CHEMICAL HERITAGE FOUNDATION

STEPHEN R.J. SALTON

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Andrea R. Maestrejuan

at

Mount Sinai School of Medicine of the City University of New York
New York, New York

on

4, 5, and 6 November 1996

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:

Holly Polish, Program Intern, Oral History, Chemical Heritage Foundation. B.A. History, American 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. R961126

This Interview Agreement is made and entered into this 6th day of February, 1996 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 STEPHEN R.J. SALTON, having an address at Fishberg Research Center in Neurobiology, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York New York 10029, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about November 4, 1996, and tentatively entitled "Interview with Stephen R.J. Salton". 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.

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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:

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University of California, Los Angeles
P.O. Box 951406
Los Angeles, California 90095-1406

Attention: Ms. Carli V. Rogers
Copyright Officer

If to Interviewee:

Stephen R.J. Salton
Fishberg Research Center in Neurobiology
Mount Sinai School of Medicine
One Gustave L. Levy Place
New York, New York 10029

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

INTERVIEWEE

(Signature)

Stephen R.J. Salton
(Typed Name)

Fishberg Research Center in Neurobiology

Mount Sinai School of Medicine
(Address)

New York, New York 10029

Date 11/4/96

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

(Signature)

Carli V. Rogers
(Typed Name)

Copyright Officer
(Title)

Date January 4, 1997

Pew Scholars in the Biomedical Sciences

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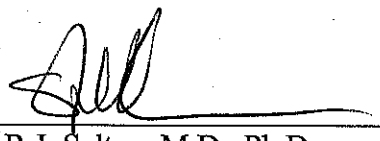

Stephen R.J. Salton, M.D., Ph.D.

1/16/08

Date

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

STEPHEN R.J. SALTON

1955 Born in Cambridge, United Kingdom, on 1 September

Education

1976 B.A., University of Pennsylvania
1983 M.D., Ph.D., New York University

Professional Experience

Mount Sinai School of Medicine, City University of New York
1986-1988 Postdoctoral Fellow
1989-present Assistant Professor

Honors

1976 Magna cum laude, University of Pennsylvania
1977-1983 Medical Scientist Training Program Award
1989-1991 Pfizer Scholar Award
1991-1994 Pew Scholar in the Biomedical Sciences
1994-1999 Irma T. Hirschl Career Scientist Award

Selected Publications

Salton, S.R.J. et al., 1983. Nerve-growth-factor-inducible large external (NILE) glycoprotein: Studies of a central and peripheral neuronal marker. *Journal of Neuroscience* 3:441-54.

Salton, S.R.J. et al., 1983. Biochemical properties of the nerve-growth-factor-inducible large external (NILE) glycoprotein. *Journal of Neuroscience* 3:2420-30.

Margolis, R.K. et al., 1983. Structural features of the nerve-growth-factor-inducible large external glycoprotein of PC12 pheochromocytoma cells and brain. *Journal of Neurochemistry* 41:1635-40.

Margolis, R.K. et al., 1983. Complex carbohydrates of cultured PC12 pheochromocytoma cells. *Journal of Biological Chemistry* 258:4110-17.

Salton, S.R.J. et al., 1988. Simulation of pituitary luteinizing hormone secretion by GnRH is not coupled to beta-LH gene transcription. *Molecular Endocrinology* 2:1033-42.

Salton, S.R.J. et al., 1991. Structure of the gene encoding VGF, a nervous system-specific mRNA that is rapidly and selectively induced by nerve growth factor in PC12 cells. *Molecular and Cellular Biology* 11:2335-49.

Salton, S.R.J., 1991. Nucleotide sequence and regulatory studies of VGF, a nervous system specific mRNA that is rapidly and relatively selectively induced by nerve growth factor. *Journal of Neurochemistry* 57:991-96.

Snyder, S.E. et al., 1996. Comparison of RPTPζ/β, phosphacan, and *trk*B mRNA expression in the developing and adult nervous system and induction of RPTPζ/β and phosphacan mRNA following brain injury. *Molecular Brain Research* 40:79-96.

Benson, D. et al., 1996. Expression and polarization of VGF in developing hippocampal neurons. *Developmental Brain Research* 96:219-28.

D'Arcangelo, G. et al., 1996. Activation of co-dependent transcription factors is required for transcriptional induction of the vgf gene by NGF and Ras. *Molecular and Cellular Biology* 16:4621-31.

Snyder, S.E. et al., 1998. mRNA encoding VGF, a neuronal peptide-precursor, is rapidly regulated in the rat central nervous system by neuronal activity, seizure and cortical lesion. *Neuroscience* 82:7-19.

ABSTRACT

Stephen R.J. Salton was born in Cambridge, England, and moved to Australia when he was about seven. When he was about ten, his family moved to Cranford, New Jersey, where his father became chairman of the microbiology department at New York University. Salton attended public schools, and he remembers a good chemistry teacher. He had an early interest in biology, partly because he liked it and partly because his perception of science was influenced by his father's career. Although he felt that there were deficiencies in his pre-college science curriculum, he did have a chance to perform research one summer in the Joel Oppenheim and Martin Nachbar labs at New York University.

Salton entered the University of Pennsylvania to major in biology; there he found stimulating introductory biology and biochemistry courses. He had the opportunity to undertake undergraduate lab work at the Wistar Institute with James England and Michael Halpern who taught him the importance of learning to solve problems at the bench. He decided to enter New York University's M.D./Ph.D. program, where he did his Ph.D. research in pharmacology under Michael Shelanski and Lloyd Greene, making antibodies for work on PC12 cell surface glycoprotein response to nerve growth factor v (NGF) treatments. He became enmeshed in the debate over basic science and clinically relevant research and the funding problems raised by that debate.

Though somewhat dissatisfied with medical school coursework, some of that dissatisfaction was mitigated when in his second year he met his future wife, Johanna Baeuerle. Also to his benefit during his schooling, Salton had a good working relationship with Shelanski and Greene who taught him the usefulness of collaborations between labs for meeting funding deadlines and the politics involved in collaborations. He then did a residency and postdoc in the James Roberts lab; balancing professional life and life with his family (Baeuerle and their two children) was sometimes a challenge. Salton had entered the Roberts lab in order to learn molecular biology techniques; he was later able to apply molecular techniques in an attempt to determine the differences between neutrophic growth factors and non-neutrophic growth factors. He found exciting the rapid evolution of molecular biology techniques into a widely accessible tool that can decrease the potential tedium involved in large-scale DNA analysis.

The interview concludes with Salton's discussion of some ideas about how to keep a small lab competitive; the political advantages of publishing in *Cell*, *Nature,* or *Science;* and the insular editorial tendency at the top science journals. He discusses funding; professional opportunities for science Ph.D.'s; and sharing lab facilities; he continues with Mount Sinai's process of recruiting faculty to the new Fishberg Research Center for Neurobiology as illustrative of his own transition from postdoc to assistant professor. He ends with his beliefs about the effect of changes in the health care industry on medical school funding, his opinion of the proposed merging of Mount Sinai Medical School and the New York University Graduate School of Arts and Sciences, and regret over a lost opportunity to pursue clinically based research under Ira Goldstein.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Andrea R. Maestrejuan, Interviewer, UCLA Oral History Program; B.A., History, University of California, Irvine, 1988; B.S., Biological Sciences, University of California, Irvine, 1988; C.Phil., History, University of California, Riverside.

TIME AND SETTING OF INTERVIEW:

Place: Salton's office, Mount Sinai School of Medicine of the City University of New York.

Dates, length of sessions: November 4, 1996 (112 minutes); November 5, 1996 (112); November 6, 1996 (117).

Total number of recorded hours: 5.7

Persons present during interview: Salton 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 Salton to obtain written background information (curriculum vitae, copies of published articles, etc.) and to agree on an interviewing schedule. She also reviewed prior Pew scholars' interviews and the documentation in Salton'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, Maestrejuan consulted J.D. Watson et al., *Molecular Biology of the Gene.* 4th ed. Menlo Park, CA: Benjamin/Cummings, 1987, and Bruce Alberts et al., *Molecular Biology of the Cell.* 3rd ed. New York: Garland, 1994.

The interview is organized chronologically, beginning with Salton's childhood in Australia and New Jersey and continuing through his professional training at New York University and the establishment of his own lab at the Mount Sinai School of Medicine of the City University of New York.

Major topics discussed include the medical school curriculum, science funding, the atmosphere of the contemporary research environment, and Salton's work on nerve-growth-factor-inducible large external glycoprotein.

ORIGINAL EDITING:

Gregory M.D. Beyrer, editorial assistant, 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.

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

Jane Collings, editor, prepared the table of contents and index. Jeffrey Chow, editorial assistant, assembled the biographical summary. Beyrer compiled the interview history.

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