

CHEMICAL HERITAGE FOUNDATION

LYNN COOLEY

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Marcia L. Meldrum

at

Yale School of Medicine
New Haven, Connecticut

on

4-5, 7 March 1996

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

ACKNOWLEDGEMENT

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UNIVERSITY OF CALIFORNIA, LOS ANGELES

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Carli V. Rogers
(Signature)

Lynn Cooley
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LYNN COOLEY

1955 Born in Middletown, Connecticut on 18 July

Education

1976 B.A., Connecticut College
1979 M.A., University of Texas at Austin
1984 Ph.D., University of Texas at Austin

Professional Experience

1984-1988 Carnegie Institution of Washington
Postdoctoral Fellow

1989-1994 Yale University School of Medicine
Assistant Professor
1994-present Associate Professor

Honors

1976 E. Frances Botsford Prize in Zoology
1984-1986 Runyon-Winchell Fellow, Cancer Research Fund of the Damon
Runyon-Walter Winchell Foundation
1989-1990 Hull Cancer Research Award, Yale Cancer Center
1991-1995 Pew Scholar in the Biomedical Sciences

Selected Publications

- Cooley, L. et al., 1988. Insertional mutagenesis of the *Drosophila* genome with single P elements. *Science* 239:1121-28.
- Cooley, L. et al., 1992. *Chickadee* encodes a profilin required for intercellular cytoplasm transport during *Drosophila* oogenesis. *Cell* 69:173-84.
- Xue, F. and L. Cooley, 1993. *Kelch* encodes a component of intercellular bridges in *Drosophila* egg chambers. *Cell* 72:681-93.
- Verheyen, E. and L. Cooley, 1994. Profilin mutations disrupt multiple actin-dependent processes during *Drosophila* development. *Development* 120:717-28. Cant, K. et al., 1994. *Drosophila singed*, a fascin homolog, is required for actin bundle formation during oogenesis and bristle extension. *Journal of Cell Biology* 125:369-80.
- Robinson, D.N. and K. Cant, 1994. Morphogenesis of *Drosophila* ovarian ring canals.

Development 120:2015-25.

Mahajan-Miklos, S. and L. Cooley, 1994. The villin-like protein encoded by the *Drosophila* *quail* gene is required for actin bundle assembly during oogenesis. *Cell* 78:291-301.

Cant, K. and L. Cooley, 1996. Single amino acid mutations in *Drosophila* fascin disrupt actin bundling function *in vivo*. *Genetics* 143:249-58.

Panzer, S. and L. Cooley, 1997. The use of explicitly defined relationships for WWW based navigation and searching of a biological database. *CABIOS* 13:281-90.

Robinson, D.N. and L. Cooley, 1997. *Drosophila kelch* is an oligomeric ring canal actin organizer. *Journal of Cell Biology*, in press.

ABSTRACT

Lynn Cooley grew up in Portland, Connecticut, the middle child of five. Her father was in aeronautical engineering and her mother in physics, so she had a very early introduction, if not a genetic predisposition, to science. In high school she liked chemistry and mathematics courses best and finished all of those available by the end of her junior year. In consultation with her guidance counselor, she decided to graduate in only three years and to start college. Cooley matriculated into Connecticut College, where she majored in zoology. In college she discovered modern dance. She also took a semester off to take a course at the Woods Hole Marine Biological Laboratory, which led to her participation on a research cruise.

During a later summer course at Woods Hole Cooley discovered biochemistry and immediately decided that was what she wanted to do. She applied to graduate schools, entering the University of Texas, where she persuaded Kwan Wang to take her into his lab to work on cytoskeletal proteins. She continued her dancing as well, using it often as a release from growing tension in Wang's lab. Eventually she decided to leave the university after completing her master's degree, at which point she worked as a lab technician for Joanne Ravel and performed with a modern dance company. Wanting to return to the East Coast, she transferred to Dieter Söll's lab at Yale University, where he later suggested she complete her Ph.D. at the University of Texas while conducting research in his lab.

Cooley then accepted a postdoc appointment in Allan Spradling's lab at the Carnegie Institution of Washington in Baltimore, Maryland, where she began researching the regulation of expression in follicle cells. She also developed a focus on the *kelch* and *chickadee* genes. This research continued when Cooley started her own lab at the Yale School of Medicine, in conjunction with students Feiyu Xue and Esther Verheyen. The lab's research divided into two components: genes related to the function of ring canals and genes related to the regulation of actin in nurse cells. In the meantime, Cooley earned a pilot's license and married her husband, Ted Killiam, with whom she has a daughter. Cooley discusses the scientific and academic issues she finds critical, including cutbacks in science funding, the impact of molecular techniques on developmental biology, the need to improve the public's understanding of basic research, and shifting trends in funding. She concludes the interview by expressing her satisfaction with her career.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Marcia L. Meldrum, postdoctoral fellow, UCLA Department of History. B.A., History, University of Minnesota; M.B.A., Boston University; M.A. and Ph.D., History of Science and Medicine, State University of New York at Stony Brook.

TIME AND SETTING OF INTERVIEW:

Place: Cooley's office, Yale School of Medicine.

Dates, length of sessions: March 4, 1996 (86 minutes); March 5, 1996 (82) ; March 7, 1996 (25).

Total number of recorded hours: 3.2

Persons present during interview: Cooley and Meldrum.

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 Archive 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 faculty consultants developed a topic outline. In preparing for this interview, Meldrum held a telephone preinterview conversation with Cooley to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. Meldrum further reviewed the documentation in Cooley's file at the Pew Scholars Program office in San Francisco, including her proposal application, progress reports, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members. For technical background, Meldrum consulted recent issues of *Cell*, *Nature*, and *Science*, and attended two lectures by Dr. Evelyn Fox Keller, who has done extensive research on the history of biology.

The interview is organized chronologically, beginning with Cooley's childhood in Connecticut and continuing through her graduate work at the University of Texas at Austin and Yale University, postdoctoral work at the Carnegie Institution in Baltimore, and the establishment of her own laboratory at Yale.

Major topics discussed include the process of cytoplasm transport and the development of the cytoskeleton in oocyte development, the interactive functions of specific *Drosophila* genes, and current funding priorities in science.

ORIGINAL EDITING:

Jackie Tran, 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.

Cooley reviewed the transcript. She verified proper names and made minor corrections and additions.

Jane Collings, editor, prepared the table of contents. Jeffrey Chow, editorial assistant, compiled the biographical summary. Meldrum composed the interview history. Gregory M.D. Beyrer, editorial assistant, assembled the index.

TABLE OF CONTENTS

Early Years	1
Growing up in Portland, Connecticut. Family background. Early graduation from high school. Working at a summer camp on Lake Winnepesaukee. Influences.	
College Years	5
Acceptance at Connecticut College. Zoology major. College science courses. Interest in dance. Taking a semester off to take class at Woods Hole Marine Biological Laboratory. Research cruise. Working at a veterinarian's hospital.	
Graduate Years	11
Biochemistry at University of Texas. Culture shock in Texas. Working on cytoskeletal proteins in the Kwan Wang lab. Joining a modern dance company. Leaving school after completing master's degree. Working as a lab technician for Joanne Ravel. Transferring to Dieter Söll's lab at Yale. Completing University of Texas Ph.D. while conducting research at Yale.	
Postgraduate Years	21
Accepts postdoc at Carnegie Institution of Washington in the Allan Spradling's lab. The spatial regulation of expression in follicle cells. Develops protocols for doing mutagenesis with P elements. Studying <i>kelch</i> and <i>chickadee</i> . Search for a principal investigator position.	
Faculty Years	35
Accepts position at Yale University. Feiyu Xue's discovery that the <i>kelch</i> gene localizes to ring canals. Esther Verheyen's work on <i>chickadee</i> . Lab's divided focus on genes related to the function of ring canals and genes related to the regulation of actin in nurse cells. Devising genetic screens to look for interacting proteins. The grant application process. Research on mammalian putative <i>kelch</i> homologues. Lab collaborations. Earning a pilot's license. Meeting her husband, Ted Killiam. Balancing work and family life. Guest editing <i>Developmental Genetics</i>	
Scientific and Academic Issues	60
Writing scientific papers. Interactions with the oogenesis subgroup within the <i>Drosophila</i> research community. Funding. The role of <i>chickadee</i> and <i>singed</i> genes in bristle development. The impact of molecular techniques on developmental biology. The Human Genome Project. Need to improve the public's understanding of basic research. Professional organizations. Satisfaction with her career.	
Index	69

INDEX

A

ACS. *See* American Cancer Society
actin, 23, 33, 34, 36, 37, 38, 39, 40, 41, 46,
47, 59, 60
adenosine triphosphate, 16
adenylate, 16
Altman, Sidney, 19
American Cancer Society, 45
American Dance Festival, 11
American Society of Cell Biology, 63
Appalachian Mountain Club, 4
ASCB. *See* American Society of Cell
Biology
ATP. *See* adenosine triphosphate
Austin, Texas, 10, 13, 14

B

Baltimore, Maryland, 25, 27, 33
bambam, 14
Baylor College of Medicine, 10, 24
Baylor University, 11
Berg, Celeste, 24
beta-galactosidase, 29
biochemistry, 8, 10, 11, 12, 13, 16, 19, 47,
55, 56
Block Island, Massachusetts, 48

C

C. elegans, 55, 56, 61
Carnegie Institution of Washington,
Baltimore, 18, 19, 23, 24, 26
Carnegie Mellon University, 31
cheerio, 34, 39, 40
chemistry, 2, 7, 8, 12, 14, 24, 26, 47
chickadee, 30, 31, 32, 33, 34, 36, 37, 38,
42, 45, 59, 60
codon, 40, 41
Colby College, 6
Computer Processing Institute, 2
Connecticut College, 5, 6
Cooley, Amanda (sister), 1

Cooley, Anita(mother), 1
Cooley, Ann (sister), 1
Cooley, James (father), 1, 48
Cooley, James R. (brother), 1
Cooley, Pamela (sister), 1
cystoblast, 21, 35
cytokinesis, 23, 35
cytoskeletal proteins, 12, 36, 46

D

Dallas, Texas, 24
dance, 5, 7, 8, 11, 13, 14, 25
Developmental Genetics, 51
DNA, 13, 14, 15, 19, 20, 29, 31, 62
Drosophila, 16, 19, 22, 30, 38, 41, 54, 55
Duke University, 10, 11, 54

E

E. coli, 16
East Hartford, Connecticut, 1
embryology, 6, 7, 56
EMS. *See* ethyl methane sulphate
ethyl methane sulphate, 30, 42, 43

F

fascin, 36, 37
Francke, Uta, 32
funding, 32, 44, 45, 51, 56, 57, 63, 65, 68
fusome, 54, 55

G

G418, 29
gametogenesis, 51
Gehring, Walter J., 29
genetics, 6, 7, 25, 36, 46, 47, 55, 56, 57,
61
germ-line, 20, 21, 35, 46, 55
guanylate, 15, 16

H

histidine, 16, 17

HIV. *See* human immunodeficiency virus
Houston, Texas, 10, 11
hts. *See* hu-li tai-shao
hu-li tai shao, 34, 39, 40, 41, 45
Human Genome Project, 61
human immunodeficiency virus, 62

K

Kafatos, Fotis C., 22
kelch, 30, 31, 32, 33, 34, 39, 40, 41, 46,
52, 59
Kelley, Richard L., 24, 29
Killiam, Eleanor Cooley (daughter), 49, 50
Killiam, Ted (husband), 49
King, Robert C., 33

L

lacZ, 29
Lake Winnepesaukee, 4, 8
Lin, Haifan, 54

M

Mahowald, Anthony P., 33
Matova, Nina, 43
McKearin, Dennis, 24, 54
microvilli, 38
Middletown, Connecticut, 3
Mooseker, Mark S., 46
Morgan, Thomas Hunt, 55

N

Nantucket, Massachusetts, 48
National Institutes of Health, 19, 44, 62
New Hampshire, 4
New Haven, Connecticut, 1, 14, 25, 33,
48, 49
New York Times, 61
NIH. *See* National Institutes of Health

O

oocyte, 21, 22, 23, 29, 39
oogenesis, 22, 29, 33, 35, 36, 38, 39, 43,
46, 47, 53, 54, 59

P

P element, 19, 20, 22, 28, 29, 39
Palter, Steven F., 46
Pew Scholars in the Biomedical Sciences,
1, 44, 57
Pittsburgh, Pennsylvania, 31
Portland, Connecticut, 1, 2
Princeton University, 30
profilin, 33, 36, 60

Q

quail, 30, 34, 36, 37, 38, 42, 43, 45

R

Ravel, Joanne, 12, 14, 15
Reed, Robin, 19
ring canals, 23, 32, 33, 34, 35, 36, 38, 39,
40, 41, 46
RNA
tRNA, 14, 16
RNase P, 19
Robinson, Douglas N., 41
rosy gene, 20
Rubin, Gerald, 19

S

San Juan, Puerto Rico, 9
Schüpbach, Gertrud, 30
Science, 47
singed, 34, 36, 37, 38, 42, 45, 59, 60
Singer, Maxine, 19
Singer, S.J., 13
Smith College, 1
Söll, Dieter G., 14, 15, 18, 19, 25
Spradling, Allan C., 19, 20, 23, 24, 25, 29,
31, 33, 54
Stanford University, 32
State University of New York at Stony
Brook, 47
syncytium, 23

T

taxonomy, 6, 9
The Genetics Society of America, 63

The Genome Project, 61
Theurkauf, William E., 47
Tower, John, 24
Travelers Insurance Company, 2
tRNA, 16, 17, 19

U

United States Congress, 62, 63
United Technologies Research Center, 1
University of Rhode Island, 5
University of Southern California, 24
University of Texas, 10, 11, 15, 17
University of Texas Southwestern Medical
Center, 24
University of Washington, 24
UT. *See* University of Texas

V

Verheyen, Esther M., 33
villin, 37

W

Wesleyan University, 3
Woods Hole Marine Biological
Laboratory, 9
Woods Hole Oceanographic Institute, 5, 9
Woods Hole, Massachusetts, 9

X

Xenopus, 7, 55
Xue, Feiyu, 32, 40

Y

Yale School of Medicine, 31
Yale University, 14, 15, 17, 18, 19, 26, 27,
31, 46, 66, 67

Z

zoology, 5, 6