CHEMICAL HERITAGE FOUNDATION

JAMES L. SHERLEY

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Andrea R. Maestrejuan

at

Massachusetts Institute of Technology
Cambridge, Massachusetts

on

20, 23, 24 November 1998

From the Original Collection of the University of California, Los Angeles

James A. Sherley

ACKNOWLEDGEMENT

This oral history is part of a series supported by a grant from the Pew Charitable Trusts based on the Pew Scholars Program in the Biomedical Sciences. This collection is an important resource for the history of biomedicine, recording the life and careers of young, distinguished biomedical scientists and of the Pew Scholars Program in the Biomedical Sciences Advisory Committee members.

From the original collection at the Center for Oral History Research, UCLA Library, UCLA.

The following oral history, originally processed at the UCLA Center for Oral History Research, has been reformatted by the Chemical Heritage Foundation. The process involved reformatting the front matter, adding a new abstract, replacing the table of contents, and replacing the index. The paragraph spacing and font of the body of the transcript were altered to conform to the standards of the Oral History Program at the Chemical Heritage Foundation. The text of the oral history remains unaltered; any inadvertent spelling or factual errors in the original manuscript have not been modified. The reformatted version and digital copies of the interview recordings are housed at the Othmer Library, Chemical Heritage Foundation. The original version and research materials remain at the Darling Library, University of California, Los Angeles and at the Bancroft Library, University of California, Berkeley.

REFORMATTING:

Marnie Berkowitz, Consultant to the Chemical Heritage Foundation. B.A., Classical Languages and Literatures, University of Minnesota; Ford Foundation Fellowship, Classical Languages and Literatures, University of Chicago.

David J. Caruso, Program Manager, Oral History, Chemical Heritage Foundation. B.A., History of Science, Medicine, and Technology, Johns Hopkins University; PhD., Science and Technology Studies, Cornell University.

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Oral History Interview Agreement No. T981120

This Interview Agreement is made and entered into this 20th day of November, 1998 by and between THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, a California corporation, on behalf of the Oral History Program at the UCLA campus, hereinafter called "University," and JAMES L. SHERLEY, having an address at Massachusetts Institute of Technology, Division of Bioengineering and Environmental Health, 77 Massachusetts Avenue, 16-755, Cambridge, Massachusetts 02139-4307, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about November 20, 1998, and tentatively entitled "Interview with James L. Sherley". This Agreement relates to any and all materials originating from the interviews, namely the tape recordings of the interviews and a written manuscript prepared from the tapes, hereinafter collectively called "the Work."

In consideration of the mutual covenants, conditions, and terms set forth below, the parties hereto hereby agree as follows:

1. Interviewee irrevocably assigns to University all his copyright, title and interest in and to the Work. This assignment applies to University, its successors, and assigns, for and during the existence of the copyright and all renewals and extensions thereof.

2. By virtue of this assignment, University will have the right to use the Work for any research, educational, or other purpose, including electronic reproduction, that University may deem appropriate.

3. Interviewee acknowledges that he will receive no remuneration or compensation for his participation in the interviews or for the rights assigned hereunder.

4. Interviewee will receive from University, free of charge, one bound copy of the typewritten manuscript of the interviews.

5. To insure against substantive error or misquotation, Interviewee will have the right to review the manuscript before it is put into final form. University therefore will send Interviewee a copy of the edited transcript for review and comment. Interviewee will return transcript and comments to University within 30 days of receipt of the transcript. In the event that Interviewee does not respond within 30 days, University will assume that Interviewee has given full approval of the transcript.

6. All notices and other official correspondence concerning this Agreement will be sent to the following:

If to University: Office of Research Administration
University of California, Los Angeles
P.O. Box 951406
Los Angeles, California 90095-1406

Attention: _____

If to Interviewee: James L. Sherley
Massachusetts Institute of Technology
Division of Bioengineering and Environmental Health
77 Massachusetts Avenue, 16-755
Cambridge, Massachusetts 02139-4307

University and Interviewee have executed this Agreement on the date first written above.

INTERVIEWEE

James L. Sherley
(Signature)

James L. Sherley
(Typed Name)

Massachusetts Institute of Technology

Division of Bioengineering and Environmental Health

77 Massachusetts Avenue, 16-755
(Address)

Cambridge, MA 02139-4307

Date _____

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

Dale E. Treleven
(Signature)

Dale E. Treleven
(Typed Name)

Director

UCLA Oral History Program

Box 951575

Los Angeles, CA 90095-1575

Date 11/20/98

Chemical Heritage Foundation
Oral History Program
315 Chestnut Street
Philadelphia, Pennsylvania 19106

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JAMES L. SHERLEY

1958 Born in Memphis, Tennessee on 19 January

Education

1980 B.A., Harvard University
1988 MD/PhD, Johns Hopkins University School of Medicine

Professional Experience

Princeton University
1988-1991 Postdoctoral Fellow

Fox Chase Cancer Center, Department of Molecular Oncology, Division of Medical Science
1991-1998 Associate Member

Meharry Medical College, Department of Biochemistry
1993-present Adjunct Assistant Professor

Massachusetts Institute of Technology, Division of Bioengineering and Environmental Health and Center for Environmental Health Sciences
1998-present Assistant Professor

Honors

1988 National Cancer Institute, National Research Service Award
1988 Paul Ehrlich Award in Basic Science Investigation
1993-1997 Pew Scholar in the Biomedical Sciences

Selected Publications

Loeblich, A.R., III and J.L. Sherley, 1979. Observations on the theca of the motile phase of free-living and symbiotic isolates of *zooxanthella microadriatica* (Freundenthal) comb. nov. *Journal of Marine Biology Association, U.K.* 59:195-205.

Lauer, G. et al., 1981. Construction of overproducers of the bacteriophage 434 repressor and cro proteins. *Journal of Molecular Applied Genetics* 1:139-47.

Sherley, J.L. and T.J. Kelly, 1988. Human cytosolic thymidine kinase: Purification and physical characterization of the enzyme from HeLa cells. *Journal Biological Chemistry* 263:375-82.
Sherley, J.L. and T.J. Kelly, 1988. Regulation of human thymidine kinase during the cell cycle. *Journal of Biological Chemistry* 263:8350-8358
Wold, M.S. et al., 1988. Cellular proteins required for SV40 replication in vitro. *Cancer Cells* 6:133-41.
Sherley, J.L., 1991. Guanine nucleotide biosynthesis is regulated by the cellular p53 concentration. *Journal of Biological Chemistry* 266:24815-28.
Stadler, P.B. et al., 1994. Inosine-5'-monophosphate dehydrogenase activity is maintained in immortalized murine cells growth-arrested by serum deprivation. *Advances in Enzyme Regulation* 34:91-106.
Sherley, J.L. et al., 1995. Expression of the wild-type p53 antioncogene induces guanine nucleotide-dependent stem cell division kinetics. *Proceedings of the National Academy of Sciences, USA* 92:136-40.
Sherley, J.L. et al., 1995. A quantitative method for the analysis of mammalian cell proliferation in culture in terms of dividing and non-dividing cells. *Cell Proliferation* 28:137-44.
Sherley, J.L., 1996. The p53 tumor suppressor gene as regulator of somatic stem cell renewal division. *Cope* 12:9-10.
Liu, Y. et al., 1998. Inosine-5'-monophosphate dehydrogenase is a rate-determining factor for p53-dependent growth regulation. *Molecular Biology of the Cell* 9:15-28.
Liu, Y. et al., 1998. Comparison of bax, waf 1, and IMP dehydrogenase regulation in response to wild-type p53 expression under normal growth conditions. *Journal of Cellular Physiology* 177:364-76.

ABSTRACT

James L. Sherley was born in Memphis, Tennessee, one of five children. His parents had been sharecroppers in a small town in Mississippi, but they moved to the Memphis area so that Sherley's father could become a worker in concrete; he worked his way up to supervisor and is now safety officer for Du Pont. He also became a Baptist minister at about the time James was leaving for college. Sherley's mother's family gradually settled in the neighborhood, too, but Sherley's father's family stayed in Mississippi. As far back as he can remember, Sherley wanted to be a scientist; and he and one of his brothers were always performing experiments (making gunpowder, for example) in the backyard. In junior high school he decided he wanted to be a microbiologist. He attended a high school for college-bound students, to which he had to be bused; there an AP biology class solidified his desire to be a microbiologist and to go to Harvard. Some of his teachers encouraged him to apply elsewhere as well, but he was determined to go to Harvard. He had always done well in school, too; but though he was valedictorian of his high school, the administration thought it inappropriate that he give the commencement address (he is African-American) and asked the salutatorian (she is Caucasian) to do so instead.

At Harvard Sherley joined Alfred Loeblich's laboratory, working at first with algae. He went to Mark Ptashne's lab when Loeblich moved to the University of Houston. There he learned microbiology, worked on lambda phage, and took a course in tumor repression that pushed him into the study of cancer. He was advised that fully to realize his ambition to study cancer he should get an MD/PhD, so, although it was late in his undergraduate career, he became pre-med and eventually was accepted for the MD/PhD program at Johns Hopkins University, where he began his study of thymidine kinase in Thomas J. Kelly's lab. After receiving his MD and PhD, he took a postdoc at Princeton University, working in Arnold Levine's lab. His studies included T antigen and p53 antioncogene. His association with Levine's lab was not harmonious, and he accepted an associate membership in the Department of Molecular Oncology at the Fox Chase Cancer Center, where he stayed for seven years before running out of funding. From there he moved to Massachusetts Institute of Technology, where he is an assistant professor in the Division of Bioengineering and Environmental Health today.

Sherley is married to Marion Cunningham and has two young daughters. He continues to publish his work; to balance family life and work; and to worship God.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Andrea R. Maestrejuan, Interviewer, UCLA Oral History Program; B.S., Biological Sciences, University of California, Irvine, 1986; M.A., History, University of California, Riverside, 1991; C.Phil., History, University of California, Riverside.

TIME AND SETTING OF INTERVIEW:

Place: Sherley's office, Massachusetts Institute of Technology.

Dates, length of sessions: November 20, 1998 (119 minutes); November 23, 1998 (127); November 24, 1998 (150).

Total number of recorded hours: 6.6

Persons present during interview: Sherley and Maestrejuan.

CONDUCT OF INTERVIEW:

This interview is one in a series with Pew Scholars in the Biomedical Sciences conducted by the UCLA Oral History Program in conjunction with the Pew Charitable Trusts's Pew Scholars in the Biomedical Sciences Oral History and Archives Project. The project has been designed to document the backgrounds, education, and research of biomedical scientists awarded four-year Pew scholarships since 1988.

To provide an overall framework for project interviews, the director of the UCLA Oral History Program and three UCLA faculty project consultants developed a topic outline. In preparing for this interview, Maestrejuan held a telephone preinterview conversation with Sherley to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. She also reviewed prior Pew scholars' interviews and the documentation in Sherley's file at the Pew Scholars Program office in San Francisco, including his proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members. For technical background, Maestrejuan consulted J.D. Watson et al., *Molecular Biology of the Gene.* 4th ed. Menlo Park, CA: Benjamin/Cummings, 1987; Bruce Alberts et al., *Molecular Biology of the Cell.* 3rd ed. New York: Garland,

The interview is organized chronologically, beginning with Sherley's childhood in Memphis, Tennessee, and continuing through his undergraduate work at Harvard University, his graduate work at Johns Hopkins University School of Medicine, his postdoc at Princeton University, and the establishment of his own lab at Fox Chase Cancer Center. Major topics discussed include influential teachers, racism, Sherley's work on thymidine kinase and the p53 antioncogene, and his acceptance of a position at the Massachusetts Institute of Technology.

ORIGINAL EDITING:

Ji Young Kwon, editorial assistant, edited the interview. She checked the verbatim transcript of the interview against the original tape recordings, edited for punctuation, paragraphing, and spelling, and verified proper names. Words and phrases inserted by the editor have been bracketed.

Sherley reviewed the transcript. He verified proper names and made minor corrections and additions.

William Van Benschoten, editor, prepared the table of contents. Ji Young Kwon assembled the biographical summary and interview history. Kathleen McAlister, editorial assistant, compiled the index.

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