

Finding Aid to The HistoryMakers® Video Oral History with William Jackson

Overview of the Collection

Repository:	The HistoryMakers®1900 S. Michigan Avenue Chicago, Illinois 60616 info@thehistorymakers.com www.thehistorymakers.com
Creator:	Jackson, William M., 1936-
Title:	The HistoryMakers® Video Oral History Interview with William Jackson,
Dates:	December 2, 2017 and November 6, 2012
Bulk Dates:	2012 and 2017
Physical Description:	12 uncompressed MOV digital video files (5:51:02).
Abstract:	Astrophysicist William Jackson (1936 -) was one of the founders of NOBCChE and a fellow of the APS, ACS, and AAAS. He also had an asteroid named in his honor. Jackson was interviewed by The HistoryMakers® on December 2, 2017 and November 6, 2012, in Davis, California and San Francisco, California. This collection is comprised of the original video footage of the interview.
Identification:	A2012_212
Language:	The interview and records are in English.

Biographical Note by The HistoryMakers®

Chemist and academic administrator William M. Jackson was born on September 24, 1936 in Birmingham, Alabama. He received his B.S. and Ph.D. degrees in chemistry from Morehouse College in 1956 and Catholic University of America, CUA in 1961, respectively. His expertise is in photochemistry, lasers chemistry, and astrochemistry.

Jackson has been a research scientist in industry at Martin Co (now Lockheed-Martin) and the government at the National Bureau of Standards (now the

National Institute of Standards and Technology) and NASA's Goddard Space Flight Center (GSFC). He has been an academician at the University of Pittsburgh (1969-1970), Howard University (1974-1985), and the University of California, Davis (UCD). He joined the faculty at UCD as a chemistry professor in 1985. He then became a distinguished professor in 1998, and chair of the chemistry department from 2000 to 2005. He was awarded millions of dollars in research and education grants and has taught and mentored under representative minority students at Howard University and UCD. Under his direction, the minority student population of the UCD chemistry graduate students increased. He continues to do research, as well as, recruiting and mentoring minority students in chemistry, even though he is officially retired.

In the field of astrochemistry, Jackson observed comets with both ground-based and satellite telescopes and used laboratory and theoretical studies to explain how the radicals observed in comets are formed. He led the team that made the first satellite (IUE) telescope cometary observation. His laboratory developed tunable dye lasers to detect and determine the properties of free radicals formed during the photodissociation of stable molecules. He continued to use lasers in the laboratory to map out the excited states of small molecules important in comets, planetary atmospheres, and the interstellar medium decompose into reactive atoms and radicals and are important in the chemistry of these astronomical bodies. Jackson published over 176 scientific papers, has a United States patent, and has edited two books.

Jackson is the recipient of many awards from universities and scientific organizations. They include the National Organization of Black Chemists and Chemical Engineers (NOBCCChE) Percy Julian Award (1986), a Guggenheim Foundation Fellowship (1989), the CUA alumni award for scientific achievements (1991), the Alexander von Humboldt Senior Research Award (1996), the Morehouse College Bennie Trail Blazer award (2011) and election as a Fellow in the American Physical Society (1995), in the American Association for the Advancement of Science (2004) in, and American Chemical Society (2010). He is one of the six founders of NOBCCChE; and in 1996, the Planetary Society named asteroid 1081 EE37 as (4322) *Billjackson* in his honor for contributions to planetary science.

William M. Jackson was interviewed by *The HistoryMakers* on November 6, 2012.

Scope and Content

This life oral history interview with William Jackson was conducted by Harriette Cole and Larry Crowe on December 2, 2017 and November 6, 2012, in Davis, California and San Francisco, California, and was recorded on 12 uncompressed MOV digital video files. Astrophysicist William Jackson (1936 -) was one of the founders of NOBCChE and a fellow of the APS, ACS, and AAAS. He also had an asteroid named in his honor.

Restrictions

Restrictions on Access

Restrictions may be applied on a case-by-case basis at the discretion of The HistoryMakers®.

Restrictions on Use

All use of materials and use credits must be pre-approved by The HistoryMakers®. Appropriate credit must be given. Copyright is held by The HistoryMakers®.

Related Material

Information about the administrative functions involved in scheduling, researching, and producing the interview, as well as correspondence with the interview subject is stored electronically both on The HistoryMakers® server and in two databases maintained by The HistoryMakers®, though this information is not included in this finding aid.

Controlled Access Terms

This interview collection is indexed under the following controlled access subject terms.

Persons:

Jackson, William M., 1936-

Cole, Harriette (Interviewer)

Crowe, Larry (Interviewer)

Hickey, Matthew (Videographer)

(Videographer)

Subjects:

African Americans--Interviews

Jackson, William M., 1936---Interviews

African American physicists--Interviews.

Organizations:

HistoryMakers® (Video oral history collection)

The HistoryMakers® African American Video Oral History Collection

University of California, Berkeley

Occupations:

Astrophysicist

HistoryMakers® Category:

ScienceMakers

Administrative Information

Custodial History

Interview footage was recorded by The HistoryMakers®. All rights to the interview have been transferred to The HistoryMakers® by the interview subject through a signed interview release form. Signed interview release forms have been deposited with Jenner & Block, LLP, Chicago.

Preferred Citation

The HistoryMakers® Video Oral History Interview with William Jackson, December 2, 2017 and November 6, 2012. The HistoryMakers® African American Video Oral History Collection, 1900 S. Michigan Avenue, Chicago, Illinois.

Processing Information

This interview collection was processed and encoded on 2/5/2020 by The HistoryMakers® staff. The finding aid was created adhering to the following standards: DACS, AACR2, and the Oral History Cataloging Manual (Matters 1995).

Other Finding Aid

A Microsoft Access contact database and a FileMaker Pro tracking database, both maintained by The HistoryMakers®, keep track of the administrative functions involved in scheduling, researching, and producing the interview.

Detailed Description of the Collection

Series I: Original Interview Footage

Video Oral History Interview with William Jackson, Section
A2012_212_001_001, TRT: 1:28:26 2012/11/06

William Jackson, Jr. was born in Birmingham, Alabama in 1936. His mother, Claudia Cornelius Haygood Russell, was born in 1916 in Selma, Alabama. She worked as an administrator, and eventually became the Program Director for the first African American radio station in Birmingham, Alabama. Jackson's father, William Morgan Jackson, Sr., was born in Birmingham, Alabama. He

earned his B.S. degree from Tuskegee University and went on to become a teacher at Parker High School. He also ran a taxi business. Jackson traveled to Tuskegee University in his youth, and actually had the opportunity to meet George Washington Carver. Jackson feels that he looks like his mother and takes after her personality.

African American families--Alabama--Birmingham.

African American mothers--Alabama.

African American fathers--Alabama.

Tuskegee University.

Carver, George Washington, 1864?-1943.

Video Oral History Interview with William Jackson, Section
A2012_212_001_002, TRT: 2:29:19 2012/11/06

William Jackson was raised in Birmingham, Alabama. He has one sister, Yvonne, who is four years younger. Jackson has early memories of holding his sister as a baby, hearing about the bombing of Pearl Harbor, and listening to President Franklin D. Roosevelt on the radio. His family lived in the projects in Birmingham, Alabama. Though Birmingham was segregated, Jackson felt that he was treated a little better because of his parents' position in the community. At the age of nine, Jackson contracted polio while visiting an aunt in Indianapolis. He was kept in the basement of the segregated hospital until he could be transported to the hospital in Tuskegee, Alabama. In 1945, the Jacksons moved to the historic Dynamite Hill, where many African American homes were bombed by whites. Eventually, Claudia Russell and William Jackson, Sr. separated. Jackson then moved to Mobile, Alabama at age fourteen after his mother remarried.

Childhood--Alabama--Birmingham.

Birmingham (Ala.)--Social life and customs.

African American families--Alabama--Birmingham.

Poliomyelitis.

Segregation--Alabama--Birmingham.

Video Oral History Interview with William Jackson, Section
A2012_212_001_003, TRT: 3:30:30 2012/11/06

William Jackson was a good student throughout his early

education. He attended Immaculata Catholic School for first grade through ninth grade. Jackson demonstrated an early interest in science, especially paleontology. When Jackson was fourteen, he relocated to Mobile, Alabama, where he attended Central High School. When he was in tenth grade, Jackson applied for the Ford Foundation Program, which was an early admission program that paid college tuition, room, and board. Jackson passed the qualifying exam and was admitted to the program. He chose to attend Morehouse College, and enrolled at the age of fifteen. At Morehouse College, Jackson studied chemistry with the famous Dr. Henry McBay. Though he struggled through the first semester of general chemistry, this introduction ignited his passion for chemistry.

Education--Alabama.

Ford Foundation.

Morehouse College (Atlanta, Ga.).

Chemistry.

McBay, Henry C.

Video Oral History Interview with William Jackson, Section
A2012_212_001_004, TRT: 4:29:28 2012/11/06

William Jackson had meaningful interactions with the distinguished faculty of Morehouse College, including Dr. Benjamin Mays and Dr. Henry McBay. Jackson was deeply impacted by Dr. Waldock, who taught physical chemistry. He also pledged Omega Psi Phi Fraternity. Upon graduating from Morehouse College in 1956, Jackson began working and studying at the Catholic University of America. He conducted his doctoral research under the direct supervision of Dr. James McNesby. His dissertation research focused on the thermal decomposition of free radicals. He was also influenced by Dr. Virginia Griffin. She encouraged him and helped him find work while he finished his Ph.D. degree. Jackson worked as a research chemist at the National Bureau of Standards, where he also studied the reactions of free radicals.

Morehouse College (Atlanta, Ga.).

Mays, Benjamin E. (Benjamin Elijah), 1894-1984.

McBay, Henry C.

Omega Psi Phi Fraternity.

Catholic University of America.

Free radicals (Chemistry).

United States. National Bureau of Standards.

Video Oral History Interview with William Jackson, Section
A2012_212_001_005, TRT: 5:28:55 2012/11/06

William Jackson completed his Ph.D. degree in 1962. His doctoral research focused on free radicals. Jackson's doctoral research was significant because it was completed very quickly and led to the publication of five papers. While completing his Ph.D. degree, Jackson worked as a research chemist at the National Bureau of Standards. Jackson briefly worked at the Martin-Marietta Company, but returned to the National Bureau of Standards. He then began working at the Goddard Space Flight Center, where he proposed the use of a telescope that used ultraviolet light to study comets. This telescope made some of the most significant discoveries about comets. Jackson then joined the faculty of Howard University. While at Howard, Jackson had the novel idea to use a laser to detect, characterize, and monitor free radicals. He received a \$20,000 grant and successfully built this laser to detect free radicals.

Free radicals (Chemistry).

Chemistry.

Martin Marietta Corporation--Employees.

Goddard Space Flight Center.

United States. National Bureau of Standards.

Telescopes.

Howard University.

Video Oral History Interview with William Jackson, Section
A2012_212_001_006, TRT: 6:29:05 2012/11/06

William Jackson describes his work at Howard University, where he continued his research focus on free radicals. In 1985, Jackson received an offer to join the faculty at the University of California, Davis. Jackson accepted the offer and was then named a Miller Professor. This gave him the

opportunity to work with theoretical chemist William Lester. He also worked with Yuan T. Lee on molecular beam research. In 1998 and 1999, Jackson served as a visiting professor to Taiwan. He was awarded Humboldt Award to study at the Technical University of Munich. In 1997, Jackson received the Lifetime Achievement Award from the American Association of the Advancement of Science for mentoring. Over the years, Jackson has worked to increase the number of minority students in Ph.D. degree programs as well as the number of minority faculty members.

Howard University.

Free radicals (Chemistry).

University of California, Berkeley.

Lester, W.A.

Technische Hochschule München.

Minorities in science.

Video Oral History Interview with William Jackson, Section
A2012_212_002_007, TRT: 7:27:08 2017/12/02

William Jackson attended Morehouse College in Atlanta, Georgia. While there, he decided to take Henry Cecil McBay's general chemistry course after he was told he would fail the class by an upperclassman. Through McBay's instruction, Jackson's interest in chemistry grew; and after graduating in 1956, he decided to pursue a Ph.D. in physical chemistry at the Catholic University of America in Washington, D.C. He was first offered a position as a teaching assistant, but was soon elevated to research assistant. Also studying at the Catholic University of America at that time were chemists Harry Lee Morrison and William Lester, Jr. In his final year, Jackson completed his Ph.D. work at the National Bureau of Standards in Gaithersburg, Maryland. There, he studied the thermal decomposition of free radicals, and how hydrocarbons broke down and reacted to other molecules. To do this, Jackson tested how much energy it would take to break down the molecule and what the results of that break would be.

Video Oral History Interview with William Jackson, Section

A2012_212_002_008, TRT: 8:28:53 2017/12/02

William Jackson graduated with a Ph.D. in physical chemistry from Catholic University of America in Washington, D.C. He then went to work at the Martin Marietta Corporation in Baltimore, Maryland. There, he helped in the research development of intercontinental missiles for the U.S. government. At this point of the interview, Jackson talks about the development of research within the field of chemistry through technological advances and improved instruments. After eighteen months, Jackson left Martin Marietta Corporation to further his research pursuits, returning to the National Bureau of Standards in Gaithersburg, Maryland. This time, Jackson's research focused on surface chemistry in order to make more efficient catalysts in automobile exhaust systems and other combustion processes. There were several other African American chemists working at the National Bureau of Standards at the time including Howard J. Foster and Dolphus E. Milligan.

Video Oral History Interview with William Jackson, Section
A2012_212_002_009, TRT: 9:28:36 2017/12/02

William Jackson worked as a chemist at the National Bureau of Standards in Gaithersburg, Maryland and the Martin Marietta Corporation in Baltimore, Maryland. While at the latter, Jackson faced discrimination from his superiors. In 1964, Jackson went to work for NASA at the Goddard Space Flight Center in Greenbelt, Maryland. There, Jackson studied comets and planetary atmospheres, and he was one of the first to find an example of water in comets using the Haystack Radio Telescope in Westford, Massachusetts. He also studied the photodissociation of hydrogen atoms through the International Ultraviolet Explorer satellite. Jackson then went on to detect and measure the reactions of free radicals through the use of a tunable light source, which is a technique he invented. In 1972, Jackson was one of the founding members of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers. Jackson also talks about his two children, Eric Jackson and Cheryl Jackson.

Video Oral History Interview with William Jackson, Section

A2012_212_002_010, TRT: 10:29:16 2017/12/02

William Jackson cofounded the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) with William A. Guilory, Charles Merideth and James Porter in 1972. Early on, they were able to secure a five hundred dollar grant from the William Penn Foundation. Through the NOBCChE, Jackson met with Joseph Martinez of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science and Senator Edward M. Kennedy to establish the Minority Resource Centers for Science and Engineering. These resource centers helped to obtain scholarships and opportunities for minorities within STEM industries. The first grants of \$10 million went to Clark College in Atlanta, Georgia and the University of Puerto Rico in San Juan, Puerto Rico. As a result of this work, the number of minority graduates from Ph.D. programs in the science rose from 2 to 4 percent. In 1974, Jackson accepted a teaching position in the chemistry department at Howard University in Washington, D.C.

Video Oral History Interview with William Jackson, Section
A2012_212_002_011, TRT: 11:31:04 2017/12/02

William Jackson taught in the Howard University Department of Chemistry in Washington, D.C. from 1974 to 1985. During that time, he spent a year on sabbatical with funding from the Lawrence Berkeley National Laboratory and the Deutsche Forschungsgemeinschaft foundation to study comets at the University of Erlangen-Nuremberg in Erlangen, Germany. In 1985, Jackson left Howard University to teach at the University of California, Davis (UC Davis) in Davis, California despite the fact that Howard University offered him more money to stay. Due to his past work, Jackson entered UC Davis as a step six professor, meaning that he had a national reputation and was tenured. While at UC Davis, Jackson was the first and only African American professor of chemistry. He also served as chair of the department from 2000 to 2006, during which time he tried to diversify the faculty. Jackson continued to conduct research on comets using tunable dye lasers while teaching at UC Davis, remaining there until 2006 when he retired.

Video Oral History Interview with William Jackson, Section
A2012_212_002_012, TRT: 12:30:22 2017/12/02

William Jackson focused most of his research on the study of comets while teaching at the University of California, Davis in Davis, California. To do this, he measured and observed the reactions of molecules when a different amount of energy are put into it. At this point of the interview, Jackson talks about the implications of his research on climate change and how politics affects the STEM industries. Jackson reflects upon his legacy, and the numerous Ph.D. students he advised and mentored over his academic career. He then reflects upon his life, and concludes the interview by sharing his advice for aspiring chemists.