

RECOLLECTIONS OF MAX FAGET; COLLEAGUE, MENTOR AND FRIEND

Spoken by Joe Allen

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St. Clare of Assisi Catholic Church

Clear Lake City, Texas

Before there was the first Moon landing...there was Max Faget.

Before there was Sputnik and the start of the Space Age...there was Max Faget.

Before there was the "Spirit of St. Louis" and the first crossing of the Atlantic Ocean by Charles Lindbergh...there was Max Faget.

Before there was Kitty Hawk and the invention of the...No, I am wrong. Max was born in 1921, 18 years after that first flight and was just a child when the "Spirit of St. Louis" was built and flown, but he nevertheless witnessed most of aviation in its formative years and he contributed enormously to elements of supersonic aircraft during his years at NACA (National Advisory Committee on Aeronautics).

And from the very beginning of the Space Age in October 1957, Max pioneered virtually every spacecraft involved with human space flight. Indeed, his invention of the Mercury Capsule was already on his colleague's, C. C. Johnson's, drawing board just nine months after the launch of Sputnik and still several months before the formation of NASA, our nation's space agency.

My name is Joe Allen. I first met Max in 1967 here in Clear Lake at the, then, Manned Spacecraft Center. He, together with Deke Slayton, boss of the astronaut office, Dr. Chuck Berry, flight surgeon to the astronauts, and several others were interviewing an unlikely and eccentric assortment of PhD scientists applying to be scientists-astronauts, a term and a profession now as extinct as the dinosaurs themselves. Without question, of that panel I remember Max the most vividly, and for reasons quite beyond the bow tie he was wearing. During the stressful interview he asked me no questions but observed me closely. At the very end he said "Dr. Allen, you physicists have given us engineers a deep gravity well we must climb out of in order to reach space. Weight is therefore always a problem. Consequently, I personally look for astronauts of correct size (he and I were exactly the same size, in my case just barely squeaking under the 6-foot limit set by NASA for astronauts). And I observe you have a *very high* 'specific IQ.'" His eyes twinkled. I loved that remark because it was physics/engineering jargon for a ratio Max most likely made up on the spot...a ratio of IQ divided by weight. By asserting my "specific IQ" ratio was high, Max was implying my IQ was significant and my weight was light, a combination of metrics he personally liked. It was also a combination he possessed in full measure!

Quite possibly because of Max's recommendation on my behalf, I joined the astronaut corps in August of 1967, an opportunity which of course changed my life. In my first

few years at NASA I saw Max only rarely. But I clearly recall watching him from the Mission Control viewing room as he monitored the first re-entry test of an unmanned Apollo Command Module being driven from an altitude of several 100 miles back into our atmosphere at the moon re-entry speed of 25,000 miles per hour. Upon the re-acquisition of signal following the expected communication blackout, all of us in the Mission Control were elated. The ship had survived the fiery re-entry. But Max continued intently studying the data. Later I saw him briefly and congratulated him on the successful test. "Successful yes," he said. "But the data shows the heat shield is a bit too thick. With the correct design, we could have saved 700 pounds." Nonetheless, Max and his engineering team had developed an Apollo Module, which could survive an entry from as far away as the Moon itself.

Following the extraordinary success of Apollo (before "the end of the decade") I saw Max more often. For example, modesty prevents me from telling you that I was the unquestioned champion of the Astronaut Office in the game of squash---at least after Mike Collins departed and before Mike Smith arrived. I was also a full 16 years younger than Max. Both of these undeniable facts were totally lost on him during our many squash games together. When he won--a common occurrence -- he would chortle with glee and observe, "Once again, old age and treachery have overcome youth and skill". His defeating someone younger pleased him---his defeating someone in operations, not engineering, delighted him.

In those years we also served together with Dr. Joe Kerwin on a summer-long national study, The Outlook for Space Study. The three of us were given major responsibility for giving recommendations regarding the future of human space flight. For purposes of the study we were to assume that Max's Reusable Space Transportation System, i.e. the Space Shuttle, was now built and operating robustly. What should then follow? That was the question posed to us. After months of debate and consideration, our formal report to the Committee could have been summarized in the simple poem composed by Max and Joe.

"After ponderous thought our study group does now advise this nation, we've built a railroad into space and now we need a station"

Max retired from NASA after the second successful flight of the space shuttle Columbia. At the time I was busy preparing for space flights and our paths did not cross until a very unusual meeting. Another leader of the early space years, Dr. George Low, was seriously ill and being treated at the M. D. Anderson medical complex downtown. My wife Bonnie and I went to visit George there in the hospital and to our surprise found him sitting up in his bed, Chris Kraft on one side of him and Max on the other with C. C. Johnson's drawings spread all over the room. There the three of them were, pouring over plans for a new kind of space station which Max called the Industrial Space Facility, an invention of Max's complementing the strengths of the space shuttle in such a way as to provide a permanent Space Station for a cost about 50 times less than the station NASA was planning. Plus, as Max pointed out, it was patently obvious the ISF was the better concept. In spite of their age, all men in their 60s and one of them deathly ill, these three were acting, for all the world, like teen-age boys planning to build their first hot rod. And

Max was following his own advice of 15 years earlier...he had built a railroad into space and now he fully intended to build a space station.

To that purpose, in late '84 Max was one of the founders of Space Industries, a private venture with the goal of building this space station. I joined him there a few months later. In the lobby of our modest office on Bay Area Boulevard was the enlarged drawing of the Mercury Capsule and in Max's office a picture of his hero, John Paul Jones, known often as the Father of the American Navy. Under that picture were Jones's words "I wish to have no connection with any ship that does not sail fast, for I intend to go into harms way."

*Finding investors for a privately owned space station was not easy. When our sources in Houston ran dry, we decided to try to raise money in Japan. An investment "road-show" was hastily arranged and Max and I were to be the presenters. Prior to our departure I asked Max if he had ever seen Japan. "Many times," he told me. Two days later we departed and were several hundred miles out over the Pacific Ocean when I asked Max what Japan was like. "I've never been there," he said.

"Max, you told me quite clearly that you had seen Japan many times," I said. "Sure, through a periscope," he answered. And beginning with that remark Max unfolded a treasure of stories about his service as a submariner in the US Navy through the Pacific battles of WWII. By the way, the first design of the Mercury Capsule was outfitted with a periscope, not a window.

The glacial pace of progress in NASA space projects through the 1980s foiled Max's desire to build the ISF. But the vision Max established for his company enabled us to move, with his blessing, into other technologies and business sectors. And secure in the values Max had brought to Space Industries, we grew to become a company of some 8000 engineers and scientists, traded on Wall Street, and ultimately vital to our nation following 9/11 because many of our technologies were directly useful to elements of national safety and security. The top award given annually within the company was, of course, the Max Faget Award which Max himself would present.

Max missed this presentation two years ago and in his stead I made the presentation. To characterize the success and boldness of our growing company, I modified the words of a country and western song, written by a Texan, Guy Clark. The song, entitled "The Cape", is about a little boy with a flour sack cape tied around his neck and jumping off the garage in an attempt to fly. The Faget family has specifically requested that I not sing the song here this morning, but the words of the chorus go:

"Well, he was one of those who simply knows that life is just a leap of faith.
You spread your arms and hold your breath, and always trust
your cape."

In my presentation, I asserted that this chorus applied to us, the company. And since Max, although not present on the occasion, was still giving us a steady input of engineering advice and encouragement, I added an additional verse that applied to him:

“Now he’s old and gray with a flour sack cape tied around his head.
And he STILL is jumping off the garage and will be ‘til he’s dead.
Some people say, he never grewed up, he’s actin’ like a kid.
Max did not know he could not fly,
And so he did.”

One year ago Max’s Space Industries colleagues donated the large blueprint of the Mercury Capsule design, a copy of the DaVinci-like drawing by C. C. Johnson, to the Federal Historical Society with the request that this blueprint be displayed in the first NASA Headquarters in Washington, D. C. The dedication of this gift will occur six days from now. Following my talking about this with Max a few weeks ago, I was sad to share with our Space Industries folks that Max’s health would not allow him to attend the occasion. That sadness is now lifted because, without question, Max will be with us in spirit at this historic event. And in the time beyond, Max’s spirit will continue to live in the hearts and the minds of all of us who knew him.

He did not know he could not fly, and so he did.

** Written, but not spoken, because of time considerations.*