CHEMICAL HERITAGE FOUNDATION

PHILIPPE M. SORIANO

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Neil D. Hathaway

at

Baylor College of Medicine
Houston, Texas

on

8, 9, 10, and 11 October 1992

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

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 Pew Biomedical Scholar Advisory Committee members.

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REFORMATTING:

Kim Phan, Program Intern, Oral History, Chemical Heritage Foundation. B.A. expected 2011, Anthropology, Cornell University.

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. R921021

This Interview Agreement is made and entered into this 22nd day of October, 1992 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 PHILIPPE M. SORIANO having an address at Institute for Molecular Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, Texas, 77030, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about October 8, 1992, and tentatively entitled "Interview with Philippe M. Soriano". 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 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 Intellectual Property Administration
University of California, Los Angeles
405 Hilgard Avenue
Los Angeles, California 90024-1406

Attention: Ms. Carli V. Rogers
Copyright Officer

If to Interviewee: Philippe Soriano
Institute for Molecular Genetics
Baylor College of Medicne
One Baylor Plaza
Houston, Texas 77030

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

INTERVIEWEE

(Signature)

Philippe Soriano
(Typed Name)

Baylor College of Medicine

One Baylor Plaza
(Address)

Houston, TX 77030

Date October 8, 1992

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

(Signature)

Carli V. Rogers
(Typed Name)

Copyright Officer
(Title)

Date October 22, 1993

Pew Scholars in the Biomedical Sciences

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P [illegible]
_____
Philippe M. Soriano, Ph.D.

12.2.07
_____
Date

Chemical Heritage Foundation
Oral History Program
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Philadelphia, Pennsylvania 19106

PHILIPPE M. SORIANO

1953 Born in New Rochelle, New Jersey, on 10 June

Education

1971 Baccalauréat, Lycée Français, New York City
1975 Maîtrise ès-sciences, University of Paris
1978 Doctorat de 3ème cycle, University of Paris
1982 Doctorat d'état ès-sciences, University of Paris

Professional Experience

Centre National de la Recherche Scientifique, Paris, France
1981-1982 Attaché de recherché
1982-1984 Chargé de recherche

Centre de Biophysique Moléculaire, Orléans, France
1982-1984 Postdoctoral Fellow, Groupe de Biophysique Cellulaire

Heinrich Pette Institute for Experimental Virology and Immunology, Hamburg, Germany
1984 Postdoctoral Fellow, Department of Tumor Virology

Massachusetts Institute of Technology
1984-1987 Postdoctoral Fellow, Whitehead Institute for Biomedical Research

Baylor College of Medicine, Houston, Texas
1987-1993 Assistant Professor

Fred Hutchinson Cancer Research Center, Seattle, Washington
1993-present Associate Member

Honors

1976-1978 Fellowship, Délégation Générale à la Recherche Scientifique et Technique
1978 Fellowship, Fondation pour la Recherche Médicale
1978-1980 Fellowship, Ligue Nationale Française contre le Cancer
1984-1985 Fellowship, North Atlantic Treaty Organization

1988	Biomedical Research Support Grant, Baylor College of Medicine
1988	Joseph P. Kennedy Foundation Award
1988-1992	Scholar, Pew Scholars Program in the Biomedical Sciences
1988-1993	Assistant investigator, Howard Hughes Medical Institute

Selected Publications

Soriano, P. et al., 1981. The major components of the mouse and human genomes. *European Journal of Biochemistry,* 115:235-39.

Soriano, P. et al., 1982. The scattered distribution of actin genes in the mouse and human genome. *EMBO Journal,* 1:579-83.

Soriano, P. et al., 1983. The distribution of interspersed repeats is non-uniform and conserved in the mouse and human genomes. *Proceedings of the National Academy of Sciences,* 80:1816-20.

Soriano, P. et al., 1983. Targeted and nontargeted liposomes for *in vivo* transfer to rat liver cells. *Proceedings of the National Academy of Sciences,* 80:7128-31.

Soriano, P. and R. Jaenisch, 1986. Retroviruses as probes for mammalian development: Allocation of cells to the somatic and germ cell lineages. *Cell,* 46:19-29.

Soriano, P. et al., 1986. Tissue specific and ectopic expression of genes introduced into transgenic mice by retroviruses. *Science,* 234:1409-13.

Soriano, P. et al., 1987. Retroviruses and insertional mutagenesis: Proviral integration at the Mov 34 locus leads to early embryonic death. *Genes and Development,* 1:366-75.

Soriano, P. et al., 1987. High rate of recombination and double crossovers in the mouse pseudoautosomal region during male meiosis. *Proceedings of the National Academy of Sciences,* 84:7218-20.

Soriano, P. et al., 1991. Targeted disruption of the *c-src* proto-oncogene leads to osteopetrosis in mice. *Cell,* 64:693-702.

Soriano, P. et al., 1991. Promoter interactions in retroviral vectors introduced into fibroblasts and embryonic stem cells. *Journal of Virology,* 65:2314-19.

ABSTRACT

Philippe M. Soriano grew up in New York City, the younger of two children. His parents are of French descent: his mother was born in Algiers, Algeria, and his father in Cairo, Egypt. He attended the Lycée Français, which had a typical French curriculum with the addition of some usual American classes. No one else in his family was involved in science, but Soriano showed an early interest, especially in a number of fields of biology.

Soriano's several childhood trips to France helped him decide to attend the University of Paris. It was also the case that French science, especially genetics, was outstanding at the time. Although he found that there was a great culture shock involved in being in France, he did not regret his college years there, as they gave him a very different perspective on his work. During the summers Soriano worked at the Bayer labs in Germany and the Weizmann Institute of Science in Israel. He pursued his doctorate at the University of Paris, working with DNA sequences in higher mammals in the lab of Giorgio Bernardi; Soriano reflected on higher education in France and the strengths of Bernardi's lab.

His work on DNA cloning and fractionation techniques earned Soriano two doctorates, after which he was offered a *chargé de recherche* position by the Centre National de la Recherche Scientifique (CNRS). Soriano used gene delivery techniques at the Centre de Biophysique Moléculaire in Orléans, France and sought to make transgenic mice, though he also discussed Rudolf Jaenisch's first gene knockout experiment that resulted in a lethal mutation and his own attempts to clone a histocompatibility gene. At Bernardi's request he taught cDNA cloning in South Africa and Tunisia, a topic Soriano used to speak about science in Third World countries, his own international perspective, and the danger of scientific inbreeding.

Soriano began a postdoc in the Jaenisch lab in Hamburg. After about six months Jaenisch moved his lab (people, mice, and some equipment) to the Massachusetts Institute of Technology. Soriano explains the setup of the lab in Hamburg, the complicated move, and the state of science in Germany. For his work, Soriano infected embryos with retroviruses to create transgenic mice, determined at what stage cells are allocated to somatic or germ cell lineage, implemented noninvasive means of tracking cells, conducted loss-of-function studies, and used retrovirus probes instead of electroporation.

Deciding not to return to FranceSoriano left the Jaenisch lab for a position at Baylor College of Medicine. He received Howard Hughes Medical Institute funding and compared it to other types of funding, in the context of which he talked about the cost of running a mouse lab and big labs versus small labs.

Soriano's interest in the *src* gene continues, and he explains more about cell lineages; functional redundancy; interpreting gene knockout results; licensing and selling mutant mice; cooperating with biotechnology companies; and ethical issues involved in working for biotechnology companies and surrounding gene therapy. He concludes his interview by discussing his planned move to the Fred Hutchinson Cancer Research Center in Seattle, Washington. And he describes some of his future research plans and compares and contrasts basic science research and applied research.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Neil D. Hathaway, Interviewer, UCLA Oral History Program. B.A.., English and History, Georgetown University; M.A. and C. Phil., History, UCLA.

TIME AND SETTING OF INTERVIEW:

Place: Soriano's office, Baylor College of Medicine, Houston, Texas.

Dates, length of sessions: October 8, 1992 (41 minutes); October 9, 1992 (82) ; October 10, 1992 (85) ; October 11, 1992 (74).

Total number of recorded hours: 4.7

Persons present during interview: Soriano and Hathaway.

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, from 1988 through 1992.

In preparing for this interview, Hathaway, in consultation with the director of the UCLA Oral History Program and three UCLA faculty project consultants, developed a topic outline to provide an overall interview framework. Hathaway then held a telephone preinterview conversation with Soriano to obtain extensive written background information (curriculum vitae, copies of published articles, etc.) and agree on a research and interviewing timetable. Hathaway further reviewed the documentation in Soriano'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 general background on the recent history of the biological sciences, Hathaway consulted such works as: J.D. Watson et al., *The Molecular Biology of the Gene.* 4th ed. 2 vols. Menlo Park, CA: Benjamin/Cummings, 1987; Lubert Stryer, *Biochemistry.* 3d ed. New York: W.H. Freeman, 1988; *The Journal of the History of Biology;* and H.F. Judson, *The Eighth Day of Creation: Makers of the Revolution in Biology.* New York: Simon and Schuster, 1979.

The interview is organized chronologically, beginning with Soriano's childhood and education in New York City, and continuing on through his higher education at the University of Paris, his postdoc in the Rudolf Jaenisch lab, and his career at Baylor College of Medicine. Major topics discussed include DNA cloning, genetics research on mice, the international science community, and ethical issues involved in gene research.

ORIGINAL EDITING:

Steven J. Novak, senior editor, edited the interview. He 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.

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

Novak also prepared the table of contents, biographical summary, interview history, and index.

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