HISTORY OF THE INTERVIEW

C. Norman Winningstad, 1996

There was a genuine interest on part of the staff at the Historical Society to revive the Oral History Program that had been so successful during 1978. Barbara Doyle met Norm Winningstad at an Oregon Pilot's Association dinner on 2 February 1996. A brief discussion about the Historical Society, our interest in oral history interviews and a priority interest in obtaining information about the hi-tech industries led to an exchange of business cards and an agreement by Norm to be interviewed by B. Doyle. Norm was very receptive, tried to fax (on Sunday, 4 February) info about time and place for the meeting. Within a week, time and place for the interview were determined.

Instead of one session, there were five one-hour sessions spread over approximately eleven weeks, all held at the Winningstad's condo in the Sylvan area. Norm was sent (via fax) a list of topics prior to the sessions. He followed the list quite well, provided extremely good explanations of technical topics, showed himself to be a "tech-weenie" (his words) with a wide range of intellectual, business and scientific interests. Norm is very articulate, has good concentration skills and is able to return to his statement at precisely the point where he left off (there were only a few interruptions). The interview topics generally follow the actual sequence of events. The collapse of Floating Point Systems and Norm's minor business interests are the major digressions from a straight chronology.

He understands his position as both a minor venture capitalist and a community philanthropist - there is a need to put up some of his own money if he wants to draw other people into a project. His interests have varied from hi-tech to brand new products, to academic support, to major support of the arts. While not really a life interview, this series certainly goes beyond just Norm Winningstad's place in the development of the hi-tech industries of Washington County.

All duplication and indexing of the tapes was done by Barbara Doyle. Index was proof-read by Norm Winningstad.

Some specifics concerning Norm Winningstad interviews

Time period covered: overall; 1925 - 1996
hi-tech in Oregon; 1957-1996

Names mentioned:

A. Businesses/Schools

Control Data Corp.
Cray Computer
Dean Witter
Digital Equipment
Floating Point Systems
General Electric
Goldman Sachs
Hewlett-Packard
Hughes
Hydro Catalysis Power
Lattice Semiconductor
Lawrence Berkeley Labs
Mentor Graphics
Optical Data Inc.
OR Coast Aquarium
OR Episcopal School (OES)
OR Graduate Institute (OGI)
OR Museum Science/Industry
OR State Univ. (OSU)
Performing Arts Center (PAC)
Portland Art Museum
Portland State Univ. (PSU)
Seiko
Spectronics
Star Technologies
Tektronix
Thrustmaster
Tyres Heart Theatre
Univ. Cal.- Berkeley
Wildlife Safari
Zeeland

B. Last names

Anderson
Auel
Bouton
Carter
Castles
Culler
Fryer
Hatfield
Hoffman
Johnson
Lawrence
McCutcheon
Merlo
Mills
Moriyasu
O'Leary
Oliver
Pratt
Prince
Rahsneesh
Ropiquet
Salquist
Saud
Segrey
Smith
Tsui
Turner
Vollum
Wantland

ORAL HISTORY INTERVIEW INDEX - HI-TECH SERIES

INTERVIEWEE: C. Norman Winningstad DATE: 21 Feb 1996

TAPE # 1 SIDE A COUNTER AT 397 = 30 minutes

INTERVIEWER: Barbara Doyle PROCESSOR: Barbara Doyle

Counter	Subject discussed	Names
012	Childhood interest in science is somewhat genetic	
017	Maternal grandfather & SF Bay Bridge	
020	Paternal grandfather was surveyor in OR, WA & Mexico	
033	U of CAL-Berkeley, early admission, aiming toward Mechanical Eng degree, drafted at end of 2nd year	
040	Joined Navy's "Edy Program", received training in electronics, stationed at Treasure Island (SF bay), was an instructor	
063	Born 5 Nov 1925 in Berkeley, CA. Native Californians called "prune pickers"	
072	After WW II, returned to UC-Berkeley & majored in electrical engineering	
080	Graduated 1948 with concentration in vacuum tubes; this is same year Bell Labs introduced transistors	
084	First job was in TV, experimenting in UHF propagation	
094	In 1950 started working at Lawrence Berkeley Labs	
098	Self-taught about transistors; gave pro/con about transistors vs vacuum tubes	
120	Explained transmission of information via electricity	
140	"White Hats" at Lawrence Labs did peaceful research, "Black Hats" did weapons research, Norm wore a White Hat	
146	Building an atom smasher - a cyclotron	
147		Dr. Lawrence
152	Description of bevitron	
160	Norm's job was to build a device to detect how fast electrons were moving & then make them go faster - called a Master Oscillator	
166		Dr. Emlio Segrey
170	Dr. Segrey received Nobel prize for first identifying positron	
183	Norm to France to help French govt. make their own bevitron	
193	Family in Europe for 3 months in 1956, exposure to a different culture	
268	Back at Lawrence Labs & need to have more exact equipment & build a faster oscilloscope	
325	Wrote a paper for "Review of Scientific Instruments" in 1957-8 about need for fast oscilloscope	
342		Dick Robiquit
345	Robiquit, VP of Engineering at Tektronics, read article & invited Norm to give a talk at TEK	
354	Job offer from TEK follows	

Counter	Subject discussed	Names
360	Norm looking for a new job with more challenge & pay, contacts with Hughes & Hewlett-Packard	
392		Barney Oliver
	H-P could not match TEK money offer	

END OF TAPE 1, SIDE A

TAPE 1 SIDE B

002	Coming to Oregon & TEK at end 1958, also family reaction to Oregon	
030	First project was building a sampling oscilloscope	
046	R & D time was 9 months, flying to CA for conference about this project	
055	Short flying time sparked his interest in aviation, joined TEK Flying Club, based at Hillsboro Airport	
060	Norm at Sunset plant, Beaverton Campus was new	
074	Explanation of an oscilloscope and what it does	
080	It shows what electricity is doing, cites problems with existing oscilloscopes	
109	A very qualitative oscilloscope has excellent accuracy and is 'the eyes of an electrical engineer'	
140	Work at TEK involved developing a 'plug-in' unit	
144	Next job was to develop a 'full-bore' oscilloscope given one year to do this	
155		Sam McCutcheon
156	Building the first digital oscilloscope	
166	Three groups at TEK working on the CRT which is like a TV screen	
181	Norm put in charge of a new group called Display Device Development	
190	TEK's policy of almost never firing anyone with talent	
201	Description of storage capabilities of CRT	
223		Bob Anderson
224	Description of a CRT called a simplified bi-stable storage tube	
248	TEK's reducing staff by letting talented people go	
275	Use of bi-stable storage tube beyond that of a measuring oscilloscope; used in computer display with need for local memory to refresh screen	
322	Howard Vollum's management style	
350	Norm's idea for a computer terminal, product called "Information Display Device"	
366	First product here is really a facsimile device, 1962-3	
382	This product could not compete with an existing system that used electro-sensitive paper & moving pen	

END OF TAPE 1, SIDE B