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THE "RIGHT STUFF" LANDS AT THE LIBRARY

In the past forty years, human beings have walked on the moon, piloted space shuttles and launched permanent orbiting space stations. In 1958, most of the American public would have regarded such feats as obtainable only within the realm of science fiction. Today, they are scientific realities.

1998 marks the fortieth anniversary of the formation of the National Aeronautics and Space Administration, or NASA. The Elwyn B. Robinson Department of Special Collections feels privileged to recognize this occasion by unveiling the John Disher Papers. This unique collection documents the space program's history through the papers of a remarkable University of North Dakota alumnus who experienced it from the very beginning.

John Howard Disher was born in Olmstead, North Dakota on December 23, 1921. He earned a Bachelor of Science in mechanical engineering from UND in 1943. Following his graduation, Disher joined the National Advisory Committee for Aeronautics, or NACA, a predecessor of NASA. He began his career at NACA as an aeronautical research analyst. In 1951, he was named head of the Free Flight Research Section. This group tested the first hypersonic flight of a solid rocket and the first flight of a high energy fueled vehicle.

NASA was established in 1958. The following year, Disher was appointed Project Engineer of the task group formed to oversee the Mercury Program, which launched the first American astronauts into space. He served in this capacity at the Langley Research Center in Virginia until 1960, when he was named Head of Advanced Manned Missions and relocated to NASA Headquarters in Washington, D.C. In 1961, he became Assistant Director for Apollo Spacecraft Development for the Spacecraft and Flight Missions Office. From 1963 to 1965, he was the Director of the Apollo Test for the Apollo Program Office. He was appointed Deputy Director of the Apollo Applications Program in 1965. This later became the Skylab Program, and Disher played an important role in its development. In 1974 he became the Director of Advanced Programs, Manned Space Flight, a post that he held until his retirement from NASA in 1980.

Disher then started his own Aerospace consulting company, Avanti Systems. Avanti's clients included the Italian government, Boeing Aerospace, and the U.S. Office of Technology Assessment. From 1986 until his death in 1988, Disher served on the University of North Dakota School of Engineering and Mines Advisory Council. He was a member of the International Academy of Astronauts and a fellow of the British Interplanetary Society.

Disher received many honors, including the NASA Sustained Superior Performance Award for Apollo Test Program Management (1964), the NASA Exceptional Service Medal (1969), the Collier Trophy, a Skylab Program Award (1973), the NASA Distinguished Service Medal for the Skylab Program (1974), the American Astronautical Society Achievement Award for Skylab (1974), the University of North Dakota Sioux Award for Outstanding Achievement (1974), the American Astronautical Society Achievement Award for Skylab (1974), and the NASA Exceptional Service Medal for "Outstanding Achievement in Development of Advanced Space Systems and Innovative Concepts" (1980). In 1993, the University of North Dakota School of Engineering and Mines honored him posthumously with its Nye Award.

The John Disher Papers begin with NACA research memorandums. These technical memorandums, many of which were written by Disher himself, report on events such as the testing of then-experimental rocket-boosted engines. The earliest of these is dated "April 20, 1945" and identified as a "Memorandum Report for the Army Air Forces, Air Technical Service Command." Authors Jack R. Mercer and John H. Disher report on "the flight cooling correlation of a Pratt and Whitney R-2800-5 Engine in a B-26B airplane." Subsequent research memorandums detail flight investigations of ram jets, supersonic ram jets and ultimately, rocket boosted ramjet engines. Through these research memorandums, one can trace a clear thirteen-year technological evolution to 1958.

The Disher Papers contain a document labeled "attendance at meeting concerning manned satellite, July 28, 1958." Disher's name is on the list. This item is followed by a memo dated November 5, 1958, stating that "effective this date, a Space Task Group reporting directly to NASA Headquarters is..."
established at Langley Field, Virginia to implement a manned satellite project."

"What were the participants of this historical venture thinking? In May, 1959, John Disher and George Low wrote a report, entitled "Manned Space Flight, for internal circulation at NASA. Both admit that "the ultimate benefits that might accrue from manned space flight are, in a large measure, unknown." However, they state their belief that "no amounts of instrumentation that we can devise will tell us as much about the moon, or the planets, as man himself will be able to report once he has visited those places." Disher and Low's report includes a timetable for the manned space program. In a close estimate, they predicted that a "moon landing and return" would occur sometime during the years 1970-1975. Disher would prove even more prophetic during a 1964 interview with NBC correspondent Peter Hackes, when he predicted that the first American would land on the moon in "mid 1969."

In 1959, Disher began taking handwritten notes of Office of Manned Space Flight staff meetings. His notes became more frequent and detailed and by 1964, had evolved into journal format, with Disher's daily entries recording NASA activities. The notes and journals span the years 1959-1979, representing all but two years of Disher's career at NASA. The first notebook, labeled "Manned Space Flight Steering Committee, June, 1959," records Committee discussions on a variety of topics. There are, for example, notes indicating NASA engineers' concerns that astronauts might experience too much retardation exposure. Disher writes, "20 days of flight at altitude would result in lethal dose of 550 Rev. Rules out ion propulsion from orbit." (Disher notes that radiation sickness occurs at 200 ReV of exposure.)

In July 1969, Apollo XI landed on the moon. This saw as this a landmark of the twentieth century, which indeed it is. Nonetheless, Disher and others at NASA were already looking beyond it. In 1969, Disher was appointed Director of the Saturn/Apollo Applications Program in 1965, four years before the moon landing. In Disher's words, "the objectives of the Saturn/Apollo Applications Program are to use that developed capability to go on to the next major achievements in space, beyond the initial lunar landing."

The "next major achievement" would prove to be Skylab, the first manned space station. Three visits were made to Skylab in 1973 and 1974. All consisted of three-man teams, who conducted a variety of experiments on the station. Skylab suffered a mishap during launch, and was delayed by a second function of the meteoroid shield) and was operating with only a fraction of its electric power." Disher describes how repairs were effected, often by astronauts working in zero gravity, and notes that "without question, the most significant findings of Skylab came about because of the major mechanical failure."

From 1974-1980, Disher worked as Director of the Advanced Programs for the Office of Space Flight. In his own words, he was "personally involved in analytical studies, development of operational concepts, definition of the station "terrestrial" configuration, development of advanced propulsion concepts and their impact on station design."

TOWARDS A BETTER UNDERSTANDING OF NEW RELIGIOUS MOVEMENTS

Twenty years ago, on November 18, more than 900 Americans were destroyed in Jonestown. Those who perished included many who were involved in International Space Planning, representing NASA in advanced program discussions with the European Space Agency and with individual European nations. Some of his international activities led to the Joint U.S.-Italy Tethered Satellite (TSS) Program. Tethered satellites were designed to deploy from space shuttles but remain attached to them by means of a long string," or tether. Disher's involvement with the tether project would continue following his retirement from NASA. From 1981 to 1982, he resided in Rome, working as a Consultant to the Italian government's Council of National Research/National Space Plan (CNR/PSN) regarding TSS. The "Memorandum of Understanding" between NASA and CNR/PSN states that "in the near future, the TSS will provide an important new reusable, multi-disciplinary facility for conducting space experiments in Earth orbit and will open the way to several entirely new areas of long term scientific research with the hope that experiments "would be done in the most effective and efficient way possible.""

In a 1983 letter to Italian Prime Minister Amintore Fanfani, President Ronald Reagan states, "The joint development of a Tethered Satellite System for flight with the Space Shuttle presents a unique and highly visible opportunity for an Italian astronaut... to fly abroad the U.S. Space Shuttle... It is with pleasure and a sense of adventure that I..."

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A TOUCHMARK OF OUR CULTURAL HERITAGE

The Association for Library Service to Children, a division of the American Library Association, presents the Caldecott Medal annually to the artist of the "most distinguished American picture book for children." The first medal was awarded to Dorothy P. Lathrop in 1938 for illustrating Animals of the Bible. Now, sixty years later, the newest honoree is Paul Zelinsky, artist of Rapunzel.

Much has changed within those six decades. Printing techniques have expanded far beyond the lithographic process traditionally used to illustrate children's books. Improved dyes and reproduction techniques allow artists a wide range of color choices.

Literature and art reflect the culture that creates them, and this holds true for children's books. Caldecott Award Winners can be studied as cultural history artifacts. The illustrations often reflect contemporary trends in commercial art. Popular clothing and home decorating colors and styles, for example, are frequently depicted.

A striking characteristic of most Caldecott medalist books is their sophistication. They tend to reflect adult culture, rather than children's culture, and in so doing, are generally not prey to the concept of "art for children." For example, Lathrop's illustrations in Animals of the Bible are elegant and graceful, and show the influence of a vital art world in the 1920s and 1930s. The excavation of King Tutankhamen's tomb in 1922 added an element of Egyptian restraint to a burgeoning Art Nouveau and subsequent Art Deco. There's a touch of all these trends in the stylized Eve, in the angel who meets Balaam, and in the papyrus that surrounds the behemoth. The originals were done as lithographs in black and white, thus evading the problem of colors not aging well. The detail is extraordinary, and the more one examines each illustration, the more impressive becomes the overall effect.

Zeilinsky's artwork for Rapunzel embraces a different medium: oils. In his role as both story teller and artist, Zelinsky studied the tale carefully, and chose to set it in the Italian Renaissance. The illustrations capture the essence of the time period: the glowing colors of Italian Renaissance art are duplicated in fine detail. Zeilinsky utilized the Renaissance concept of borrowing poses. He credits Rembrandt's "The Jewish Bride" and "Agatha Bas," as well as Masaccio's "The Expulsion from Paradise" and Raphael's "Madonna and Child with the Young St. John." The influence of these Renaissance masters is clear in composition, rendering, and use of light and color. Zeilinsky refers to these sources in his website (http://www.putnam.com/catalog/yreader/authors/2855_note.html).

Sharing the bond of reflecting artistic trends, the two books are nevertheless very different. The books may exhibit adult sophistication, but children are the intended audience. A crucial question might thus be posed: How do the books stack up with today's young reader?

My artistic seven year old daughter thinks Rapunzel is extraordinary. She was inspired to write her own version of it. She explained that she would be careful not to copy any of the words because "that would be wrong." Instead, she borrowed the basic storyline poses - just as Zelinsky tapped into basic artistic ones. I haven't had the pleasure of seeing her Rapunzel, as she spells it, but I'll be interested to see how she has chosen to illustrate it.

Her thoughts on Animals of the Bible are not quite as enthusiastic, although she does like it. The fact that it is done in black and white leads her not to be as inspired. She noted that it seemed a bit old-fashioned, but she also admitted that she liked it very much. The realism of the illustrations combined with the stylized elegance appealed to her, both her artistic and her pragmatic sides.

She had still more to say about Rapunzel. Had I noticed the cat? Zeilinsky has taken advantage of something that early illustrators rarely did: he has included an unwritten character in the story, Rapunzel's cat. The cat does not actively do anything in the story, but it is an artistic thread that gives the illustrations continuity. A cat that watches the story's progress but does not participate are a recurring motif in literature, so the addition works well.

The array of art in sixty years of the best children's illustration is revealing. Examining the first and last will confirm the artistic and technological achievements of the last sixty years. The Caldecott Award serves to recognize artistic excellence in children's illustration, but also provides a touchmark of our cultural heritage.

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Next Issue: Recently Acquired Patton Papers.