

CHEMICAL HERITAGE FOUNDATION

PETER R. ARVAN

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Neil D. Hathaway

at

Beth Israel Hospital
Boston, Massachusetts

on

29 June and 2, 5, 6 July 1993

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



Peter R. Arvan

ACKNOWLEDGEMENT

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INTERVIEWEE

Peter Arvan
(Signature)

Peter R. Arvan
(Typed Name)

Beth Israel Hospital

Department of Medicine
Division of Endocrinology

330 Brookline Avenue
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Boston, MA 02115

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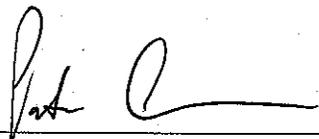
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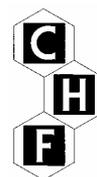
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PETER R. ARVAN

1956 Born in New York City, New York on 11 September

Education

1977 B.A., Biochemistry, Cornell University
1984 M.D., Yale University School of Medicine
1984 Ph.D., Cell Biology, Yale University School of Medicine

Professional Experience

1988-present Harvard Medical School
Assistant Professor, Cell and Developmental Biology Program

1988-present Beth Israel Hospital, Boston
Associate Physician, Division of Endocrinology

Honors

1977 Phi Beta Kappa
1978 Medical Scientist Training Program, Yale University School of Medicine
1985 Research Residency Program, Yale University School of Medicine
1988-1992 Pew Scholars Program in the Biomedical Sciences.

Selected Publications

Arvan, P. and J.D. Castle, 1982. Plasma membrane of the rat parotid gland: Preparation and partial characterization of a fraction containing the secretory surface. *Journal of Cell Biology*, 95:8-19.

Arvan, P. et al., 1983. Secretory membranes of the rat parotid gland: Preparation and comparative characterization. *Methods in Enzymology*, 98:75-87.

Arvan, P. et al., 1984. Osmotic properties and internal pH of isolated rat parotid secretory granules. *Journal of Biological Chemistry*, 259:13567-72.

Arvan, P. et al., 1985. Relative lack of ATP-driven H⁺ translocase activity in isolated parotid secretory granules. *Journal of Biological Chemistry*, 260:14945-52.

Arvan, P. and J.D. Castle, 1986. Isolated secretion granules from parotid glands of chronically-stimulated rats possess an alkaline internal pH and inward-directed H⁺ pump activity.

- Journal of Cell Biology, 103:1257-67.
- Arvan, P. and J.D. Castle, 1987. Phasic release of newly-synthesized secretory proteins in the unstimulated rat exocrine pancreas. *Journal of Cell Biology*, 104:243-52.
- Arvan, P. and A. Chang, 1987. Constitutive protein secretion from the exocrine pancreas of fetal rats. *Journal of Biological Chemistry*, 262:3886-90.
- Arvan, P. and J.L. Lee, 1991. Regulated and constitutive protein targeting can be distinguished by secretory polarity in thyroid epithelial cells. *Journal of Cell Biology*, 112:365-76.
- Kim, P.S. and P. Arvan, 1991. Folding and assembly of newly-synthesized thyroglobulin occurs in a pre-Golgi compartment. *Journal of Biological Chemistry*, 266:12412-18.
- Arvan, P. et al., 1991. Protein discharge from immature secretory granules displays both regulated and constitutive characteristics. *Journal of Biological Chemistry*, 266:14171-74.
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- Arvan, P. and J.D. Castle, 1992. Protein sorting and secretion granule formation in regulated secretory cells. *Trends in Cell Biology*, 2:327-31.
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ABSTRACT

Peter R. Arvan begins the interview discussing his childhood in Queens, New York. Arvan's family background played an important role in his development, including his mother's escape from Nazi Germany as a teenager. Although his parents were extremely interested in his education, there never existed any particular emphasis on science; his movement into a scientific career could have been altered had he found any inspiration or an inspirational figure in the humanities instead. Arvan's decision to pursue science developed from his involvement in the National Science Foundation Summer Program in Biochemistry before his senior year in high school. Arvan returned to this program as an advanced student the following summer and even as an instructor while he was an undergraduate; this program was extremely influential in his academic development. Arvan joined Efraim Racker's laboratory at Cornell University and then pursued his M.D./Ph.D. at Yale University working in the research laboratory of J. David Castle. After one year at the University of North Carolina for residency, Arvan returned to Yale under the Research Residency Program where he pursued research in Howard Rasmussen's laboratory. Throughout the interview Arvan discussed the difficulties of scientific funding, the fortuitous events which have shaped his scientific thinking, and the difficulties inherent in the M.D./Ph.D. program.

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: Arvan's office, Beth Israel Hospital, Boston.

Dates, length of sessions: June 29, 1993 (130 minutes); July 2, 1993 (85); July 5, 1993 (131); July 6, 1993 (152).

Total number of recorded hours: 8.25

Persons present during interview: Arvan 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 Arvan 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 Arvan'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 Arvan's family background and his childhood and early education in Queens, New York, and continuing through his undergraduate years at Cornell University, his pursuit of an M.D./Ph.D. and postdoc at Yale University, and the creation of his lab at Beth Israel Hospital in Boston. Major topics discussed include the National Science Foundation Summer Program in Biochemistry, the M.D./Ph.D. track, the field of cell biology, secretory pathways, and science funding.

ORIGINAL EDITING:

Vimala Jayanti, editor, 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.

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

Steven J. Novak, senior editor, prepared the table of contents and interview history. Jayanti compiled the biographical summary and index.

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