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HISTORICAL NOTES
on
ORAL HISTORY IN NASA

HHN - 77

by

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Prepared for the Second
National Colloquium on Oral
History, Columbia University
November 1967



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HISTORICAL NOTES ON ORAL HISTORY IN NASA

Introduction

Contemporary history inevitably requires the careful use of interviews with their indispensable assets and inevitable hazards. NASA is a young Federal agency whose budget doubled each year of its first years, whose people and early programs were inherited from many other agencies, and 90% of whose dollars were expended outside of the agency proper with industrial and academic contractors. These dynamic factors illustrate the complexity of the historian's task in NASA even if novel, spectacular, and world-wide impact of space affairs were not intrinsic to the methodological problems of the historian. The history of science and technology in the twentieth century also is not a well-attended vineyard so that little help from academia is available.

Basically, our NASA historical program is divided into the following series of histories, each project in which helps provide a monographic "building block" for the overall agency history ultimately to be treated in volumes similar to The New World, Volume I of the AEC history.

- Program Series, of which This New Ocean (SP-4201) by Swenson, Alexander, and Grimwood was the first published.
- Center Series, of which Venture into Space (SP-4301), dealing with the Goddard Space Flight Center, will be the first published.
- Management and Administrative Series, of which Rosholt's An Administrative History of NASA, 1958-63 (SP-4101) was the first published.

In addition, annual and other documented chronologies (Astronautics and Aeronautics), and special studies are also issued, such as The History of Rocketry (Wayne State Univ. Press, 1964), and Mae Link's Space Medicine in Project Mercury (SP-4002). A list of all NASA historical publications is attached. Beyond having less classified data than most R&D Agencies, NASA is also blessed in that the results of its activities, including history, can be easily published.

We have found oral history is best instituted in concert with a specific project, theme, or subject, and performed by the historian obligated to do the actual research and writing. Responsibility for the use of oral history interviews is, we believe, the indispensable feature of valid contributions to history.

Interviewing of key NASA officials and contractor personnel at all levels is compounded importantly by the fact that they remain extremely busy persons. Almost all become, as the depth of the historical research becomes evident, thoroughly dedicated to the documentation of the full story, no holds barred, while it is fresh and hot. The habit of news media to take statements out context provides the greatest handicap to overcome. Yet they find themselves fully committed to heavy current obligations and not eager to be interviewed without having some time for refreshing their memories. This is very different than interviewing "old timers" with little else to do but extoll the past, and their role in it. It should be noted that already the fatalities and passing of key persons in space affairs has raised the historical value greatly of interviews already performed, which only enhances the ultimate contribution of contemporary history. Among these should be mentioned the late John F. Kennedy, Hugh L. Dryden, Randolph Lovelace,

Gus Grissom, and Lloyd Berkner, important figures in the U. S. aerospace program. The dangers of the last survivors warping historical appreciation via oral history is, of course, generally recognized, and I shall not mention any names.

Another unique spin-off of our contemporary history interviews is that existent files are better treated for future historical purposes because key persons are reminded of the limitations of their recall without refreshment by the interviewer or by consulting desk calendars, chronologies, and office documents. We feel confident that by our efforts we may have encouraged key persons to keep personal diaries or consider assembling papers and letters for their memoirs or historical purpose. Official record keeping is one of the areas we monitor closely, but the early appearance of substantial histories has been the most effective guidance that we can provide. We are often pleasantly surprised to learn that diaries have been kept. In a notable case, a top figure dictated his thoughts at the end of each working day for the sake of acquainting his children with his Washington experiences. This is another possible use of the tape recorder which should be noted. In this case, the tape was taken home daily rather than retained in the office so that the hazard of second thoughts was avoided. How lucky can the historian be?

In brief, major areas of oral history in the NASA Historical Program have been associated with the following:

- . Support of the Kennedy Library project, phase one interviews performed in 1964 with most of those who had personal contact with the late President on space matters.
- . Exit interviews of retiring or otherwise departing NASA persons, mainly performed only with key people because of the lack of manpower.

- . Major program histories, such as the Mercury history, and now including Gemini, Apollo, Ranger, Vanguard, and others.
- . Numerous interviews of NASA personnel have also been performed by various academic students of management, political science, and history, generally not recorded, and, hence, not exploiting formal oral history methods. We also solicit and file all taped speeches, press conferences, and other live events for future historical purposes.

NASA historical interviews are normally transcribed, and edited and signed by the interviewee who often add additional thoughts and sometimes attach related documents. The original tapes are also retained, although we have not determined their actual lifetime without annual exercising. The final typed interview thus becomes a source document in its own right, and it is filed with other related materials. Access to them is only for NASA historical purposes without other use granted by the interviewee, which explains why we have not yet issued a catalog of our NASA historical interviews. It is often possible to obtain use of these interviews for direct citation, or for background without attribution, for outside scholars. The NASA Historical Archives, of course, are largely open for any serious scholar without axe to grind. We welcome your inquiries and appended is a list of NASA historians and monitors who may be of assistance. Our only preferred practice is that use of our materials best serves history when we can receive feedback by receipt of the actual use made of the material by outside scholars. In this manner, we can help later scholars avoid duplication of effort.

For purposes of discussion, James M. Greenwood, Historian of the Manned Spacecraft Center, Houston, Texas, and William D. Putnam, Assistant Historian for Manned Space Flight in Headquarters, have prepared thoughts on other aspects of our NASA experience.

by

James M. Greenwood

Manned space flight efforts are so national in scope that it would be utterly foolish to presume that a history of a particular program could be researched and written from documentation that might by chance be collected in one locality. Although the documentary accumulation within the organization directing the program may seem to be quite formidable, they represent only "the cap of the iceberg." Also, the recurring progress reports emanating from the program-directing activity, while being quite helpful, create the impression that no human being had anything to do with their development. In addition, the steps leading to development of some new component more often than not are completely omitted, as the end result is only reported. Many of the major decisions, often made face-to-face or by telephone, are never phrased in any documentation--only in the minds of the principals and those who carried out the stipulations of the decision.

The historians that researched and wrote This New Ocean: A History of Project Mercury realized very quickly that this project could not be accomplished in a vacuum. Most of the NASA centers, the military services, industry, and the universities had been involved in Project Mercury. As an initial course of action, the three authors involved sought to talk with people who were specialists in particular areas. These efforts carried the historians almost the length and breadth of the nation. Besides interviewing the experts (over 200) the numerous "desk archives" were tapped as new and important sources of information. Unfortunately in the Mercury history program only one interview was taped and I suppose that many would say that is the only piece of oral history accumulated for Project Mercury. I would contend that this is paying too much attention to a rigid definition and not enough attention to the needed meaning.

To me, forms of oral history would be the extraction of knowledge from an individual or individuals about the circumstances of an event not recorded in formal documentation at the time of its happening by taking notes, tape recording, or receiving

a written answer to a specified request. This is not to say that I am against a tape recorder, I am in complete agreement; but at the later date, when history is usually written, are the actor's verbatim words so necessary or so deathless? What I am saying is do not strain so much over the precise definition of oral history. I would like to give an example of what I would think was oral history when only interview notes were taken.

In July, 1960, Mercury-Atlas I, launched at Cape Cavanaugh into rainy, overcast weather, exploded less than a minute after lift-off. Extreme difficulty was experienced in gathering the remains from the beach and ocean floor in an attempt to try and piece together what went wrong. Since this was an election year and the failures of the program had been widely publicized, the fate of Project Mercury hung tenuously in the balance. Between August 1960 and February 1961, the Rhode-Worthman committee (a NASA-Air Force group designated to investigate the failure and propose a solution) conducted meetings and directed tests that almost spanned the country. Some of the decisions on solutions can be found in formal documentation, many cannot. Examples of the latter:

James A. Chamberlin and Scott Simpkinson--interview related that Chamberlin in a San Diego hotel had sketched on some stationery a "horse collar" to strengthen the upper section of the Atlas launch vehicle. Ben Hohmann and Ernst Letch of the Aerospace Corporation told how they had theorized that the spacecraft-launch vehicle adapter might be weak and how they had suggested adding strength.

Administrators James E. Webb and Robert C. Seamans, Jr., mentioned in interviews how other Atlas failures had decreased the chances of any immediate launch of Mercury-Atlas II; NASA would have to assume all responsibility for another failure. Webb, new to the office at that time, had to give clearance to the large Navy force to deploy to the recovery zone.

These are but few of the circumstances surrounding the decision to launch MA-2, but the narrative discussion on the subject in a book, would have been without validity

had not the authors sought and talked with the principal actors.

Brief examples in the Mercury history project, which can be noted in This New Ocean, wherein oral history provided the more complete story:

- . Hugh L. Dryden (only taped interview) transition from NACA to NASA.
How NASA got the manned space flight program (Killian's call to Dryden telling him to outline in a memorandum why NASA should have the program).
- . Edward C. Welsh, Robert R. Gilruth, Webb, Walter C. Williams, Paul E. Purser, et al--decision to fly Mercury-Redstone 3 (Shepard) in view of the substance of the Hornig committee report.
- . James L. Lewis and Wayne E. Koons--helicopter pilots in the recovery attempt of Mercury-Redstone 4 (Grissom). Lewis said that he did not think much about Grissom, he was trying to save the spacecraft. He said that he had been conditioned in this respect during the training months, as the astronauts had seemed to thoroughly enjoy the water during the many practice recovery exercises.
- . William J. Douglas, Donald K. Slayton, and Webb, circumstances causing the removal of Slayton from Mercury flight status.

The interviews for the Mercury history, plus some 150 written comments received from the circulation of a draft edition of that book, have prompted the expansion of the oral history effort for Projects Gemini and Apollo. Highly sensitive tape recorders were purchased and a four-month preparatory period was set aside to map out itineraries and phrase questions for tentative interviewees. When ready for one particular phase the contractor was called and told the type of people we were interested in interviewing. At McDonnell, the Gemini spacecraft contractor, we asked for the vice-president in charge of the program; his chief technical lieutenants in such areas in program management, design (aerodynamic and component) contracting,

testing, training, and manufacturing. Quite surprisingly, there have been few cases of "mike flight," which I believe was caused by two reasons: many of these individuals had previous experience in making speeches to audiences of some size, and by our structuring the interviews from memory rather than the sheaf of papers with Question 1, Question 2, and so on. We have found that a good way to relax the interviewee is to ask an opening question about his background and how he came to occupy the position in the program of your particular interest. Usually this leads him into an introspective discussion almost chronological in nature. An occasional question is interjected to clear out some of the technical jargon that often permeates the engineer's discussions. If you feel that you are getting a little too much of the company "hard sell" on their success, ask the individual about one of the worst things that happened in their particular development program or purposely phrase a question that you yourself know is wrong. More often than not, the remainder of the interview will be as true to the circumstances that happened as that individual can remember. As you build up your interview based on a particular subject, you can also mention during an interview that you have talked with several people on this subject and list their names. You do not really play one against the other, necessarily, openly, that is, but the factor is present, and the individual becomes a little wary of making claims that his colleagues might ridicule. Also they seem to talk in more depth. The interview tricks that you bring to bear depend on your homework and your judgement of the individual involved. Thus far, we have visited about 16 major Gemini contractors, which besides the interviews and extra documentation that you gather has a second net result as you view the areas in which the development programs were conducted--often holding a piece of hardware in your hand while the interview is in progress.

Besides the interviews at the various contractors, the same type of program has been conducted among NASA and military services personnel. We have been careful to try and search out the government counterparts for those interviews we have conducted in industry. The striking feature that has developed is the number of face-to-face

decisions that have been made without full documentary coverage. Perhaps the most interesting decision concerned the Gemini VII/VI flight. In three days and some hours' time a suggestion was made in the field, quickly worked out, submitted to the President, and announced to the Nation by the President's office committing this country to a goal.

On Monday, October 25, 1961, the Agena target vehicle failed to achieve orbit for the first rendezvous mission for Project Gemini. While still in a Cape Kennedy control center following this event, Walter Burke of McDonnell mentioned to his chief lieutenant, John Yardley: Why didn't they resurrect and adapt a Martin plan of some six months before for a rapid launch demonstration? Burke wanted to launch spacecraft VII to be used as a rendezvous target for spacecraft VI. That night they flew to Houston to convince Robert R. Gilruth, Manned Spacecraft Center director. On the 26th, Gilruth discussed the plan with his aides and called George E. Mueller in Washington who carried the plan to Webb, Dryden, and Seamans. On the 27th, Mueller called Houston and gave them 15 minutes to decide if the plan could be carried out, as Mr. Webb had taken the proposal to the President. Gilruth polled his staff and the answer was yes. Thursday, October 28, 1965, William Moyers, the President's press secretary, announced the plan at a news conference, answering on-the-spot technical questions by being in telephone contact with Julian Scheer, NASA's Associate Administrator for Public Affairs, who was listening to the conference.

Most of the circumstances surrounding this event are in the minds of the principals involved. Many did take the time to make hurried notes on their desk calendars, and there are a few informal notes taken while the conferences were in progress. This event, however, seems almost indelibly imprinted in the minds of the individuals involved. There were fewer contradictory statements made by 15 or so people that touched on this subject than any other subject I have attacked. Almost hour-by-hour progress can be discerned. The first rendezvous was perhaps the high point of Project Gemini, certainly it was the most dramatic.

About 200 interviews have been conducted for the Gemini history writing project. Seventy percent of these have been transcribed; the tapes have been maintained.

For the Apollo program, an oral history approach similar to the Gemini effort is underway. About 75 interviews have been conducted to date.

Reflections on NASA Oral History

by

William D. Putnam

Our NASA experience with historical interviews has seemed to reveal three basic categories of benefits deriving from this technique as a research tool for writing contemporary history.

First, the personal accounts of actual participants in the events tend to put people back into the picture. It is good conditioning for a researcher to be exposed to personalized accounts of the events on which he already has voluminous written reports. Reports in any large bureaucracy, government or business, tend to be depersonalized to the extent where one begins to feel that events took place "untouched by human hands." The verbal account of someone intimately involved re-introduces the important human factor which is, of course, the essence of history itself

Second, any bias brought to the project, or acquired in the process of research, tends to be offset after the researcher has heard two (or more) sides of the same story recounted in forceful fashion. A real feeling for the complexity of personal interactions surrounding significant events is acquired. Dissenting views which may have been under consideration, yet never reached paper, can only be revealed through the oral history process. Often these are on the pivotal aspects of the history project itself.

Third, obscure sources of primary documentation may be uncovered. The desk files, personal diaries, telephone logs, and memoranda for the record which often prove to be the heart and soul of contemporary history are often turned up while interviewing participants in major events. Conversely, interviews are a most efficient manner in determining the significance of what only appears to be a key document, and often is not.

One of the most important lessons emerging from our NASA experience is the caution with which interview evidence must be used. Even the most able and well-trained

professional historian is subject to being influenced by a detailed personal account of an important event, especially when this account is the first evidence uncovered. The temptation is especially strong when a recorded interview has been transcribed and the evidence is present in black and white. In truth, of course, the historian's professional task has just begun at this point, for he must find other evidence-- documents or interviews--against which to weigh the original interview. It is through this evaluation, testing, and judgment that the historian's professional ability is exercised and, indeed, it is what makes him more than a mere recorder of other people's views.

NASA HISTORICAL PUBLICATIONS

HISTORIES:

- Robert L. Rosholt, An Administrative History of NASA, 1958-1963, with Foreword by James E. Webb, NASA SP-4101, 1966; for sale by Supt. of Documents (\$4.00).
- Loyd S. Swenson, James M. Grimwood, and Charles C. Alexander, This New Ocean: A History of Project Mercury, NASA SP-4201, 1966; for sale by Supt. of Documents (\$5.50).
- Alfred Rosenthal, The First Five Years of the Goddard Space Flight Center, with Foreword by Esther C. Goddard, NASA SP-4301 (1967).

HISTORICAL STUDIES:

- History of Rocket Technology, Edited by Eugene M. Emme, Special issue of Technology and Culture (Fall 1963); augmented and published by Society of Technology (Detroit: Wayne State Univ., 1964).
- Space Medicine in Project Mercury, by Mae Mills Link, with Foreword by Hugh L. Dryden and Introduction by W. Randolph Lovelace, II, NASA SP-4003, 1965; for sale by Supt. of Documents (\$1.00).

CHRONOLOGIES AND SPECIAL STUDIES:

- Aeronautics and Astronautics: An American Chronology of Science and Technology in the Exploration of Space, 1915-1960 compiled by Eugene M. Emme with Foreword by Hugh L. Dryden, Washington: NASA, 1961 (Out of Print).
- Aeronautical and Astronautical Events of 1961, with Foreword by James E. Webb, published by the House Committee on Science and Astronautics, 1962 (Out of Print).
- Astronautical and Aeronautical Events of 1962, with Foreword by George L. Simpson, Jr., published by the House Committee on Science and Astronautics, 1963; for sale by Supt. of Documents (\$1.00).
- Astronautics and Aeronautics, 1963, with Foreword by Hugh L. Dryden, NASA SP-4004, 1964; for sale by Supt. of Documents (\$1.75).
- Astronautics and Aeronautics, 1964, with Foreword by Robert C. Seamans, Jr., SP-4005, 1965; for sale by Supt. of Documents (\$1.75).
- Astronautics and Aeronautics, 1965, with Foreword by James E. Webb, NASA SP-4006, (August 1966); for sale by Supt. of Documents (\$2.25).
- Astronautics and Aeronautics, 1966, NASA SP-4007 (1967).
- Project Mercury: A Chronology, by James Grimwood with Foreword by Hugh L. Dryden, NASA SP-4001, 1963; for sale by Supt. of Documents (\$1.50).
- Project Gemini: A Chronology, by James M. Grimwood, Barton C. Hacker, and Peter J. Vorzimmer, NASA SP-4002 (1967).
- Historical Sketch of NASA, NASA EP-29, 1965; for sale by Supt. of Documents (\$0.25).

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