

Entry Date 5-11-93
Data Base HDOCNDX
Index # INS.0205969

ORAL HISTORY INTERVIEW

DATE OF DOCUMENT [Date of Interview] = 07 - 25 - 68
OFFICE OF PRIME RESPONSIBILITY = JSC
NUMBER ON DOCUMENT = 00
TYPE OF DOCUMENT [Code for Interview] = 1
PROGRAM [3-letter Program Archive code] = INS
AUTHOR [Interviewee's Last Name] = DONLAN
LOCATION OF DOCUMENT [Numeric Shelf Address] = 091-1

SUBJECT OF DOCUMENT: [use relevant bold-face introductory terms]

Oral history interview with Charles F. Donlan
[full name of interviewee]

about Space Task Group origins, Astronaut
[main focus of interview]

Selection Criteria and Process.

Title: 1962 - Assoc Dir, ^{NASA} Langley Research Center
[interviewee's current and/or former title and affiliation]
1968 - Dir, "

Interview conducted by Robert B. Merrifield, Staff
[interviewer's name/position]

Historion at ?
[location of interview]

Transcript and tape(s). [for inventory only: # pages 11; # tapes 1]

CONTENTS:**Biographical** - [date/place of birth; family background] _____**Education** - _____**Career Path** - _____**Topics** -

Project Mercury +

Langley role in early Space Task Group support; time demands of Project Mercury; recruitment of first STG members; hiring of ^{canceled} AVRO CF-105 project staff (Canadian); STG quarters at Langley; astronaut criteria & selection process; ^{factory} professional experience and ^{political} military clout; Gilchrist decision for seven astronauts; John Glenn's ^{navy} centrifuge experience; Langley reception of astronauts and cooperation w/ STG; Donlan role ^{as} STG; views on Mercury Program; decision to stay at Langley; working relationship between Langley & MSC support for Gemini & Apollo programs.

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Interview with Charles F. Donlan
7/25/68

Of the people who constituted the original STG, the first 60 or so, they were for the most part people at Langley who wanted to try something different, ^{were excited by a new challenge,} ~~or they~~ ^{and a few who} felt the activity of the Center ^{in flight work} was uncertain.

The decision had been made to transfer highspeed flight testing from Langley to Edwards. Many of the people whose career had been in that area such as Mathews, Kraft, Sjoberg, Johnson, felt the attraction of the operational challenges of the Mercury program.

15 In Mathews' case, Dr. Thompson had earlier involved him in some of the initial studies of the manned entering capsule because of his knowledge of man and what to look out for to ensure his safety and wellbeing in flight. At that time, the STG was scheduled to be part of the Goddard Space Flight Center. In fact, Dr. Gilruth's title, as ^{authorized} ~~given~~ ~~to him~~ by Dr. Dryden, was Assistant Director of GSFC, and manager (later changed to Director) of ^{Project Mercury,} ~~STG~~. The intensity of the pace of the project and the probability of future projects were such that most of the senior people became convinced that wherever they went they would be primarily concerned with the design, procurement, and operation of the spacecraft rather than research activity of the type that was predominant at Langley.

21 Langley deserves the gratitude of the Agency for supporting the operation as completely as it did. There were some in the STG who felt that since it was the number 1 program in the Agency, and the program in which the fate of the Agency might rise and fall (which we all believed to be undoubtedly true), that all the other parts of the organization should

be glad to support any and all requests. Such a viewpoint fails to
 consider the human equation. Dr. Thompson had a close personal relationship
 and understanding with Dr. Gilruth and me. It was of such a nature that we
 were generally able to handle personnel transfers and other administrative
 matters without creating misunderstanding and hard feeling on the part of
 the people involved. At the time of the initial shift of people, which
 Dr. Thompson supported, the project was still relatively unknown outside
 the Agency and recruitment relatively difficult. What the project needed
 was not research people, nor young people right out of school, but rather
 older hands with some years of experience who knew how to work with people
 and had enough background so they could assume significant responsibility
 immediately. That was the basic reason why such a small group was able to
 expand so rapidly. We ~~gave~~ ^{were able to give} these individuals more responsibility than they
~~ever~~ had at the Research Center. As we grew we hired other people, many of
 whom were just out of school. Such hiring had its drawbacks because when
 you run a project you really can't allow these fellows time off from work to
 take advantage of the excellent graduate training program that Langley
 had to offer. Project Mercury required their attention all hours of the
 day and night. This sometimes caused resentment because they could see their
 counterparts at Langley who seemed to be working ^{at a relaxed pace} ~~bankers' hours~~ while they
 were driving themselves in a frenzy. This was true in some cases, but
 then a project has to be pushed forward by zealous people or it isn't going
 any place.

We soon got to the point where we had to do something about
 proselyting. Dr. Gilruth and I sat down with Dr. Thompson and Melvin Butler
^{Langley} the A/D for Administration, and agreed that if they would prepare a list of

21 some 50-60 people, some of whom were clearly people that perhaps either were or would have been proselyted by some of our space enthusiasts in particular areas, and others who perhaps weren't quite of equal caliber but were desirous of perhaps entering the STG ~~for a change~~, we would
 52 take them all, and wouldn't pick and choose in such a way that STG would get what they considered to be the best and leave the others. I think time has borne out the fact that that was a pretty wise decision. Some of the people who were believed to be not quite first rate in a research assignment might be tops in an operational activity. Many people were too narrow in their thinking, especially when they felt their judgment was superior to that of others who might have had far more experience in these matters.

30 We also got a group of Canadians at that time. The Avro ~~Arrow~~ *CF-105* project had been cancelled by the Canadians and the plant was going out of business. One weekend a group composed of Dr. Gilruth, Chuck Mathews, Paul Purser, Kimbell Johnson and myself spent a weekend up there at the Avro plant in Toronto interviewing a great many people who had been recommended by ~~Lindon~~ *Lindley* and Chamberlin. ~~Most~~ *About 25* were hired and were a very welcome addition at the time for we were in need of experienced systems people.

22 After that, the exchange of people between STG and Langley was ~~kind~~
 27 ~~of~~ on an individual basis. As time went on, STG people wanted to do more research and development work, and as we were without facilities, ~~we~~
 45-1 ~~such activity was difficult to undertake.~~ *such activity was difficult to undertake.* ~~began to ask for money for this purpose.~~ I tended to discourage that type of request because Langley had a couple of hundred million dollars worth of facilities. We felt if such tasks could be done at Langley we could preserve our own manpower for monitoring, directing the development

of hardware, and in developing the operational concepts of the program.

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Our administrative facilities at Langley were adequate though hardly plush. From October to about January 1959, we operated out of offices in a facility called the Unitary Plan Wind Tunnel. In January Langley made available the old administration building in the East Area. Up until 1954 or 1955, it had been the headquarters of Langley Research Center. STG used some funds it had available to refurbish these offices, the cafeteria located in the building, and some of the shop areas that were occupied by STG. There might have been a small amount of grumbling on the part of some STG people, but considering the situation, I think the arrangement was reasonable. Certainly the relationships at the management level were excellent. Langley provided STG with space at considerable inconvenience to itself.

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There was only one area of activity that we felt would have to separate STG from LRC and that involved promotion of personnel. Langley had strict, well-ordered promotion practices, but it quickly became apparent to ~~us~~ that much of the work that ~~our~~ ^{STG} people had to take on, particularly in operational areas, such as developing countdown procedures, range facilities, etc., were ~~so~~ ^{somewhat} foreign to Langley, ~~that to~~ ^{It was} ~~continue to adhere to its~~ ^{necessary to develop our own} promotion practices, ~~was going to lead to~~ ^{that} ~~dissatisfaction on the part of our people, so we established our own~~ ^{personnel activities.} Langley undertook some major areas of work for the Mercury program that are sometimes overlooked. They successfully ran the Little Joe program and the procurement and implementation of the Mercury range. Many of the LRC facilities, the wind tunnel, towing basins, etc., were used in building Mercury capsules development testing.

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In general, it turned out to be a pretty good place to have started that project and it would have been hard to have started it any place else and till adhere to the time table that was set for Mercury.

Originally, it was proposed that the astronauts occupy a civil service position. However, President Eisenhower ~~objected~~ *vetted this plan*, as he felt the astronaut should be ^a military pilots. The original criteria for height, age, etc., and test pilot experience was set up in a fairly routine manner. At that time, nobody was sure what characteristics an astronaut should have, and many of us felt strongly that the experiences would be so akin to those of a pilot, and particularly those of a test pilot. We felt the job would demand a self reliance and capability for emergency action so typical of the characteristics established for people engaged in that kind of activity, that it would be the best thing to concentrate on those aspects. Dr. Gilruth felt these were of greater significance than any psychological exercise in human engineering or selection. He *develop and implement a* asked me to ~~supervise the selection process, making maximum use of~~ ^a ~~service personnel.~~ I formed a small committee consisting of Warren North, a former test pilot, then working in Headquarters; our own training officer, Robert Voss, a psychologist; and Stan White a flight surgeon and a senior medical man on loan to STG from the Air Force. *Several others were also involved.* The whole exercise started by screening the Pentagon records against a pre-established list of about 450 physical and vital statistics. We came up with something like 120 potential candidates from that screening and ordered them to report to the Pentagon. We staggered the reporting dates so that groups of about 40 came at a time for interviews. We

never did get beyond the second group, as I felt we had enough good candidates so there wasn't any point in going further. We were ~~only~~ interested in finding capable people who could do the job--which is what one does whenever any position is filled. We were looking for people who had test pilot experience, and who were stable emotionally. We did not want glory seekers or lone wolves. This was where the psychologist and the medical people were valuable in probing into the background of candidates. That helped us assess the stability of the individual. Other than avoiding emotional or physical defects, we were looking for good capable pilots who had a considerable amount of experience. Being a new project, we wanted more than just someone to fly this machine, or just sit in it as many of them thought might be the case. We wanted people who could contribute to solving the engineering and operational problems. That's why the particular mix happened to come out the way it did. Fellows like Grissom who had guidance systems training and was a test pilot at Wright Field, or Shepherd who had not only served two tours as a test pilot at ~~Paulaxant~~ but was operating out of the Atlantic Naval Command at Norfolk and knew how one would go about getting support from the Navy, or ~~fellows like~~ Wally Schirra who was project flight engineer on the F4H project. That was the type of individual we intentionally sought out. That's also why they turned out to be as old as they were. We had an upper limit of 40, and although there were many younger fellows who met all the other criteria, we were interested in people who had enough experience to help us with our problems and who could be assigned to different areas for that reason. Fundamentally the selection was made on that basis. When the first group came, we met with them at the Pentagon.

They had orders to appear there and they didn't know why and I explained to them on the very first day what was up and those who wanted to be considered we asked to appear in civilian clothes at the old Dolly Madison House, then NASA Headquarters. We had arranged a series of key technical interviews with myself and Warren North, various interviews with medical people, and a battery of psychology tests. Each evening we would get together as a team and would discuss each candidate and decide if we thought there was enough potential there to warrant inviting him to undergo further screening. The announcement had been made concerning the need for astronauts before testing began, because I remember the interesting observation that Al Shepherd made to me. He was the second man I talked to and after spending an hour with him, I told him that he was free to call his wife and discuss the matter with her and decide if he was interested in proceeding further. He said, that wouldn't be necessary, as he had seen the announcement in the paper a couple of weeks ago that NASA was interested and that he and his wife were in agreement that he should apply.

46 The newspapers reported that we didn't even know the names of these fellows when they were selected. That wasn't true. We weren't interested in pushing computerized concepts of personnel selection to an unrealistic point. In the end after all the screening, and all of it was very helpful, we came back then to make a decision as to what mix of people we wanted and at that point we narrowed the group down to about 8. I went over the matter with Dr. Gilruth and we narrowed the group to 7.

choice, of course, was Dr. Gilruth's.
We originally agreed that there should be six. Since we had no backups,

Dr. Gilruth made the decision that there was nothing magical about 6 and since we had a pretty good mix we should select 7. The only criticism I recall of the whole selection program was that we picked three Navy, three Air Force, and one Marine. The symmetrical arrangement seemed to be so obvious to some that it was assumed it was rigged. However, it was purely accidental. It was not accidental ^{however} that there were Navy and the Air Force people, because we were looking for different service backgrounds. It was our intention to get this mix of background and experience. It could have easily been 4 Navy and 3 Air Force or vice versa. But it just turned out that way. Had there been some type of catastrophe or some of the fellows had to leave the program or were killed, I would have had no qualms about going back to the remaining 20 we originally considered. That final group of about 20 constituted a very select group to choose from.

46 To show you how things can be evaluated, the kind of questions we would ask these fellows ^{McDonnell on board} (we had ~~one of the capsules~~ by that time), ~~we would~~ ^{were:} say - "Do you see any challenge here for a person with test pilot capability?" A lot would depend on how they answered this question. Some would shrug their shoulders and say, ^{no} ~~they guess not;~~ others would say they considered it to be quite challenging. Some fellows decided this role would be detrimental to their career and that association with the manned space program was not in the best interest of the advance of their career. Obviously, every one of the original 7 ^{men} ~~guys~~ involved felt this was far from the case and could have continued on their career. ^{Probably all} ~~Some~~ were of the caliber that could have made admiral or general. John Glenn, when he came in for his first interview, had an envelope under his arm. I asked him

what he had, and he pulled out a bunch of centrifuge records. It turned out he was assigned to the Navy's Bureau of Aeronautics and he had been a subject of some centrifuge programs at Johnsville. He was very excited and animated in describing this thing, and long after everybody else had gone and we were walking out one night, there was John Glenn browsing through the Mercury drawings, obviously interested.

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Being attached to such a dynamic and important program generates the belief in some people that the rest of the world should stop and genuflect when they walk by. Despite this attitude by some, I can't imagine a more friendly and cooperative atmosphere than we encountered at Langley particularly when Langley was in *a period of difficult transition.* ~~the doldrums~~. It had been adversely affected by a NASA decision to redistribute functional roles. The STG, and the manned space program, had a relatively unlimited budget and Langley a receding one, yet Langley was being asked to support in a rather substantial way the services required by STG.

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The STG had its own complement of people and for strictly STG activities we used them - not Langley people. Nevertheless we had the use of many Langley people and excellent cooperation whenever we needed it perhaps in expert consulting or a rush windtunnel test on a capsule. Whenever that need occurred there was never any reluctance on Langley's part. There was always appreciation of the urgency of the program and that vital decisions hinged on the tests they were asked to perform. Langley accommodated all possible requests levied on them, whether such activity involved structures or aerodynamics and systems, we were able to get it done expeditiously.

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Kemble Johnson who was thoroughly familiar with the administrative resources of Langley, was assigned by Dr. Thompson in a liaison capacity to STG where he became essentially our administrative officer. He was under STG supervision and authority but was carried on the Langley payroll. For some time Langley took care of all our procurement. Sherwood Butler, who was the head of the Procurement Division at Langley, ran the negotiations for the Mercury capsule. As time went on and the workload in the administrative area became heavier, we felt it best that we take over some of the more fundamental administrative responsibilities ourselves. This was done gradually over a period of time in such areas as personnel hiring, procurement, security, publicity.

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My original involvement in Mercury was at Dr. Gilruth's request. At the time he had asked me to form STG, I was the Tech Asst to Dr. Thompson, then associate director in charge of Technical aspects of Langley Programs. Dr. Thompson felt I could contribute to that program particularly because of my knowledge of Langley and its capabilities as a Center. From a personal point of view, I looked on the Mercury Program as a pioneering effort of the type that comes along only about once in a half century. To me it was similar to aviation at the point when Lindberg flew the ocean. I felt I was young enough not to let an opportunity pass. I had to participate in what I instinctively felt would be a breathtaking operation. I decided to do so without too much thought as to longrange possibilities. We were then slated to go up at Goddard. I knew that I could go back to Langley, though in what capacity I didn't know; however, I wasn't too concerned and didn't give it ~~any~~ ^{further} thought.

As Mercury moved along, entering into more of an operation stage in the fall of 1960, and as I became more and more involved with some of the purely Apollo planning, Dr. Thompson asked me if I would consider coming back to Langley as Associate Director. By that time he had ^{been} made director. ^{I discussed it with Dr. Gehlbach} ~~We talked it over,~~ and I told him that basically my interest was in the ~~broad scope of activity in the R&D area,~~ and as such I felt I could do more good ^{for} ~~with~~ ^{at Langley} him than I could where I was ^{in trying to manage} ~~particularly in~~ ~~regard to~~ programs like Apollo. I think events have proven that view to be correct, for when I went back to Langley I generated quite a few programs and initiated facilities that were heavily used in supporting both the Gemini and Apollo Programs, such as the lunar landing facility and the Gemini docking facility. When I say I initiated, I don't mean to imply that I designed them. What I did was support such proposals heavily and push them hard, ~~here in headquarters. We didn't have any money and I had to really sell these programs, and to show what they were worth.~~ I spent a considerable amount of my time at Langley doing that. I initiated the space station studies out of my experience with the Apollo feasibility studies. When MSC finally went to Houston, I established a liaison office down there and a senior Langley man was sent to MSC as representative. We set up a very close working relationship with MSC on the various multitudinous tasks that Langley was working on that we felt were of interest to Gemini and Apollo. ~~People who think that after I left STG and went back to Langley I forgot about Houston apparently don't know this.~~

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