francis Green, likewise accorded to the resolution the most serious study and recommended without dissent that it be adopted. The Senate of the United States, like the House of Representatives, gave to the resolution the unanimous support of the Senators of both parties. Thus it is a matter of record that the sense of the full membership of the Congress of the United States is that this question should be here on the agenda of the nations of the world. It is also the congressional view that this organization should assume the responsibility of leadership in promoting international cooperation in the exploration of outer space.

This is the American decision, expressed firmly in the resolutions of policy by the elected representatives of the people and established solidly by them in the cornerstone law of our Nation's space effort.

Adoption of U.S. resolution urged

The resolution before this Assembly now embodies fully the will of the Congress and the will of the people whom the Members of the Congress serve. Thus I can—and I do—commend it to you for adoption. The record already made assures you the continuing support of the Congress for the cooperative endeavors toward peaceful uses of outer space which the resolution contemplates.

The full dimensions of the promise of space are now beyond the scope of our knowledge and our imagination. To presume that we have more now than merely a glimpse of those dimensions would be both a vain and perhaps ultimately a fatally limiting error.

At this moment the nations of the earth are explorers in space, not colonizers. Hence it is proper that this Assembly should provide—first—the means for the United Nations to encourage and inspire that exploration. That is contemplated in the form of this resolution, which would create an exploratory ad hoc committee of representatives of member nations to carry out the following tasks:

First, to inventory the activities and resources of the United Nations, its specialized agencies, and other international bodies relating to peaceful uses of outer space;

Second, to determine areas of international cooperation and programs which could be undertaken under auspices of this organization by member nations without regard to their present stage of economic or scientific advancement;

Third, to consider the future form of internal organization in the United Nations which would best facilitate full international cooperation in this field; and

Fourth, to survey the nature of the legal problems which may arise in implementation of this joint adventure among the nations of the Earth.

These are essential first steps. Until these explorations are conducted, orderly procedure to the broader horizons beyond will not be possible. Thus to impede this first step

is to impede all progress toward the goals of peace which men of faith believe exist in the realms of space.

While these are first steps, they are decisive steps, and we cannot be unmindful of the precedents which, if established now, may influence or even control the longer steps ahead.

The case against unilateral action

We of the United States have recognized and do recognize, as must all men, that the penetration into outer space is the concern of all mankind. All nations and all men, without regard to their roles on Earth, are affected alike by what is accomplished over their heads in outer space.

If nations proceed unilaterally, then their penetrations into space become only extensions of their national policies on Earth. What their policies on Earth inspire—whether trust or fear—so their accomplishments in outer space will inspire also. For nations given to aggression and war and tyranny on Earth, unilateral success in space technology would only multiply many times over their threat to peace. Thus it is the interest of nations dedicated to peace and freedom that the opportunity of space not be perverted to the end of aggression and control over Earth by the aggressors.

Recognizing this as true, men of peace will recognize fully the necessity to proceed without delay on the first step which is here proposed.

Today outer space is free. It is unscarred by conflict. No nation holds a concession there. It must remain this way.

We of the United States do not acknowledge that there are landlords of outer space who can presume to bargain with the nations of the Earth on the price of access to this new domain. We must not—and need not—corrupt this great opportunity by bringing to it the very antagonisms which we may, by courage, overcome and leave behind forever through a joint adventure into this new realm.

What man has done thus far has been the result directly of international cooperation on an informal basis by men of science through the years. The success, further, of the formal cooperation undertaken in observance of the International Geophysical Year foretells the high promise offered by enlargement of our goals and intensification of our support and efforts.

We know the gains of cooperation. We know the losses of failure to cooperate. If we fail now to apply the lessons we have learned or even if we delay their application, we know that the advances into space may only mean adding a new dimension to warfare. If, however, we proceed along the orderly course of full cooperation, we shall by the very fact of cooperation make the most substantial contribution yet made toward perfecting peace. ~~Men who have worked together to reach the stars are not likely to descend together into the depths of war and desolation.~~

It is the American vision, I believe, that, out of this fresh start for humankind which space affords, man may at last

its supposedly obvious advantages and passed on, with the implication that no one would presume to question the merits of cooperation. And in fact no one did openly challenge it. That cooperation was given as one of the justifications for the overall space program supports the hallowed position of this concept. In the report that was made to President Kennedy in January, 1961, the scientific panel headed by Jerome B. Wiesner justified a space program partially on the grounds that ". . . space . . . offers exciting possibilities for international cooperation. . . ."4

Although it is perhaps belaboring the obvious, it seems evident that at least one of the explanations for our program of international cooperation is that its label is surrounded with good connotations. The danger is that programs may be implemented or at least be generally subscribed to because no one would consider opposing them when they carry such a label. Cooperation will be viewed with the purpose of seeing its impact on American foreign policy. Even looking with this specialized point of view, it seems curious that someone with the Fortress America mentality did not raise objections about extending our entanglements into space. Perhaps this indicates only that Fortress America has been totally discredited, or perhaps it indicates that it is a deadly sin to attack cooperation—the "God Word." Opposition to cooperation opens one to the charge of favoring its antonym—conflict. In an extension of Riker's terms one is then put in the position of supporting the "Devil Word," a most unpalatable position.

INNOVATIVE GOALS

Unquestionably, the most frequent justification for international cooperation is that it will lead to peace. As Lyndon Johnson, while Majority Leader of the Senate, put it:

If . . . we proceed along the orderly course of full cooperation, we shall by that very fact of cooperation make the most substantial contribution yet made toward perfecting peace. Men who have worked together to reach the stars are not likely to descend together into the depths of war and desolation.⁵

Statements of this sort were made frequently in the early days of the space age, and at first glance they appear to be so general as to be meaningless. However, upon individual investigation they suggest several different ways in which major political changes

might be brought about as a result of cooperation in space. This section deals with these statements.

Dramatic Quality

First there is the dramatic or awe-inspiring quality of space cooperation, typified by Senator Johnson in statements such as: "the dimensions of space dwarf our national differences on earth," and "space may well be the sea in which the human race will someday find an island of peace."⁶ Vernon Van Dyke, would call this the "twinkle, twinkle, little star" quality of space cooperation.⁷ The expectation was that man would feel compelled to cooperate in the face of the great unknown. And as men cooperated in the investigation of the great "sea," they might become aware of their insignificance in the vastness of space. From this awareness, man would come to recognize the insignificance of his differences, the result being "an island of peace."

The skeptic may see this as a preposterous expectation for a cooperative program, yet this is the stuff of which crusades (e.g., Congressman Anfuso's) are made. Certainly one can hardly conclude, even after paring away all of the colorful verbiage, other than that many of the people connected with our cooperative activities had a vigorous hope that somehow this great adventure would have an effect on man's condition. The expected effect was that this new drama would cause men to rethink their positions and overcome their differences which continued, to a great extent, because they had existed—in other words because of inertia.

A New Threshold

The great scientific breakthrough prior to space was a controlled atomic reaction. As with the atom, space seemed to augur tremendous consequences for the future. It was not difficult to draw an analogy between the two. As with the atom, many commentators on space characterized our choice as one between utopia and disaster. Cooperation was presented as a way of making the choice in favor of utopia.

This frequently stated justification for cooperation in space involved the notion that we must not make the same mistakes in relation to space that we made with respect to the atom. That is, we must make certain from the beginning that space is used for peaceful purposes. Need for action was urgent because space would never be retrieved as an area for international cooperation once it

Kash, Don E. "The Politics of Space Cooperation" Purdue Univ. Press 1961

became an arena of competition in the arms race. The way to assure its peaceful use was to appropriate it for international cooperation early, so as to provide the world with a cut off point for the arms race. As Lyndon Johnson put it, "if nations proceed unilaterally, then their penetrations into space become only extensions of their national policies on earth."⁸

Two lines of thought were presented in conjunction with this approach. One suggested that a barrier be built at this new threshold because the induction of another broad dimension of conflict into an already tense and jittery world might well be too much—it might trigger total destruction.⁹ Presumably a nation living under the dire threat of nuclear attack would have its self-restraint taxed beyond the breaking point if it also had to contemplate the possibility of an adversary making a breakthrough in space which would give that adversary unquestioned military superiority.

Another line of thought, articulated by the ex-director of the United States Information Agency, Mr. George Allen, was that success in space exploration might give the Soviets a sense of cockiness far beyond that deserved on the basis of their achievements. He saw the danger as follows: ". . . if this newfound cockiness . . . translates itself into adventuresomeness in foreign affairs the world is in for a good deal of trouble."¹⁰ He feared that individual Soviet successes in space might cause the Soviets to act rashly and trigger a war.

The concept of a new threshold focused on the prospect of putting some kind of upper (perhaps in the jargon of the space age it should be outer) limits on the cold war and the arms race. Cooperative exploration of space would do this by preempting the area for itself. Here the goal was not to reduce the dimensions of the cold war from the present level, at least in the immediate future, but to keep it from expanding into new areas. It was hoped that cooperation would put a ceiling on the arms race spiral.¹¹

The Cooperative Habit

A more ambitious notion of how space cooperation might lead to peace argues for a reduction in world tensions. This notion is distinct from that of simply limiting the arms race. Here the goal was not one of limiting military hardware to certain areas, it was rather an absolute reduction in, if not the total mitigation of, the arms race. In its simplest terms, this was only a new application

of the old functional approach to peace. It was, however, thought to be more compelling than other areas because of the dramatic ingredient of space.

Making reference to international cooperation, T. Keith Glennan, former Administrator of the National Aeronautics and Space Administration, said: "out of the efforts of dedicated and inspired men of all nations may yet come that common understanding and mutual trust that will break the lock step of suspicion and distrust that divides the world into separate camps today."¹² Or as geophysicist Joseph Kaplan, ex-chairman of the U.S. Committee for the IGY, put it: "the spirit of international cooperation, and the advantage of having the nations work together, I think, is going to carry over into other fields so that this will stay with us."¹³

The essence of these thoughts was that the spirit of cooperation would become contagious. Cooperation would grow in all directions from the nucleus of cooperation in space and finally the feverish arms programs presently extant in the world would be robbed "of the incentive by which they are now kept going."¹⁴

The Treadmill

An interesting view of how cooperation might contribute to peace saw space as an inexhaustible challenge to man's energies and the gym where he could work out his frustrations. The optimistic assumption that space and space cooperation might help nations see the error of their ways was the basis for the approaches to peace discussed above. Whether as the result of the drama involved, or the existence of a new threshold, or the example of cooperation, it was hoped that the nations of the world would decide to cooperate at the highest political level. Those who took this view hoped that the great challenge of space would consume much of the world's excess resources and energies. Space cooperation would offer a real opportunity for peace because it furnished an outlet for both the savory and unsavory motives of nations. On the one hand it would consume energies stemming from frustration, and on the other it would consume those stemming from curiosity and imagination. As Hugh Dryden, Deputy Administrator of NASA, put it,

"some social scientists have speculated that the exploration of space might become in time a substitute for war. Hope would be that the absorption of energies, resources, imagination, and aggressiveness in the exploration of space might contribute to the maintenance of peace."¹⁵

speech made in 1960, after he had left his position as Eisenhower's science adviser, James Killian provided a concise summary of the reasoning behind PSAC's advice not to engage in a "space race" with the Soviet Union. "Many thoughtful citizens," Killian began, "are convinced that the really exciting discoveries in space can be realized better by instruments than by man." He explained that:

The Soviets . . . have used technology as an instrument of propaganda and power politics, as illustrated by their great and successful efforts—and careful political timing—in space exploration. They have sought constantly to present spectacular accomplishments in space as an index of national strength. . . . But their expensive emphasis on space exploration will not be enough in the long pull to sustain an image of strength. This will only be accomplished by a balanced effort in science and technology. . . .

I believe that in space exploration, as in all other fields we choose to go into, we must never be content to be second best, but I do not believe that this requires us to engage in a prestige race with the Soviets. We should pursue our own objectives in space science, and not let the Soviets choose them for us by our copying what they do. We should insist on a space program that is in balance with our other vital objectives and that does not rob them because they are currently less spectacular. In the long run we can weaken our science and technology and lower our international prestige by frantically indulging in unnecessary competition and prestige motivated projects. . . .

Decisions must soon be made as to how far we go with our man-in-space program. . . . Unless decisions result in *containing* [italics mine] our development of man-in-space systems and big rocket boosters, we will soon have committed ourselves to a multibillion-dollar space program. . . .

Will several billion dollars a year additional for enhancing the quality of education do more for the future of the United States and its position in the world than several billion dollars a year additional for man-in-space?²⁷

This argument summarizes PSAC's position on manned flight during the 1957–1960 period; it remained the PSAC position when Kennedy came into office. Most of the members of PSAC continued to serve after the change in administrations, and Kennedy's science adviser, Jerome Wiesner, had served on PSAC since its inception. As will be seen later, Kennedy found other arguments for manned flights more compelling than the PSAC position, and as a result PSAC members, both as a group and as individuals, had very little influence on the lunar landing decision.

Perhaps the most important and lasting impact of the Eisenhower space policy was his insistence on separating civilian and military space efforts and on giving the primary emphasis to civilian efforts. This decision later came under repeated and intense attacks from military services, but Eisenhower was able to prevail in his view that the American space program should be conducted openly, not behind the cloud of military secrecy. The decision to establish NASA, the civilian space agency, in the post-Sputnik reexamination of America's space program was a direct result of this policy.

²⁷ James Killian, Speech to M.I.T. Club of New York, December 13, 1960, reprinted in *Science*, January 6, 1961, pp. 24–25.

ALTERNATIVES TO THE EISENHOWER POLICY

As the outlines of the Eisenhower space policy quickly became evident in October and November 1957, dissent from its major elements developed just as quickly. This dissent sprang from a variety of sources: Congress, the space-oriented portions of the Army and Air Force, defense and aircraft contractors anxious to see an ambitious space program, and space-oriented professional societies and organizations. Perhaps the substance of this dissent was best embodied in the position of Senate Majority Leader Lyndon B. Johnson. Johnson was at his ranch in Texas when he received news that the Soviets had successfully launched a satellite. After supper, Johnson took a walk from the ranch house and saw the new satellite moving across the sky. He remembers his reaction: "That sky had always been so friendly, and had brought us beautiful stars and moonlight and comfort and pleasure; all at once it seemed to have some question marks all over it because of this new development. I guess for the first time I started to realize that this country of mine might perhaps not be ahead in everything."²⁸

Johnson spent that evening on the telephone consulting a number of advisers and colleagues on what an appropriate response to Sputnik might be. By the next day, members of Johnson's personal staff were already collecting data for a congressional investigation into the reasons behind the Soviet coup. Upon returning to Washington, Johnson consulted his close Senate colleagues, including Richard Russell and Styles Bridges, respectively the chairman and senior Republican on the Armed Services Committee. Within a few days, plans for an "Inquiry into Satellite and Missile Programs" to be conducted by the Preparedness Subcommittee of the Senate Armed Services Committee, which Johnson chaired, were developed. Plans for the inquiry were given Senate approval on November 4, the day after Sputnik II was launched.

Johnson had a complex variety of motivations for initiating his investigation and for seizing on the space issue and identifying himself with it personally. He was vitally concerned with national security and believed that the Eisenhower response to Sputnik gravely underestimated the political loss the United States had suffered. He believed that the Congress, which the Democratic party controlled, had a responsibility to develop alternatives to the policy of the Republican administration and that the Soviet space first provided an opportunity for such opposition. And he wanted to become president. Johnson could sense public reaction to space, and concluded that this issue was a means of becoming better known and respected outside the Senate. To Johnson, a direct criticism of the popular Republican president was bad politics; instead, "the whole defense posture of the Eisenhower administration would be examined and found wanting. . . . The investigation would put Johnson himself, and his statesmanlike concern for the nation's

²⁸ Transcript of interview with Lyndon B. Johnson conducted by Walter Cronkite for CBS television, July 5, 1969.

preparedness, in the headlines of every newspaper in the land."²⁹ The subcommittee held **twenty meetings** between November 25 and January 23. The result of the hearings was a list of seventeen recommendations, adopted unanimously, which urged **increased space and missile spending**, and emphasized the importance of **space exploration as a national objective**.³⁰

Johnson, while his subcommittee was conducting hearings, was identifying himself with space by **speaking across the country in favor of an extensive space program under a new civilian space agency**. In an unprecedented "private State of the Union Message," delivered to the Democratic party caucus at the opening of the 1958 session of Congress, Senator Johnson stressed that the central task of the forthcoming session was to formulate an organizational structure and substantive program which would ensure **American superiority in space**, and that the Democratic party in Congress, under his leadership, had **"an incomparable opportunity to save the nation and the world."** This speech was carefully prepared and widely distributed to the press; it marked the beginning of a campaign which Johnson hoped **would lead to the 1960 presidential nomination**.³¹

One observer has commented that "there was nothing parochial in Johnson's position. Unlike military spokesmen or scientists, he was vitally concerned with both aspects of space exploitation. He delved deeply in the substance of the program as he sought to shape its future form. The result of his effort was to establish his own interests and those of the Congress at a level of importance rarely seen in the process of policy-making in a modern state."³² **Johnson was to persist in his interest in space until finally, as vice president in 1961, he was given the opportunity to formulate a new American space policy for John Kennedy's approval.**

The forum for the confrontation between the Eisenhower policy for space and the Johnson-led congressional views was the legislative process surrounding the passage of the National Aeronautics and Space Act of 1958.³³ This act stated the national space policy and established an organizational structure for its implementation. The act represented a compromise between the Eisenhower and Johnson views, with perhaps the latter predominant. To the degree that this was so, Eisenhower pretty much ignored the fact in the manner in which he and his executive appointees conducted the national space program once NASA was established; instead, to the end of his administration, Eisenhower followed his own conservative guidelines for space decisions.

²⁹ Schoettle, "The Establishment of NASA," pp. 185-186, 220-229.

³⁰ Rowland Evans and Robert Novak, *Lyndon B. Johnson: The Exercise of Power* (New York: New American Library, 1966), pp. 193-194.

³¹ Schoettle, "The Establishment of NASA," pp. 226-227.

³² *Ibid.*, p. 228.

³³ See *ibid.* and Griffith, *National Aeronautics and Space Act*, for detailed accounts of this process.

Numerous bills, each reflecting different perspectives on space, were introduced at the beginning of the 1958 congressional session. These bills forced the administration's hand and the executive began to formulate its own plans for organizing the space program and its general policy guidelines. On March 5, Eisenhower approved a recommendation that leadership of the civilian space effort be lodged in a strengthened National Advisory Committee for Aeronautics (NACA), to be renamed the **National Aeronautics and Space Agency**. Legislation incorporating this recommendation was submitted to the Congress on April 2. Earlier, both houses of Congress had formed **ad hoc committees to deal with space**. Both were blue-ribbon committees, chaired by **Johnson in the Senate** and Majority Leader John McCormack in the House. Hearings got under way on April 15; **the bill, known as the National Aeronautics and Space Act of 1958, was signed by President Eisenhower on July 29.** On October 1, the National Aeronautics and Space *Administration* (the designation—a lift in status—was changed by Congress) officially began operation.

The primary foci of congressional concern during hearings were the **interaction between civilian and military space efforts; the freedom of DOD to engage in military-oriented space research; and the lack of a mechanism for overall policy direction for the space effort** which would recognize all aspects, military and civilian, political and scientific, of the program. These concerns were especially prevalent on the Senate committee, reflecting Johnson's position. **The Space Act as finally passed reflected the Senate position on all three issues.** The administration bill had attempted to specify rigid guidelines for the compartmentalization of civilian and military space activities. The Congress insisted on much more flexible language, so that military space activities would not be overly limited. In establishing the responsibility for space activities, the act stated that such activities

shall be the responsibility of, and shall be directed by, a civilian agency . . . except that activities peculiar to or primarily associated with the development of weapons systems, military operations, or the defense of the United States (including the research and development necessary to make effective provision for the defense of the United States) shall be the responsibility of, and shall be directed by, the Department of Defense.³⁴

The Senate committee desired a high-level policy-making board to exercise centralized policy-making authority for a coordinated national space program and to ensure that questions of broad strategy were considered in formulating that program. This concept was based on the National Security Council model. The House committee supported the concept of an Aeronautics and Space Advisory Committee, which would act in a purely advisory capacity to the president, meet only four times

³⁴ Section 102(b) of National Aeronautics and Space Act of 1958, cited in Rosholt, *Administrative History of NASA*, p. 305. This portion of the act, establishing the primacy of civilian uses of space, came under Air Force challenge in late 1960 and early 1961.

a year, and not be comprised of the heads of the agencies actually executing space programs. The conflict between the House view, supported by Presidential Science Adviser James Killian, and the Senate view was resolved in the latter's favor. Johnson met with Eisenhower and gained Eisenhower's approval for a modified version of the Senate's proposal, to be called the National Aeronautics and Space Council. This nine-member body was to be chaired by the president and was to include as members the secretaries of state and defense, the administrator of NASA, the chairman of the Atomic Energy Commission, one other governmental official, and three private citizens. The council was charged by law to advise the president of all aspects of space and to develop a comprehensive national space program.

After some consideration of a Joint Committee on Outer Space patterned on the Committee on Atomic Energy, each house of Congress established a new standing committee with jurisdiction over the civilian aspects of the space program. During the next 2½ years, these committees became the chief lobbyists for space policies opposed to the one held by the administration. Johnson was named Chairman of the Senate Committee on Aeronautical and Space Sciences; the committee membership included some of the most powerful senators of both parties. In fact, so busy were most of the members of the Senate committee, including Johnson as Majority Leader and presidential aspirant, that most of the committee's work was delegated to committee staff members and to subcommittees composed of more junior senators. Authorization hearings were conducted by a subcommittee headed by John Stennis; Stuart Symington headed a Subcommittee on Government Organization for Space which met during 1959. In all, the committee and its subcommittees held only five public hearings in 1959 and two in 1960; none of the hearings was particularly exhaustive. The Senate committee consistently authorized all NASA budgets and programs requested by the Eisenhower administration and in 1960 added \$55 million to the administration's request.³⁵ In its actions, the committee reflected its chairman's conviction regarding the importance of an aggressive space program.

The committee formed in the House to oversee the space program had a stormier history. The new Committee on Science and Astronautics received jurisdiction over the National Science Foundation as well as NASA. Overton Brooks was selected as chairman. Brooks, from Shreveport, Louisiana, had served for many years as ranking Democrat under Chairman Carl Vinson of the House Armed Services Committee, and apparently was offered the chairmanship to prevent him from eventually succeeding Vinson.³⁶ Brooks was characterized by one of his committee members as "an eighteenth century bayou politician trying to deal

³⁵ Rosholt, *Administrative History of NASA*, p. 137.

³⁶ James R. Kerr, "Congressmen as Overseers: Surveillance of the Space Program" (unpublished Ph.D. dissertation, Stanford University, 1963), pp. 95-96 and Neil McNeil, *The Force of Democracy: The House of Representatives* (New York: David McKay Company, 1963), p. 159.

with twentieth century science"³⁷ and by one of his staff members as having an almost pathological inferiority complex.³⁸ Brooks refused to delegate work to subcommittees; committee hearings were protracted, rambling, and directionless. There was constant search for publicity for Brooks and his committee.³⁹ Other members of the House space committee were either less-qualified senior representatives, promised subcommittee chairmanships to attract them from more prestigious committees,⁴⁰ or relatively junior congressmen.

The House committee, with its own importance and that of its members closely tied to the growth of NASA, was a vocal patron of a vigorous space program, conducted under civilian auspices, with the primary goal of replacing the Soviets as the preeminent nation in space exploration. In contrast to the relative inactivity of the Senate committee, the House committee during the 1959 and 1960 congressional sessions conducted 57 investigations, issued 46 reports, held 265 hearings, and heard 658 witnesses.⁴¹

In early 1960, the committee heard testimony in an attempt to answer two questions it had set for itself: "Exactly how important is the space program when viewed in the total context of domestic and world conditions? Does it or does it not merit top priority?"⁴²

George Allen, Director of the U.S. Information Agency, told the committee that

Our space program has an importance far beyond the field of activity itself. . . . It bears on almost every aspect of our relations with peoples of other countries and on their view of us compared with the U.S.S.R. Our space program may be considered as a measure of our vitality and our ability to compete with a formidable rival, and as a criterion of our ability to maintain technological eminence worthy of emulation by other peoples.⁴³

In a similar vein, Undersecretary of State for Political Affairs Livingston Merchant told the committee

The exploration and use of outer space have introduced a new element into the complex of factors governing relations among nations. What we do in this new field and the manner in which we do it have both actual and symbolic significance. . . .

. . . The achievements of a nation in outer space may be construed by other nations as dramatically symbolizing national capabilities and effectiveness. The challenge to the imagination has been great. Equally great have been the skills and resources needed to respond to this challenge.⁴⁴

This and similar testimony led the committee to conclude that

³⁷ Kerr, *Congressmen as Overseers*, p. 95.

³⁸ Interview with Charles Ducander, Executive Director of the House Committee on Science and Astronautics, August 16, 1967.

³⁹ Kerr, *Congressmen as Overseers*, p. 96.

⁴⁰ Nicholas Masters, "Committee Assignments in the House of Representatives," *American Political Science Review* 55 (June 1961): 356.

⁴¹ U.S., Congress, House, Committee on Science and Astronautics, *Report on the Activities of the Committee on Science and Astronautics*, 86th Cong., 2d sess., 1960, H. Rept. 2215, p. v.

⁴² U.S., Congress, House, Committee on Science and Astronautics, *Space, Missiles, and the Nation*, 86th Cong., 2d sess., 1960, H. Rept. 2092, p. 2.

⁴³ *Ibid.*, p. 4.

⁴⁴ *Ibid.*, p. 2.

the U.S. space program is joining the ranks of its defense program, foreign trade policy, mutual assistance, etc., as a prime force in world affairs. . . . The committee expresses the strong belief that this and future administrations must emphasize and accelerate space research as a necessary element to the continued leadership of the United States.⁴⁵

The committee was specifically concerned with the question of beating the Soviet Union to the moon. Its 1960 report cited a long list of experts who had already testified that a lunar landing before 1968 was feasible and criticized NASA's ten-year plan for setting the target date for a lunar landing "after 1970."⁴⁶ Foreshadowing the Kennedy decision, ten months later, the report recommended that "a high priority program should be undertaken to place a manned expedition on the moon in this decade."⁴⁷

The general attitude of the House space committee at this time is reflected in a question asked by garrulous James Fulton of Pennsylvania, ranking Republican active⁴⁸ on the committee: "How much money would you need to get us on a program that would make us even with Russia . . . and probably leap frog them . . . ? I want to be firstest with the mostest in space, and I just don't want to wait for years. How much money do we need to do it?"⁴⁹

Although members of Congress were the most vocal critics of the conservative space policy chosen by the Eisenhower administration, they were not alone in demanding a more aggressive policy. A variety of motivations—national security, national prestige, the possibility of enhancing peace through international cooperation, and the promise of scientific and technological development—led a wide variety of others to support a program conducted with a greater sense of urgency.⁵⁰

EISENHOWER POLICY PREVAILS

Perhaps because of the multiplicity of motivations underlying opposition to the Eisenhower policy, his administration was able to withstand all challenges to it. Supporters of an aggressive, coordinated space program were not able to agree among themselves what the specific features of such a program should be. Rivalry between the Air Force and the Army within the DoD, and between the military services and NASA, helped to fragment the opposition. The administration's attempt to keep the space budget at a low level meant that the government space agencies were not able to win significant support from an industrial constituency, especially in comparison to the industrial support for the Air Force and Navy strategic missile programs.

The administration steadfastly denied the need for a coordinated na-

⁴⁵ *Ibid.*, p. 53.

⁴⁶ *Ibid.*, p. 12.

⁴⁷ *Ibid.*, p. 15.

⁴⁸ House minority leader Joseph Martin was a member of the committee but never participated actively in its operations.

⁴⁹ U.S., Congress, House, Committee on Science and Astronautics, *Missile Development and Space Sciences*, 86th Cong., 1st sess. 1959, p. 20.

⁵⁰ For an extensive treatment of these motivations for the space program and of those supporting them, see Van Dyke, *Pride and Power*.

tional space policy, maintaining the position that "the civilian and military functions in space development are separate responsibilities requiring no coordinating body."⁵¹

President Eisenhower, after accepting the Space Council at Johnson's urging, used it sparingly and never hired a staff for it; Eisenhower preferred to consider space policy in cabinet or National Security Council meetings with NASA Administrator Glennan attending. There was an attempt to prepare a National Security Council policy paper for space, but this document, NSC-5814, never got beyond the "preliminary" stage. In 1960, realizing that the course the administration was following made the mechanisms provided in the Space Act for policy coordination superfluous, Eisenhower requested their elimination. He told Congress that the act as it stood embodied the concept of a "comprehensive program" of space activities, which he considered incorrect. Accordingly, the president asked for "elimination of those provisions which reflect the concept of a single program embracing military as well as non-military space activities." The president asserted that "in actual practice, a single civil-military program does not exist and is in fact unattainable; and the statutory concept of such a program has caused confusion." Seeing no prospect for a comprehensive and integrated national space program, President Eisenhower thought that he did not need a Space Council, which he asked be abolished along with the statutory responsibility of the president and council to formulate a comprehensive program.⁵²

NASA concurred in Eisenhower's recommendations and, in lieu of a national space program, was preparing a comprehensive ten-year plan for the civilian portion of the space program. The House agreed to Eisenhower's request for revisions in the Space Act, but Lyndon Johnson blocked passage of the Eisenhower recommendations in the Senate. Johnson based his objections on the forthcoming change of administration. He said:

One fact is of overriding importance. A new President will take office on January 20, 1961—less than five months from now. The next President could well have different views as to organization and function of the military and civilian space programs. Any changes in the Space Act at this session will have little or no effect on the space program during the next few months, but could restrict the freedom of action of the next President.⁵³

When John Kennedy decided to set a lunar landing as a national goal the following May, he did more than ask the nation to begin a spectacular but narrow-purpose space program. He challenged the assertion that a "single civil-military program . . . is unattainable" by approving the initial plans for just such a program, aimed at establishing

⁵¹ *The New York Times*, April 15, 1960, p. 3.

⁵² U.S., Congress, House, Committee on Government Operations, *Government Operations in Space*, 89th Cong., 1st sess., 1965, H. Rept. No. 445, p. 57.

⁵³ U.S., *Congressional Record*, 86th Cong., 2d sess., August 31, 1960, pp. 18508-18509.

American preeminence in every aspect of space activity, civilian and military, scientific and commercial, prestige-oriented and unspectacular. Thus the Kennedy decision was a dramatic reversal of the national space policy set by President Eisenhower.

STEPS TOWARD A LUNAR LANDING PROGRAM: 1958-1960

Against this background of disequilibrium in the space policy-making process, several decisions of specific importance to the eventual development of NASA's capability to undertake a manned lunar mission can be clearly understood. These decisions were: the assignment of responsibility for manned space flight programs to NASA in mid-1958; the transfer of the Saturn booster program, and with it the whole of the Von Braun rocket development team and facilities, to NASA in October 1959; and the refusal of President Eisenhower and his scientific and budgetary advisers to approve NASA's plans for Project Apollo in the fall of 1960. A brief summary of these decisions will complete this chapter and set the stage for considering how and why Kennedy acted in such drastic fashion to reverse the Eisenhower space policy and thereby attempt to restore an equilibrium to that segment of the national policy-making process.

NASA OBTAINS MANNED FLIGHT MISSION Assignment by the president of responsibility for the nation's first manned space program to NASA in mid-1958, over Air Force objections, became a continuing source of friction. The Air Force, and especially the Ballistic Missile Division of the Air Research and Development Command (ARDC), had been interested in developing an Air Force manned space flight capability since 1956. The Air Force early recognized a potential space mission, and had developed the argument that

air and space are not two separate media to be divided by a line and to be readily separated into two distinct categories; they are in truth a single and indivisible field of operations. Space is the natural and logical extension of air; space power is merely the cumulative result of the evolutionary growth of air power. . . . Precisely speaking, we are and have been operating in the "Aerospace Age."⁵⁴

This argument led the Service in 1958 to attempt to obtain permission to send Air Force officers into orbit. Perhaps "the almost irrational attachment of the Air Force to bombers"⁵⁵ was also a factor in this attempt; many in the service already saw that the ICBMs, controlled from underground command centers in the American prairies, would soon replace strategic bombers as the core of the nation's deterrent forces, and were hoping to keep the Air Force flying by replacing strategic bombers by a strategic space force. On February 27, the Air Force Vice Chief of Staff Curtis Lemay, the foremost "bomber general,"

⁵⁴ General Thomas D. White, in the Preface to Kenneth F. Gantz, ed., *Man in Space* (New York: Duell, Sloan & Pearce, 1959), p. xiii.

⁵⁵ Urs Schwartz, *American Strategy: A New Perspective* (Garden City, N.Y.: Doubleday & Company, 1966), p. 81.

ordered ARDC to submit a detailed plan for an Air Force man-in-space program as soon as possible.⁵⁶

On February 7, Secretary of Defense Neil McElroy had created an Advanced Research Projects Agency (ARPA), reporting directly to the Secretary and independent of any of the military services, and had given it the responsibility of directing all DOD space projects. The separate services could still undertake their own space activities, but only after obtaining ARPA approval. This agency was formed as part of the intra-governmental maneuvering that accompanied the development of an organizational structure for the nation's space program. Air Force officials opposed the formation of ARPA, believing that management of DOD space programs should be primarily an Air Force responsibility. In late February, ARPA Director Roy Johnson acknowledged that "the Air Force has a long term development responsibility for manned space flight capability with the primary objective of accomplishing satellite flight as soon as possible."

Encouraged by this statement, Air Force officials attempted to get quick DOD approval for a plan to get a man in earth orbit as soon as possible. ARDC sent a plan for a manned orbital capsule to Air Force Headquarters on March 14. On April 2, the same day that President Eisenhower proposed a civilian space agency to Congress, Air Force Chief of Staff Thomas White secured approval for the manned space project from the Joint Chiefs of Staff.

The Air Force first requested ARPA approval of its manned space flight plans on March 19. Funds totaling \$133 million were requested for the first year of the program. Despite approval in principle of Air Force manned space responsibility, ARPA withheld approval of this request for funds pending a final decision on whether any military manned program would be allowed.

By this time the administration had decided that a new civilian space agency would be organized and would be built around a nucleus of the National Advisory Committee for Aeronautics. Accordingly, in his space message to Congress, Eisenhower instructed NACA and the Defense Department to review space projects under ARPA direction in order to determine which of them should be transferred to the new civilian space agency. NACA, DOD, and the Bureau of the Budget (BOB) representatives were able to reach quick agreement on the disposition of practically all the programs and facilities in question, with the notable exception of manned space flight. NACA was in a rather ambiguous position; even though contending with the Air Force for overall control of the manned space flight program, NACA was also still providing research support to the Air Force on the service's manned space flight plans. In mid-April NACA Director Hugh Dryden proposed a joint Air Force-NACA manned

⁵⁶ Swenson, Grimwood, and Alexander, *This New Ocean*, p. 78.

The Decision to Go to the Moon

John M. Logsdon M.I.T. Press, Cambridge Mass

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corporate viewpoint, which felt that the Defense example of existing patent rights in the research organizations should prevail, regardless of the fact that the government paid for the research, on the theory that the profits from such inventions were part of the incentives for industry to bid on defense contracts and, in effect, kept the net costs down. In the end there was a compromise, with the NASA Administrator authorized to waive the government's rights if he deemed it to be in the public interest.

Competition between the Defense Department and the proposed space agency for both men and material was another source of concern. The Secretary of the Navy, Garrison Norton, looked upon NASA's contracting authority as potential competition with the military for major aircraft and missile procurement, which, in his view, would lead to increased costs and duplication of effort. So too the prospect of another government agency's vying for skilled scientists and engineers was also not pleasing to those who were concerned with ensuring the primacy of the DOD space effort.

Another source of contention in the legislative arena was from the disparate efforts of the various agencies involved—not only the embryonic NASA, but the existing departments and agencies—DOD, AEC, and the National Science Foundation, to say nothing of the State Department, the Commerce Department's Weather Bureau, the Federal Aviation Administration, and even the Federal Communications Commission.

The Senate's legislative specialists felt that the overlap between the proposed civilian agency and the Department of Defense might best be handled by a National Aeronautics and Space Council to be chaired by the President, with members from the departments and agencies most concerned with space and from the general public. The House favored the establishment of a congressional liaison committee to handle problems arising from this overlap.

Lyndon Johnson was one of the senators who favored establishing a nine-member National Aeronautics and Space Council, to advise the President directly and to be chaired by him. There were negotiations between the White House and the Senate on this point—with James R. Killian, the President's Science Adviser, taking the position that the Senate proposal was an affront to the President. (From the bureaucratic standpoint, the National Aeronautics and Space Council was anathema to the President's Science Advisers, who looked upon it as a rival for the President's attention.) This position was also taken by Lee A. DuBridge, who in the fiscal year 1971 budget hearing told the House Appropriations Subcommittee that the work done by the proposed council's staff of twenty could be taken over by the Office of Science and Technology with the addition of a "few" people. At any rate, Lyndon Johnson was adamant on the issue of the council, and, as it turned out, was to become its chairman as Vice-President in 1961, after a change in the law.

From the perspective of the President, however, there was something to be said for Eisenhower's reluctance to approve a new council, although the reasons were not brought forth until some two years later by an adviser to John F. Kennedy, Richard E. Neustadt, professor of government at Columbia University. In an address to the 1960 Annual Meeting of the American Political Science Association, Professor Neustadt listed as first among the problems of the President the chronic inability of interagency machinery to live up to expectations in the formulation and coordination of policy. He suggested that what was wrong was not the mechanism but the expectations. He felt that the machinery was being asked to do what it was generally incapable of doing—to develop bold and farsighted plans and turn them into prompt, effective action. Making plans and taking action, he pointed out, were the province of men within the departments, not men in between departments. Interagency committees, Neustadt per-

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 Richard Abrecht & Joseph John Tamm Praeger Publishing NY. 1973

VII

NASA and Congress

NASA is a child of Congress rather than of the executive branch. In the fall of 1957, Congress responded to the news of the first Russian Sputnik not in wonderment but in anger. Congress was angry at President Dwight D. Eisenhower and his staff for treating space as if it were not scientifically or militarily important and angry at itself for having believed in the myth of American superiority. It was a time of intense reappraisal.

President Eisenhower reacted by calling in his Defense Department experts and asking them where the United States stood in regard to space. He was presented with the nose cone from a ballistic rocket that had withstood the fiery temperatures of re-entry. In a speech memorable for smugness, he pointed proudly to the nose cone as evidence that the U.S. was not far behind the U.S.S.R. This was a long way from the truth. A month before Sputnik I was launched, the Soviets had put a full-scale intercontinental ballistic missile through a very successful test. The ballistic rocket that boosted the President's nose cone was capable of delivering only the most minor of warheads. The military was aware of this, and so was Congress.

Nevertheless, Senators Lyndon Johnson, Styles Bridges, and Richard Russell were invited to the Pentagon for a briefing and were reassured that the Soviet success was a fluke and that our 3½-pound Vanguard satellite would soon fly. The briefing had barely ended when the Soviets rocketed the space dog Laika into orbit in a spaceship that weighed thousands of pounds and was plainly visible to U.S. citizens at certain times of the night.

Senator Lyndon Johnson was far from satisfied at the Administration's cavalier attitude toward space and ordered his Preparedness Investigating Subcommittee to hold open, formal hearings to determine the significance of the Soviet superiority in space. Moving with unusual speed, the subcommittee began hearings on November 25, 1957. The hearings lasted for weeks and were perhaps the most dramatic congressional hearings that had taken place since the Army-McCarthy hearings in the early 1950's. In one session, General James Gavin, in tears, described the army's frustration at being prevented from developing ballistic rockets. Senator Johnson's subcommittee hammered home the idea that the future of science and of the country's defense depended on space.

In December Senator Johnson announced that he had every intention of seeing that a civilian space agency was established within the coming months. In phone calls and meetings, however, Eisenhower continually questioned the relevance of space to defense and science. Using the persuasive techniques for which he was famous, Johnson finally succeeded in urging the reticent Chief Executive to cooperate. In February, 1958, the Advanced Research Projects Agency was created, making the Secretary of Defense responsible for space projects for one year. To Senate-watchers this was the tip-off that the space program would not be a long-term project for the Department of Defense.

On February 7, 1958, just six days after the United States

orbited Explorer I, Senator Johnson introduced, and the Senate passed the next day, a resolution establishing a committee with a somewhat redundant title—Special Committee on Space and Astronautics. The committee had thirteen members, seven Democrats and six Republicans.

For a while it had seemed as if every senator wanted to bring space under the jurisdiction of his own committee. One senator went so far as to propose that space should be the responsibility of the Committee on Commerce because of its communications potential. In a brilliant parliamentary move, Senator Johnson solved the whole problem by appointing all such committee chairmen to the new blue-ribbon committee. It was this action, as well as his hammering home of the significance of the initial Soviet successes in space, that many historians cite as Johnson's chief accomplishment as a Senate leader.

Still not too concerned with space, President Eisenhower made a formal proposal to Congress for a civilian space agency, "by request" from Senators Johnson and Bridges. ("By request" implies that a bill has been introduced on behalf of a senator—or by a senator on behalf of the President—as an act of courtesy. Frequently a senator will introduce a bill, by request, without having any intention of voting for it when it reaches the floor.)

The President's proposal did have one outstanding feature: the new space agency would be exclusively a civilian agency. Otherwise it was largely a name change for NACA. Many congressmen and senators were displeased with the proposal, feeling that it was totally inadequate to the national need. Under the Eisenhower formula, the director of the new agency could succeed only if other agencies were willing to cooperate.

Congress was disgruntled. It was the Army's Wernher von Braun who kept their faith by keeping his promise of putting a satellite into orbit within ninety days of a go-ahead order.

Von Braun, the Senate learned, had been prepared for over a year to put a satellite into orbit but, by order of the President, had had to defer to the Navy's civilian Vanguard project. He had saved several Redstone rockets and enough satellite hardware from his nose cone research program for just such an effort, but he had no desire to be transferred to a civilian agency. Von Braun believed that under Eisenhower a civilian agency would receive little money and that only the military could expect the enormous sums that would be needed to explore space.

CONGRESSIONAL ACTION

The House of Representatives did not get into the debate on space until Representative Carl Durham, chairman of the Joint Committee on Atomic Energy, announced that he was ordering the formation of a special Senate Subcommittee on Outer Space Propulsion, with Senator Clinton Anderson as its chairman. In January of 1958, hearings were held in executive session (closed to the public), at which many of the nation's space experts presented testimony.

During this same period, hundreds of bills were introduced in the Senate and the House, which would have divided responsibility for the space program in as many ways. The Subcommittee on Outer Space Propulsion proved to be abortive upon creation of Senator Lyndon Johnson's Special Committee on Space and Astronautics. Senator Clinton Anderson became a member of the new committee. On March 5, 1958, the House followed suit and established the Select Committee on Astronautics and Space Exploration with Congressman John W. McCormack as chairman. This body served as an interim committee in the months between the Sputnik crisis and the establishment of the National Aeronautics and Space Administration.

The Administration bill to create NASA was introduced

in the Senate on April 14, 1958, by Senators Johnson and Bridges and in the House by Representative McCormack. An adjustment made in the Senate version provided for the establishment of a National Aeronautics and Space Policy Board consisting of most Cabinet officers, the NASA Administrator, and the President, as chairman. Eisenhower let it be known that he had no stomach for such a board.* The House wanted more control over interagency relations. To fill this need it wanted a committee on defense and another on atomic energy rather than a policy board to settle disputes and promote projects. Senator Johnson was disgusted with the attitudes of both the White House and the House of Representatives. A compromise bill was finally voted into law on July 16, 1958. President Eisenhower, mindful of public opinion, signed the bill on July 29, 1958.

CONGRESSIONAL COMMITTEES

The Congress still had one major task ahead—how to handle legislation concerning the new agency. On July 15, 1958, Senator Lyndon Johnson introduced a resolution creating the Senate Committee on Aeronautical and Space Sciences. Most members of the Special Committee on Space and Aeronautics became members of the new standing committee. Johnson was made chairman. The House, after considering a Joint Committee on Space along the lines of the all-powerful Joint Committee on Atomic Energy, created the Committee

* Bryce Harlow, an Eisenhower aide, acted as Administration spokesman in this matter. Harlow, particularly, did not like the idea of a policy board. After a series of compromises, the proposed National Aeronautics and Space Policy Board became the National Aeronautics and Space Council, whose functions were merely advisory. Eisenhower angered Johnson by ignoring the board when the 1958 bill was passed. He failed to appoint an executive secretary to the council and in January, 1960, during the last days of his Administration, made the mistake of sending legislation to the Senate that would have abolished the council altogether. The bill was never put on the calendar.

on Science and Astronautics on July 21 to replace the Select Committee on Astronautics. Representative Overton Brooks of Louisiana was its first chairman.

The sixteen senators who presently sit on the Senate Committee on Aeronautical and Space Sciences work as a unit. Unlike the House Committee on Science and Astronautics, the Senate committee has no formal subcommittees. Staff work is vital to its functioning. Work assignments directed to perhaps one or two members come directly from the chairman. The committee has a professional staff of five, compared to the seventeen professional staff members of the House committee. The staffs of both committees conduct research to ensure that committee members have the information they need to make informed votes on NASA authorizations. NASA cooperates through its Office of Legislative Affairs, which provides witnesses, gathers testimony and facts, and arranges tours of NASA facilities for representatives and senators.

In recent years, meetings of the Senate Committee on Aeronautical and Space Sciences have provided a forum for NASA's critics. This open operation has not hindered NASA or the committee, but has actually increased its credibility.

Twenty-nine Congressmen make up the House Committee on Science and Astronautics. The chairman and the ranking minority member serve as ex-officio members of six subcommittees.

The *Subcommittee on Manned Space Flight* prepares and reviews legislation concerning all manned NASA operations. The *Subcommittee on Space Science and Applications* handles legislation and information pertaining to unmanned flight and useful applications of space information in general. The *Subcommittee on Aeronautics and Space Technology* is, along with the *Subcommittee on Science, Research and Development*, interested in various field center operations, research and development, and other areas pertaining directly to the area of flight preparation and research. The *Subcommittee on*

Naval Personnel for his present station could be a mistake. To avoid any link with the UFO subject I used a go-between, a friend who dealt with various government departments as a personnel specialist. Though he had a serious interest in the UFO riddle he kept it quiet. I knew he could be trusted—we had exchanged suppressed information several times, with no resultant leaks. As he is now in private industry I can safely disclose the part he played, but not his name. I'll call him Jack Morton.

I had a special reason for selecting Morton. In 1959 he had met a Navy pilot stationed in Washington. After they became close friends Morton mentioned his interest in UFOs. Later the pilot revealed he had a close sighting while on a Navy transport. When Morton gave me the details, in confidence, I suspected this was the Atlantic encounter case. But the pilot refused any contact with NICAP, fearing a possible leak to the Air Force.

When I saw Morton, at his home, I told him the situation and he agreed to find out "Brent's" station. I asked if he thought the Navy might have a "flag" on the commander's file—a notice to refuse information and report any queries.

"I don't think so," said Morton. "That was some time back. But to play safe I'll just say I know the commander and I heard he was being transferred here. Then I'll ask for his address so I can write him. It should be routine."

"Thanks," I said. "Say, about that Navy pilot you know who had a sighting. If he really was one of the witnesses in that Atlantic case, do you think he'd agree to join the commander at that press conference?"

"I doubt it. He took eight months to decide on telling me about that sighting."

"If he really was one of those witnesses he could be a big help. He might get in touch with some he knew personally and ask them to join in. The congressman who told me about this said they'd guarantee immunity."

"How could they be sure? Maybe if Admiral Hillenkoetter

promised to protect them they'd agree. I'll ask this pilot during the weekend, that is, if this was the same case. Meantime, I'll get the dope on the commander and phone you tomorrow."

But the next day passed with no word. Morton's secretary told me he had taken time off, but calls to his home went unanswered. The following night, after repeated calls, I drove out to his house. No one came to the door, but soon after I returned home Morton telephoned.

"I've got to make this quick," he said hurriedly. "That Navy call raised hell—they did have a flag on that commander. A clerk said she'd check on his station, but she didn't call back. In less than an hour two CIA agents showed up at my office. They had me get rid of my secretary—"

"Hold it a second, Jack," I broke in.

"Don't stop me—I'm taking a big chance calling you. Those two agents really gave me the third degree. They made me tell them who wanted the commander's address and why. I could tell that the Congress meeting deal worried them. They grilled me until I told them about the whole plan and Admiral Hillenkoetter. That's all there is—"

Morton stopped for a moment. I heard his voice indistinctly, then he came back on.

"My wife's scared to death. I could be in trouble calling you—they ordered me not to see you or tell you anything. But I saw you at the house tonight and I knew you'd keep on until you got to me. Look, I've got to go—for heaven's sake don't try to call or see me again."

After Morton hung up, I felt a sudden guilt at involving him in this operation. And yet we had no reason to expect trouble. Twice before this, Morton had acted as go-between and secured the addresses of military witnesses in fairly important cases. There had been no repercussions. Also, both the CIA and the AF knew I had the Atlantic encounter report but had made no attempt to contact the witnesses. The main reason was a suggestion by Admiral Fahrney, in 1959,

proved by Admiral Hillenkoetter, Colonel Bryan, former AF Monitor Fournet and all the other NICAP Board members. The accidental-war warning included this statement:

In 1958, the AF admitted that Strategic Air Command bombers more than once had been launched against Russia when defense radar tracked mysterious objects in seeming formation which never have been identified. The errors were caught, but the hazard is greater today.

As I told Low, the AF admission was given to the president of United Press, Frank Bartholomew, after a top-level conference at SAC Headquarters. It was cleared by the AF, at the Pentagon. The original purpose was to inform the Soviets, through the approved UP statements, that we had a powerful Early Warning system which would detect any sign of an attack and cause quick retaliation. Why the disclosure about UFOs was included has never been explained.

"Well," said Low, "if the errors were caught each time then there's no real danger."

"No warning system's perfect. Remember when defense radar picked up signals that had bounced off the moon? NORAD had a bad shock—they thought this was the start of World War III. They were about to launch in full force when the mistake was discovered."

As added proof of the hazard, I showed Low two sober official warnings. One came from Lyndon Johnson, when he was the Senate Majority Leader. Shortly after he sent NICAP's confidential report to the Senate Preparedness Subcommittee, he released this statement:

"The Western allies must be prepared for every possibility—deliberate or accidental."

The other warning was given by Dr. Marvin Stern, Assistant Director for Research and Development, Department of Defense: "We are not giving enough consideration to the factors of stress and coincidence that might lead to war by accident."

Though unknown flying objects were not mentioned, the UFOs were known to be a major part of the accidental-war danger.

"Well, even if there is such a danger," said Low, "our AF contract doesn't give us jurisdiction."

"The AF says you're independent. Mr. Low, this could be the most important part of your investigation. The AF cover-up has confused a lot of Early Warning radar operators. They've been told UFOs don't exist, so when they pick up high-speed objects heading toward the U.S. they're likely to think it's a surprise enemy attack."

The hazard had increased, as I told him, because of missile submarines. If UFOs suddenly came in from the Atlantic or Pacific, or the Gulf of Mexico, defense radar operators could easily mistake them for sub-launched missiles. UFOs also had been tracked at the speed of inter-continental missiles, adding to the risk of accidental war.

"If your project exposed this," I said, "it could compel the AF to train Early Warning operators so they'd be on guard against such mistakes. UFOs often have certain characteristics the operators could learn to recognize—once they knew the objects are real. If the U.S. took these precautions the Kremlin probably would do the same. The Soviets tracked UFOs, too, and it's fairly certain they've also launched by mistake. Your project could do a great service to the country, and I think Dr. Condon should know this."

"If it's that serious he certainly should know," Low answered. "I'll show him your Confidential Report to Congress."

But a month later I learned the attempt had failed. Condon had decided this was strictly a Defense Department problem, if it really existed.

Before this, a few NICAP members believed the AF had persuaded Dr. Condon it was his patriotic duty to help conceal the truth, until they were better prepared to cope with the UFOs. Though it was possible, I didn't believe it. From

Curtis Peables
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In early 1960, Keyhoe's fourth book in a decade was published. *Flying Saucers Top Secret* covered the founding of NICAP, the 1957 flap, the quest for congressional hearings, the problems on the *Armstrong Circle* appearance, selected UFO sightings and speculation. There was a hint of failure in its tone; at every step, NICAP had been frustrated in its efforts. A large part of the royalties went to support NICAP.

Last Try for Hearings

Despite everything, in early July 1960, it seemed Keyhoe might yet get congressional hearings. Members of the Senate Committee on Preparedness, House Armed Forces Committee, House Science and Astronautics Committee, and the CIA all requested briefings on UFOs.²² Keyhoe learned of the interest and considered it a major breakthrough. *The UFO Investigator* headlined it: SENATOR JOHNSON ORDERS UFO WATCH. The article quoted him as saying:

"At my direction," Sen. Johnson told NICAP, "the staff of the Preparedness Investigations Subcommittee is keeping a close watch over new developments in this field, with standing instructions to report to me any recent significant sightings of unidentified flying objects along with an analysis of the conduct and conclusions of the Air Force investigation of each such sighting."²³

The briefings were held on July 13 and 15, 1960. Unlike past briefings, the congressmen were not fully satisfied. Congressman Richard Smart said he felt the Air Force was withholding information from both the public and Congress. He warned that his future responses to his constituents would be based on the Air Force meeting his demands.

Congressional interest remained high and, in the spring of 1961, House Majority Leader John W. McCormack said in an interview with a NICAP member:

I feel that the AF has not been giving out all the information it has on Unidentified Flying Objects. These UFOs (the sightings that cannot be satisfactorily explained) much [sic] be in a very high state of development. Whether they come from some other planet we don't know. We can't say they come from another planet until we find life on another planet. On the evidence we have you can't pinpoint their source.

So many expert witnesses have seen these objects that you can't disregard so many unimpeachable sources. Among the experts who insist that some of these objects constitute something real, something unknown, are pilots, other persons with special skills in this area, persons of great responsibility, ratio-

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nal-minded witnesses. This is not all imagination. You can't rule out all these sightings as imagination producing a mistake in identity. You can't put it down to atmospheric phenomena. It might be well for the House Committee on Science and Astronautics to hold further hearings, either executive sessions or open hearings to bring the matter up to date.

All this led Keyhoe to conclude "that the UFO secrecy fight is nearing a climax," and that, as a headline put it, PROBE ASSURED.²⁴

The reason for Keyhoe's optimism was a decision by McCormack. In 1961, he directed Congressman Overton Brooks, chairman of the House Science and Astronautics Committee, to investigate UFOs. Brooks selected Minnesota Congressman Joseph Karth as chairman of a three-man Subcommittee on Space Problems and Life Sciences. The hearings would be held in early 1962.²⁵

Keyhoe learned of the "UFO Subcommittee," and quickly proposed that NICAP be allowed to present "proof that the Air Force has withheld, denied or untruthfully explained" sighting reports and "has given contradictory, misleading and untrue statements to Members of Congress, press media and the public." NICAP also wanted the right to question the Air Force. The Subcommittee would require the Air Force to answer all NICAP's questions.

Keyhoe also made recommendations on specific actions should the subcommittee decide the Air Force was covering up. This included "ending the censorship," and setting up, through "emergency legislation or . . . an Executive Order," a civilian "UFO Information Agency." This agency would release all evidence on UFOs from December 8, 1941, onward. The evidence would include intelligence reports and conclusions, visual radar, photographic astronomical information, opinions of witnesses, all UFO studies, all military, civil, private, and foreign UFO information, and all U.S. government documents and orders on UFOs. The UFO agency would have members of the press and media to speed the release of information. It would also have an Air Force consultant to delete "minor classified items" and "one NICAP representative to help expedite operations."²⁶ Like the earlier "offers" to the Air Force and the contactees, NICAP seemed as intent on securing its own power as it was on uncovering the "truth" about UFOs.

The Air Force, once more, sought to fend off the hearings. In August 1961, the Aerospace Technical Intelligence Center (ATIC) gave a briefing to House Science and Astronautics Committee staff member Richard P. Hines. The Blue Book procedures were explained and Hines was shown around the Aeronautics Systems Division. Hines explained that congress-

sional interest was due to pressure from "undisclosed sources" on McCormack (this was presumed to be Keyhoe).

Hines was "favorably impressed" and a week later he told the Air Force that Overton Brooks had decided not to hold hearings on UFOs. Hines continued, "For this I am sure both you and I breathe a deep sigh of relief." As a result the "plaintiffs" [i.e., Keyhoe] have begun their clamor stimulated by notices in the press of our committee's interest in UFOs."

This was followed by a letter from Congressman Karth to Keyhoe which blasted him for trying to "be-little," "defame," and "ridicule" the Air Force. He further accused Keyhoe of "malicious intent." Karth said he was no longer interested in holding hearings or "listening to headline-making accusations (prompted it seems by past gripes) in open debate between you and the Air Force." After saying that congressional protocol required the Air Force and NICAP to testify separately, Karth said he thought Keyhoe wanted the confrontation only to embarrass the Air Force and to indulge in "grandstand acts of a rabble rousing nature where accusations may be made THAT COULDN'T BE ANSWERED BY ANYONE—the Air Force or NICAP."

Keyhoe backpedaled, offering to submit NICAP's "massive UFO evidence" and trying to soften Karth's harsh opinion, but the quest had ended. At this same time, Overton Brooks died and the new chairman, George P. Miller, had no interest in either UFOs or hearings.²⁷ Never again would Keyhoe be this close to gaining his long-sought hearings.

NICAP's Critics

Among believers, there were many who were unwilling to give Keyhoe and NICAP the dominating position they sought. One early critic was Ray Palmer.²⁸ On the surface, Palmer's argument with NICAP was over the contactee question. On a more basic level, it was personal rivalry.²⁹ In May 1958, Palmer called NICAP a cover-up to hide the "real issue" and implied that Keyhoe was a tool of the military.³⁰ Palmer's own credibility was damaged in December 1959 when he announced his own "truth"—that flying saucers did not come from some other world, but from secret bases inside the hollow Earth.³¹ He won no converts; the flying saucer myth was too well established for a revival of the Shaver Mystery.

Another critic took the idea of a conspiracy to its farthest limit. Dr. Leon Davidson, a chemical engineer who worked at Los Alamos, be-

came convinced everything about UFOs was a CIA plot. In Davidson's conspiracy theory, the early sightings were caused by secret test flights of the XF5U-1 "Flying Flapjack" over Air Force bases, V-2 launches, and Skyhook balloon flights.

During 1950, according to Davidson's theory, Allen Dulles and the CIA began using UFO reports as a psychological weapon to deceive both the American people and the Soviets. It was the CIA who set in motion the Great Flap of 1952: first by sponsoring the *Life* article "Have We Visitors from Space?," then by creating the Invasion of Washington by using electronic countermeasures to create the false radar images. The contactees were also a creation of the CIA. Adamski's 1952 "contact" was a CIA-arranged hoax, while his flight around the Moon was created by using movie special effects. The "saucer" remained on the ground; the views of Earth, space and the Moon were projections. At the same time, Keyhoe was being "fed" data from the government. The CIA was also setting up NICAP, the other flying saucer clubs, and the contactee groups.³² It was a total, seamless conspiracy that covered everything, and was as insubstantial as a soap bubble. Dr. Davidson also gained no converts to his grand conspiracy theories.

Palmer and Davidson were critics NICAP could ignore. Another challenger posed a more significant threat. Both Keyhoe and NICAP had based a large part of their belief system on Capt. Edward Ruppelt's book *The Report on Unidentified Flying Objects*. At this same time, however, Ruppelt was becoming disillusioned with UFOs. In May 1958, he wrote a NICAP member: "I have visited Project Blue Book since 1953 and am now convinced that the reports of UFOs are nothing more than reports of balloons, aircraft, astronomical phenomena, etc. I don't believe they are anything from outer space."

Keyhoe wrote him and Ruppelt confirmed the statement, adding that he had always felt this way. Then in late May 1959, Ruppelt called Keyhoe and told him that he was updating the book and the Air Force was helping him. Keyhoe published an open letter in the June 1959 issue of *The UFO Investigator*. The introduction read: "In the past month, rumors that Capt. Edward J. Ruppelt has been pressured into debunking his own-UFO book have been circulating in Washington." The letter seemed to be supportive of Ruppelt with such statements as:

If you are under some terrific pressure, I want to help. NICAP will do all it can to expose the facts.

They know you could prove your disclosures, so they've tried to discredit you. At times, it has amounted almost to a smear campaign.

Yet, at the same time, Keyhoe was putting his own pressure on Ruppelt:

But perhaps you've been shown some way to "retreat gracefully." Don't let them trick you. If you try to retract, you will be bitterly attacked by many readers, including influential book reviewers, who hailed you for speaking the truth, for daring to put the record straight.

If you insist you never believed in UFOs, you could even be accused—and I know it's not true—of writing your book solely for profit, without the slightest belief in the evidence you so carefully built up for your readers.

Keyhoe followed with a long list of statements selected to show Ruppelt as a believer and added that they "could come back to haunt you" and concluded: "Ruppelt must be under such severe pressure he feels he has no choice. He should be helped, if possible, not condemned."³³

The "pressuring" of Ruppelt became part of the flying saucer myth. Reality was very different; years later his widow (Ruppelt died in late 1960) said his switch was caused by the continuing lack of any physical evidence, as well as by the contactees.³⁴

Ruppelt could be explained away as having buckled under Air Force pressure. Not so another of NICAP's critics—the Aerial Phenomena Research Organization (APRO). Many NICAP members also had memberships in APRO. On the surface, both groups held similar beliefs, but there were deep doctrinal and personal splits between them. Coral Lorenzen (director of APRO) had worked at Holloman AFB in New Mexico for several years. While there, she found no evidence the Air Force was covering up UFOs. Between 1959 and 1961 she had begun to suspect that Blue Book was nothing more than a public relations "front" and "that if a cover-up was in effect, it was being accomplished at CIA level or higher."³⁵

There was a more basic difference. APRO would accept "occupant cases," where a witness claimed to have seen a UFO pilot, when they felt the evidence warranted it. (The contactees were out of bounds.)³⁶ NICAP had much tighter limits on what kinds of sightings were acceptable. A UFO could be seen in flight or hovering, but NICAP was very reluctant to accept a landing. As for occupant cases, between 1957 and 1962, there was only one brief report. Even so, it said that the report of figures in the windows of a saucer "is still under evaluation"—far from an endorsement.³⁷

The event which triggered the NICAP/APRO split was not a UFO sighting, but the 1962 recession. NICAP's monthly income fell to less than half its monthly expenses. Those people with dual memberships began dropping one or the other. In the July 1962 issue of *The APRO*

Bulletin, Coral Lorenzen wrote an editorial which called NICAP a lobbying group which was uselessly attacking the Air Force. The editorial caused a final split between APRO and NICAP. The two groups became bitter rivals. For NICAP, the split was a greater blow than the 1961 failure to gain congressional hearings. The split removed any chance NICAP could dominate the noncontactee flying saucer myth. The believers remained as before—small, fragmented groups mutually bickering among themselves as fiercely as they attacked the Air Force.

Air Force Activities 1957–1963

All this time, the Air Force and Project Blue Book were going through their own changes. In July 1957, the Air Defense Command disbanded the 4602nd Air Intelligence Service Squadron (AISS). Investigation activities were transferred to the 1006th AISS. Public relations activities were split between the Office of Legislative Liaison (for congressional inquiries) and the Office of Public Information (for the public). AFR 200-2 was also revised in February 1958; air base commanders would again handle the preliminary investigations. If ATIC requested a more extensive investigation, the 1006th AISS would conduct it. The revisions also tried to eliminate "any and all portions of" AFR 200-2, "which might provoke suspicion or misinterpretation by the public."³⁸

Again, the changes amounted to little; Keyhoe still pointed to AFR 200-2 as "proof" of the cover-up.³⁹ Moreover, within a few months, funding for the 1006th AISS was cut, which limited its investigations. In July 1959, responsibility was then transferred (on paper) to the 1127th Field Activities Group. In reality, it made few investigations.

In October 1958, Maj. Robert J. Friend replaced Captain Gregory as head of Blue Book. This coincided with an internal debate over the future of the project. A study had recommended an increase of eighteen to twenty new staff members. The study noted that private UFO groups often reached witnesses and published sightings before the Air Force did. The Air Force investigators often lacked experience. These shortcomings all reduced the Air Force's credibility and caused embarrassment. The recommendations seemed to be aimed at actively combating NICAP and the other clubs. They were not carried out.

A year later, ATIC ordered another study of Blue Book's future. The study was completed in late September 1959. The first paragraph marked the eventual death of Blue Book: