

CHEMICAL HERITAGE FOUNDATION

**HERMAN FIALKOV**

Transcript of an Interview  
Conducted by

David C. Brock and Richard Ulrych

in

New York City, New York; Philadelphia, Pennsylvania;  
and Boca Raton, Florida

on

24 September and 23 November 2009 and 27 February and 28 June 2010

(With Subsequent Corrections and Additions)

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## HERMAN FIALKOV

1922 Born in Brooklyn, New York, on 23 March

### Education

1941-1942 Studies in Mechanical Engineering, City College of New York  
1943 Power Equipment Maintenance, Signal Corps, U.S. Army  
1943 Fundamentals of Radio, Pratt Institute, Signal Corps, U.S. Army  
1951 Bachelor of Administrative Engineering, New York University  
1952 Graduate studies in Mechanical Engineering, New York University

### Professional Experience

Emerson Radio Corporation  
1941-1942 Assistant Mechanical Engineer  
1946-1947 Mechanical Engineer

Signal Corps and Infantry, U.S. Army  
1942-1946 Service

Mutual Broadcasting System  
1947-1949 Engineering Department

Radio Receptor  
1949-1951 Mechanical Designer  
1951-1954 Chief Mechanical Designer

General Transistor Corporation  
1954-1960 Co-founder and President

General Instruments Corporation  
1960-1967 Group Vice President  
1967-1968 Senior Vice President of Development

Geiger & Fialkov Fund  
1968-1977 Partner

Aleph Null Fund  
1978-1987 Partner

1987-1997 Poly Ventures  
Partner

1997-2004 Newlight Associates  
Partner

### Honors

1945 Bronze Star and two Oak Leaf Clusters, U.S. Army  
1947 Conspicuous Service Cross, State of New York  
1968 Leadership Award, United Jewish Appeal  
1978 Israeli Leadership Award, State of Israel Bonds  
1980 Fellow, Polytechnic Institute of New York  
1987 Special Recognition Award, National Engineer Week  
1988 Builder of Technion, American Society for Technion  
1988 Long Island Distinguished Leadership Award  
1990 Tech Island Award, Long Island Forum for Technology  
1993 Presidential Medal, Polytechnic University  
1996 Distinguished Alumni Citation, Polytechnic University  
1999 Ernst & Young Entrepreneur of the Year Award for Lifetime  
Achievement as a supporter of entrepreneurship  
1999 Outstanding Mechanical Engineering Alumnus of the Century,  
Polytechnic University  
2000 Alex Grunwald Award for Enhancing Long Island's Technology, IEEE  
Long Island Section  
2001 Long Island Software Award

## ABSTRACT

**Herman Fialkov** was born in 1922 and grew up in Brooklyn, New York. His father had emigrated from Russia to be a watchmaker but had lost sight in one eye, so the family lived on welfare during the Great Depression. Herman's mother had emigrated from what is now Romania to Canada, eventually meeting and marrying Herman's father in New York City. Always "a smart kid" who wanted to build a bridge across the Atlantic Ocean, Herman attended City College of New York, studying engineering. He left college to take a job with Emerson Radio Corporation. In 1942 he enlisted in the United States Army Signal Corps, but he was unable to obtain officer training there, so he transferred to the Aviation Cadet Program. The Cadet Program suspended their officer training and assigned Herman to the infantry, just in time for the Battle of the Bulge. When he was discharged in 1946 he went back to Emerson as a mechanical designer and to night school at New York University, where he took a degree in administrative engineering, the "administrative" part laying the foundation for his entrepreneurship. While at Emerson he acquired the nickname "Hammering Herman" for his handy way with a hammer, and designed a television antenna for his first patent. From there he went to Radio Receptor Corporation. Seeing a market for transistors he founded General Transistor Corporation, whose first major customer was UNIVAC. In 1960 General Transistor Corporation merged with General Instrument Corporation and began making integrated circuits. Then Fialkov started a microelectronics division, which was eventually spun off into Microchip Technology, Inc. He next ventured into cable television, convincing General Instrument to purchase Jerrold Electronics. Jerrold, through several incarnations, has evolved into Comcast.

Fialkov invested in Arthur Rock's venture capital firm, Rock and Davis, and became intrigued by venture capital. He founded his own venture capital firm, Geiger and Fialkov, with Richard Geiger, and specialized in startup companies. He ended that firm and set up Aleph Null and PolyVentures. In the last fifty years his personal and venture capital investments have financed the startup or early development of many important companies, including Intel; Teledyne; Electroglas, Inc.; Standard Microsystems; General Signal; Globecom Systems; and several Israeli companies. He details the beginnings, the spin-offs, and the present statuses of these companies and the people involved. He recently retired from eight companies and three philanthropies, retaining only his position on the board of InEnTec. He is fascinated by InEnTec's attempts to develop a process that turns municipal waste into energy and hazardous waste into building material.

Technology and electronics fields developed extremely rapidly, and Fialkov took more classes to learn about licensing and patents. In the early days one obtained patents to exchange, later for revenue. Fialkov describes the cyclical nature of business and the general economy, saying that recessions come and go and that an investor must be patient. He explains that a successful venture capital firm can expect 30% failures, 30% average performers, 30% moneymakers, and 10% wild successes. He attributes his choice of venture capital area to his love of technology, a "vibrant, changing technological environment."

Fialkov talks throughout the interview about his method for choosing worthy companies; the importance of assessing the market and correctly evaluating the people involved; several people who inspired or impressed him; his grandsons' entry into venture capital, one with startups and the other with developed companies. He loved his work, saying he could have retired at forty but did not want to give up the "fun" he was having. Though he now lives in

Florida, he says he never changed his domicile for a job. He has been lucky, he claims, and he is glad to be able to continue to engage in several philanthropic endeavors. He loves his family and is proud that his grandsons have followed him into venture capital. His contributions have been honored many times. He never did build a physical bridge across the Atlantic Ocean, but he knows that he certainly built a bridge with his support of communications and technology.

## INTERVIEWERS

**David C. Brock** is a senior research fellow with the Center for Contemporary History and Policy at the Chemical Heritage Foundation. As a historian of science and technology, he specializes in the history of semiconductor science, technology, and industry; the history of instrumentation; and oral history. Brock has studied the philosophy, sociology, and history of science at Brown University, the University of Edinburgh, and Princeton University.

In the policy arena Brock recently published *Patterning the World: The Rise of Chemically Amplified Photoresists*, a white-paper case study for the Center's Studies in Materials Innovation. With Hyungsub Choi he is preparing an analysis of semiconductor technology roadmapping, having presented preliminary results at the 2009 meeting of the Industry Studies Association.

**Richard Ulrych** is the director of institutional grants and strategic projects at the Chemical Heritage Foundation.

## TABLE OF CONTENTS

Early Years	1
<p>Born and grew up in Brooklyn, New York. Father out of work; family on welfare. Great Depression. Parents' background. Wanted to build bridge across Atlantic Ocean. Enrolled in engineering program at City College of New York. Left college to take job at Emerson Radio corporation. Enlisted in United States Army Signal Corps. Aviation Cadet Program. Infantry. Battle of the Bulge. Picture taken on Siegfried Line; now in history books. Back to Emerson after the war. Night school at New York University; degree in administrative engineering. Nicknamed "Hammering Herman." First patent, for television antenna. New job at Radio Receptor Company.</p>	
General Transistor Corporation Years	8
<p>Founded General Transistor to make germanium alloy transistors. Business slow at first until UNIVAC built File-Computer System. PNP transistors. Took over NPN business from Raytheon. Control Data Corporation and switching transistors. Going public. Merger with General Instrument Corporation. Making silicon transistors. First American electronics manufacturing plant in Taiwan. Fialkov starts microelectronics division after merger; eventually division spun off into Microchip Technology. General Instrument eventually sold to Motorola.</p>	
Beginning Acquisitions	19
<p>Sees the future in cable television. Helped General Instrument buy Jerrold Electronics. Founded Standard Microsystems Corporation. With Richard Geiger set up venture capital firm, Geiger and Fialkov. First investment with Intel. Invested in startups: Teledyne, Inc.; Microsemi; AMI. Ended firm after eight years. Founded Aleph Null. Set up PolyVentures, stayed on its board for twenty years.</p>	
Recapitulates Previous Discussion	39
<p>Emerson to Teletone to Radio Receptor. General Transistor. Transistors at first mostly for hearing aids and then computers. Unreliability and high cost of early transistors. Licensing and patenting. Making crystals. People along the way. Transistor market broadened to semiconductors and computers. Sees that microelectronics the coming thing. Standard Microsystems. Memory and modems. Tough times in 1970's. Making communications chips ancillary to microprocessors. Local networking.</p>	
Reflections on Career and Colleagues	89
<p>From germanium transistors to silicon integrated circuits to MOS circuits. Liked being part of "vibrant, changing technological environment." Retirement at forty certainly possible but unattractive; loved his work and still misses it. People who</p>	



impressed or inspired him. Companies he invested in or started or developed or all three. Other officers of companies and fellow investors. What has happened to all his companies and their people. Visit to Israel; possible relationship to Chaim Weizmann. Changes in venture capital workings. Entry of Israeli companies into technology.

Bridging the Atlantic Ocean	122
InEnTec and InEnTec Chemical. Making energy and building material from waste. Grandsons and their businesses. Importance of ability to judge people when investing in startups. Discusses more companies. Globecomm Systems—Fialkov’s bridge—still going strong.	
Index	169

## INDEX

### 2

21<sup>st</sup> Century Electronics, 134

### A

Adler, Richard, 159, 166  
Agora Industries, 131, 132, 134  
Air Corps, 2  
Albuquerque, New Mexico, 36  
Aleph Null Corporation, 26, 110, 143, 155  
Amelco, 102  
American Machine & Foundry Company, 7, 38, 39  
American Management Association, 66  
American Microsystems, Inc., 25, 59, 60, 73, 92, 96, 98, 100, 109, 141  
American Stock Exchange, 7, 38, 40, 49, 146  
AMI. *See* American Microsystems, Inc.  
AMS-TEX Enterprises, 164  
Applied Materials, 93, 160  
Applied Photonics, 160, 161  
Arista Society, 1  
Arizona, 14, 155  
Army General Classification Test, 2  
Arnson, Ludwig, 6, 7, 34, 35  
Arrow Electronics, 131  
Atlantic Ocean, 2, 77, 78, 157  
Attleboro, Massachusetts, 144  
Austria-Hungary, 1, 87  
Automated Reasoning (Pty) Ltd., 160  
Aviation Cadet Program, 2

### B

Bacher (mother's family name), 87  
Barricini Foods, 151  
*Barron's*, 17, 55  
Barton's Candy Corporation, 152  
Battle of the Bulge, 3  
Bell & Howell, 158

Bell Laboratories, 23, 34, 35, 36, 41, 42, 113, 114  
Bellerose, New York, 6  
Benrus Corporation, 143  
Benrus Watch Company, Inc., 91  
Berlin, Isaiah, 85, 86  
Bigelow, 47  
Blies River, 3  
Bobb, Howard S., 26  
Boston Consulting Group, 16  
Boston, Massachusetts, 119, 157, 160  
Boynton Beach, Florida, 87  
Boysel, Lee, 141  
Brauner, 40  
Bretton Woods, 68  
Brill, Robert M., 73, 115, 166, 167  
Bronx, New York, 4  
Bronze Star, 3  
Brooklyn Polytechnic, 26, 111  
Brooklyn, New York, 1, 2, 6, 11, 12, 112, 114  
Brozinsky, Morton, 43, 70, 72  
Bucks County Cable, 120  
Bucks County, Pennsylvania, 15  
Buffett, Warren E., 82  
Bukovina, 87  
Bulova Watch Company, 38, 39  
Bulova, Arty, 40

### C

cable television, 14, 120, 121  
calculator, 70, 100  
California, 22, 36, 51, 52, 55, 57, 64, 69, 82, 88, 90, 91, 105, 106, 109, 118, 137, 138, 142  
Camden, New Jersey, 37  
Cameron Instruments, Inc., 53  
Camp Crowder, Missouri, 2  
Canada, 1, 87  
Carmen Sapphire Corporation, 109, 136  
Carpathian Mountains, 1, 87  
Carter, President James E., 143

CCNY. *See* City College of New York  
 Chemical Heritage Foundation, 4, 82  
 Chicago, Illinois, 82  
 City College of New York, 2, 4, 12, 86  
 Codi Corporation, 144  
 Cohen, Bernard, 9, 38, 42, 46  
 Cohn, Hugo, 6, 7, 34, 35  
 Columbia University, 113  
 Comcast, 120  
 Commodore International, 69  
 Computer Associates, Inc., 29  
 Computer Instruments Corporation, 146  
 computers, 9, 40, 46, 48, 51, 53, 60, 139, 140  
 Connecticut, 144  
 Conshohocken, Pennsylvania, 119  
 Control Data Corporation, 9, 10, 40, 47, 121, 122  
 Control Transaction Corporation, 155  
 Cook, E. Gary, 122, 125  
 COPLAMOS. *See* metal oxide semiconductor  
 Cordon Precision Optical, 159  
 Coyle, Alfred "Bud", 10  
 Cramer Electronics, 131  
 Cray, Seymour R., 39, 40, 42, 47  
 Crohn's and Colitis Foundation of America, 32  
 Crohn's Disease, 163  
 crystal, 7, 36, 37, 43, 51, 137  
   quartz, 7, 36, 138  
 CVS Electronics, 35, 41  
 Czar's Army, 85, 87

## D

Danvers, Massachusetts, 21  
 Davis and Rock, 23, 49, 58, 88, 89, 90, 91, 95, 102, 103  
 Dayan, Moshe, 117  
 DeWitt, David J., 41  
 Digital Equipment Corporation, 75  
 Dinkin, Larry, 122  
 diodes, 8, 11, 15, 35, 42, 44, 52, 112, 144  
   germanium alloy, 7, 8, 10, 13, 35, 37, 42, 56, 77

  mesa, 52  
   silicon, 9, 13, 15, 44  
 DNA, 85, 86  
 Dorne & Margolin, 142  
 Dorne, Arthur, 142  
 Dow Corning, 124  
 DRAM. *See* dynamic random access memory  
   1103, 71  
 DSP Communications, 111, 114, 160  
 DSP Group, 93, 111, 114, 115, 118, 160  
 DSP Resources, 93  
 Dubin, 135, 136  
 Dynalec Systems, 138  
 dynamic random access memory, 71, 72, 99  
 dynister, 52

## E

E.I. DuPont de Nemours and Co., 125  
 East Coast, 118, 143  
 Eastern District High School, 1  
 eBay, 28, 158  
 Edison Venture Fund, 28  
 Eitel-McCullough, 52  
 Electroglas, 106, 107  
 Electronic Wholesalers, 131, 132, 134  
 Electronics Industry Association, 55  
 Elizabeth, New Jersey, 12  
 Emerson Radio Corporation, 4, 5, 11, 12, 34  
 Empire State Building, 46  
 EMS Development Corporation, 156  
 engineering, 2, 4, 6, 37, 41, 42, 47, 113, 116  
   Alpha Pi Mu, 4, 6  
   Tau Beta Pi, 4, 6  
 Engineering Research Associates, 121  
 Entertainment Systems Incorporated, 146  
 epitaxy, 65, 67  
 erector set, 2, 157  
 Europe, 50, 87, 112

## F

Fairchild Semiconductor, 18, 24, 40, 53, 57, 60, 63, 89, 92, 112, 140  
 FamilyKeys, 163  
 Federal Telegraph, 36

Federation of Architects, Engineers,  
Chemists, and Technicians, 11  
Fialkov, Azriel Weizmann, 85  
Fialkov, Max (brother), 46  
First Round Capital, 28, 79, 80, 158  
Fishel, Jerry, 20  
Florida, 146  
Ford Motor Company, 40, 121  
Four Phase Systems, 63, 140  
French Canadians, 19  
Frohman, Dov, 118  
Fujitsu, Ltd., 73

## G

Geiger & Fialkov, 15, 23, 27, 62, 82, 89, 90,  
91, 95, 96, 102, 103, 104, 105, 106, 107,  
108, 109, 110, 130, 131, 132, 133, 134,  
136, 139, 141, 148  
Geiger, Richard L., 23, 92  
General Ceramics, 152  
General Electric, 53  
General Instrument Corporation, 10, 11, 13,  
14, 15, 16, 18, 19, 20, 21, 22, 23, 38, 39,  
40, 42, 46, 49, 50, 51, 52, 55, 56, 58, 62,  
63, 64, 74, 75, 83, 91, 104, 117, 120, 130,  
135, 155, 159, 166  
General Motors, 65  
General Signal, 109  
General Transistor Corporation, 7, 11, 13,  
14, 19, 21, 24, 37, 38, 40, 43, 44, 45, 46,  
47, 50, 51, 52, 53, 56, 58, 88, 89, 91, 96,  
100, 121, 122, 149  
General Transistor Distribution  
Corporation, 50  
General Transistor International  
Corporation, 50  
George Washington University, 83, 84  
GeoTel Communications, 153  
germanium, 43, 51  
Germany, 4  
Gladwyne, Pennsylvania, 29, 158  
Glen Rock, New Jersey, 138  
Globecom Communications, 77  
Globecom Systems, 145, 162  
Goldwater, Senator Barry M., 54

Granger Associates, 142  
Granger, John V., 142  
Great Depression, 1, 78, 81  
Greenvale, New York, 134

## H

Hain Food Group, Inc., 151  
Half.com, 28, 158  
Hanford Site, 127  
Harding, William, 41  
Harrison, Sheldon, 111, 113, 160, 166  
Harrison, Suzanne, 113  
Harvard University, 95, 143  
Hatch-Waxman Act, 133  
Hayden Stone and Company, 10, 48  
hearing aid, 35, 37, 39, 46, 47, 48, 122  
Hebrew, 110, 168  
Heinisch Foundation, 32  
Heller, Stanley, 40  
Hempstead, New York, 146  
Herzl, Theodor, 117  
Hewlett-Packard, 52  
Hicksville, Long Island, New York, 19  
Hierarchy of Needs, 79  
Hitachi, Ltd., 73  
Hittinger, William C., 22  
Hoerni, Jean, 24, 89, 101, 102  
Holocaust, 87  
Homework Helper, 157  
Hungary/Hungarian, 3  
hybrid microcircuits, 9, 20, 39

## I

IBM, 18, 41, 65, 99  
IEEE. *See* Institute of Electrical and  
Electronics Engineers  
Imelco, 25  
India, 137  
indium, 9  
Industro Transistor Corp., 14  
InEnTec, 31, 122, 123, 125, 128, 164, 165  
InEnTec Chemical, 122, 123, 125, 165  
Infodex Systems, 160  
Infonautics, 157, 158  
InfoTech, 161

Institute of Electrical and Electronics Engineers, 142  
integrated circuits, 20, 55, 56, 57, 58, 60, 64, 72, 74, 77, 96, 99, 138  
    bipolar, 99  
Integrated Environmental Technologies. *See* InEnTec  
Intel Corporation, 15, 17, 18, 25, 57, 59, 64, 67, 71, 72, 83, 88, 89, 91, 93, 99, 103, 109, 114, 115, 118, 141, 143, 148, 160, 168  
Intersil, 102  
ion implantation, 65, 67  
Israel, 32, 85, 86, 87, 114, 115, 117, 118, 135  
Israeli, 160  
Israeli Chemical Company, 116  
Israeli Pharmaceuticals, 135, 163  
Ivanhoe Electronics, 45

## J

Jacobs, Bernard, 9, 42, 52  
Jamaica, Queens, New York, 11, 19, 36  
Japan, 4, 82, 124  
Japanese, 69, 73, 99, 100, 139, 152  
Jerrold Electronics Corporation, 14, 15, 56, 119, 120  
Jerry O'Mahony, Inc., 7, 37, 38, 45  
JP Morgan, 49

## K

Kaplan, Sanford, 91, 143  
Kiam, Victor, 143  
Kidder Peabody & Company, 49  
Kleiner, Eugene, 28  
Korean War, 36  
Kozmetsky, George, 101  
Kral, Eugene, 7, 36, 38, 45  
Krieger, Wunderlich, Fialkov, Scheinman Company, 161  
Kyocera, 137, 153

## L

Lakeside Ventures, 31

Lansdale, Pennsylvania, 121  
Lansky, Meyer, 5  
laser, 109, 113, 138, 161  
Last, Jay T., 24, 89, 90, 92, 101, 102, 105  
Lazrus, Benjamin, 144  
Lazrus, Oscar, 144  
Lazrus, Ralph, 144  
Lehman Brothers, 48  
licensing, 5, 66, 73, 77, 99, 151  
Lisa Monet Incorporated, 134  
Loeb, Carl M., 23, 24, 104  
Loeb, Rhoades & Co., 23  
London, England, 86  
Long Island Railroad Station, 11  
Long Island University, 153  
Long Island Venture Capital, 83, 151  
Long Island, New York, 6, 11, 18, 19, 20, 27, 28, 29, 59, 68, 72, 88, 92, 110, 111, 112, 117, 118, 132, 134, 142, 146, 153, 155, 156  
Los Angeles, California, 106  
*Lux et Veritas*, 168

## M

MADT. *See* Micro Alloy Diffuse Transistor  
magnetics, 22  
Malkin, Arnold, 38, 45, 54  
Manhattan, New York City, New York, 1, 12, 28, 46  
Marseilles, France, 3  
Maryland, 141  
Maslow, Abraham, 79  
Massachusetts, 138  
Massachusetts Institute of Technology, 27, 126  
memories, 22, 67, 69  
metal oxide semiconductor, 20, 21, 25, 26, 57, 58, 59, 60, 61, 62, 63, 64, 65, 67, 74, 77, 96, 98, 99  
    COPLAMOS, 17, 18, 21, 55, 65, 66, 67, 71, 73, 99  
    N-channel, 64, 65, 99  
Miami, Florida, 131, 134  
Micro Alloy Diffuse Transistor, 13  
Micro Design, 61, 141

microchip, 57, 74, 77  
Microchip Technologies Inc., 14, 18, 51, 76  
microcircuitry, 15, 16, 18, 55, 58  
microelectronics, 14, 17, 18, 20, 51, 55  
microprocessor, 67, 74  
Microsemi (Micro Semiconductor Corporation), 18, 25, 26, 60, 63, 76, 92, 105  
Microwave Communications, Inc., 157  
Minneapolis, Minnesota, 37, 39, 47, 121, 122  
Mississippi, 3  
MIT. *See* Massachusetts Institute of Technology  
modem, 67, 69, 74, 138  
Moore, Gordon E., 82  
Mormons, 18  
MOS. *See* metal oxide semiconductor  
MOS Technology, Inc., 65, 71, 73  
Motorola, Inc., 14, 15, 120, 140, 141  
Mountain View, California, 68  
Murphy, 161, 166  
Mutual Broadcasting System, 12

## N

Nano Systems, 64  
nanocircuits, 56, 57  
Nanocircuits [Company], 56  
Nanosystems, Inc., 63  
Narberth, Pennsylvania, 157  
Narblack, Carl, 48, 49  
NASDAQ, 18, 50, 60, 147, 148  
National Petroleum Corporation, 140  
National Security Agency, 60, 61, 96, 99, 141  
National Semiconductor, 75, 115  
National Union Radio Corporation, 35, 41  
NetSat Express, 162  
New Hampshire, 164  
New Jersey, 14, 28, 120, 130, 153, 155  
New York City, New York, 108, 114, 118  
New York Stock Exchange, 146  
New York University, 4, 5, 6, 23, 34, 86, 111, 112  
Newark, New Jersey, 11, 20

Newlight Associates, 30, 31, 139, 144, 166  
Newpoint Technologies, 164  
NMOS. *See* metal oxide semiconductor  
North Adams, Massachusetts, 19  
North Shore University Hospital, 32, 135  
North Shore University Hospital Research Operation, 32  
Northrop Grumman Corporation, 112  
Noyce, Robert H., 13, 40, 55, 82, 89, 121  
NYU. *See* New York University

## O

OPAL, 93, 111, 115, 119, 160  
ORT, 32  
Othmer, Donald F., 82  
Overseas Telecommunications, Inc. (OTI), 156

## P

Palo Alto, California, 36, 142  
Panucci, Frank, 45, 46  
Patch, General Alexander McCarrell, 3  
patent, 5, 17, 58, 66, 67, 73, 124  
Patriots (New England Patriots), 143  
Patton, General George S., 3  
Pennsylvania, 28, 120  
Perlucid, 164  
Petran, Paul, 41  
Pharmaceutical Wholesalers, 132  
Philadelphia, Pennsylvania, 15, 35, 119, 157  
Philco Corporation, 13, 40, 44, 48, 121  
Pink Sheets, 147, 148  
Pinsk, Belarus, 1, 85  
Plainview, New York, 134  
plasma, 31  
Polefsky, Max, 83, 104  
PolyVentures, 26, 28, 30, 110, 111, 113, 141, 156, 159, 160, 162  
Pratt Institute, 2  
Primus Telecommunications, 77, 145, 156, 157, 162, 163  
Princeton Sensors, 149  
Pye Radio Works, Ltd., 37

## Q

Queens, New York, 6, 21, 36  
Quinn, Tom, 3

## R

Radio Receptor Company, Inc., 6, 10, 12,  
34, 37, 38, 39, 41, 42, 45, 46, 52, 53  
Radyne Corporation, 110, 155  
Raytheon Company, 9, 13, 39, 42, 53  
RCA, 35, 37, 41, 42, 53, 57  
Reagan, President Ronald W., 136  
rectifiers, 34, 35  
    selenium, 35, 41  
    silicon, 35, 56  
Remington Rand, 9, 39, 47, 121  
Rhode Island, 11, 19, 89, 144  
Rice University, 24, 105  
Richman, Paul, 17, 18, 21, 58, 62, 63, 64,  
65, 66, 69, 70, 73, 75, 82, 96  
Richmond Hill, New York, 11  
Rock, Arthur, 10, 23, 24, 48, 49, 82, 83, 88,  
89, 90, 91, 92, 95, 100, 102, 103, 104,  
105, 106, 141, 143, 148, 167  
Romania, 1, 87  
Russia, 1, 87  
Rye, New York, 131

## S

Sachs, Rudy, 34  
Saraphem, Phays, 105  
Schreve, Wickliffe, 48  
Schwartz, Jerome, 111  
Scientific Data Systems, 83, 103  
Sears, Roebuck, and Company, 5  
Seeger, Pete, 127  
Seidler, Isidor "Buck", 34, 37  
selenium, 34, 52  
semiconductor, 11, 12, 13, 14, 16, 19, 20,  
22, 24, 25, 28, 29, 31, 34, 35, 36, 37, 39,  
41, 42, 51, 52, 54, 55, 56, 59, 60, 66, 67,  
70, 73, 76, 77, 86, 87, 88, 92, 95, 96, 101,  
105, 106, 107, 108, 109, 110, 111, 112,  
114, 115, 118, 130, 132, 136, 137, 138,  
140, 144, 148, 153, 155, 160

Semi-Metals, Ltd., 21, 43, 51, 70  
Shapiro, Moses "Monty", 11, 14, 15, 19, 20,  
62, 131  
Shapp, Governor Milton Jerrold, 120  
Shockley Semiconductor, 40  
Siegfried Line, 3  
SignalLight, 130  
silicon, 43, 51, 52, 56, 65, 77  
Silicon Valley, California, 28, 29, 36, 50, 69  
Singleton, Henry, 101  
Skidmore College, 83  
Slant/Fin Corporation, 134  
*Smith's College Chemistry*, 41, 42, 86  
Snickelways Interactive, 162  
Society of Security Analysts, 10  
Solid State Data Sciences, 18, 62  
spike suit, 8  
Sprague Electric, 19  
St. Louis, Missouri, 2  
St. Paul, Minnesota, 37, 39, 47, 121, 122  
Standard Marketing Systems, 64  
Standard Microsystems Corporation, 5, 15,  
17, 18, 29, 30, 60, 61, 62, 64, 65, 67, 69,  
70, 71, 72, 73, 74, 75, 76, 82, 91, 92, 96,  
99, 109, 141, 148, 166  
Standard Resources, 59, 60, 61, 63, 76, 92,  
141  
Stanford University, 142  
State University of New York, Stony Brook,  
27  
Staten Island Ferry, 12  
Strategic Defense Initiative, 109, 136, 137  
Suburban Cable, 120  
Suczawa (Suceava), Romania, 1  
Sudarsky, Jerry M., 116  
Sunnyvale, California, 68, 72  
Sutcliffe, Charles, 63, 64, 68, 70, 72, 73  
Switzerland, 144  
Sylvania Electric Products, Inc., 21  
Symbol Technology, 111, 113  
Sysinsky, 154  
Systematics, 22

## T

Taiwan, 15, 20, 124, 159

Taylor, Lloyd, 68, 69, 73  
*Technikum*, 117  
Technion-Israel Institute of Technology, 32,  
115, 116, 117, 118  
TeleBase Systems, 157, 158  
Teledyne, Inc., 24, 88, 89, 92, 100, 101,  
102, 148  
Teletone Radio Corp., 12, 34  
tennis, 32, 78, 79, 135, 144  
Terman, Frederick E., 142  
Teva Pharmaceuticals Industries, Ltd., 133  
Texas, 24, 54, 63, 64, 105, 124  
Texas Instruments, 51, 53, 56, 71, 73, 99,  
114  
Three Dimensional Circuits, 149  
Tofutti, 151  
transistors, 7, 8, 9, 10, 11, 13, 15, 35, 36,  
37, 38, 39, 40, 41, 42, 43, 44, 46, 48, 51,  
55, 56, 121, 122  
drift transistors, 40, 42  
mesa transistors, 52  
NPN, 9, 39, 42  
PNP, 9, 35, 39, 42  
switching transistors, 9, 13, 40

## U

U.S. Army, 2  
100th Division, 3  
63rd Division, 3  
U.S. Army Signal Corps, 3  
U.S. Army Signal Corps Reserves, 2  
U.S. Securities and Exchange Commission,  
146  
Ultra, 156  
Ultratech, 106, 107  
Union Carbide Corporation, 102, 109, 137  
United States of America, 6, 114, 118, 160  
United Technologies, 106  
UNIVAC, 8, 9, 10, 39, 40, 42, 47, 121  
UNIVAC File-Computer System, 9, 39, 42  
University of Texas, 101  
Utah, 18

## V

vacuum tubes, 9, 39, 48, 53

Valdivia, Serafin, 24  
Valentine, Donald T., 28  
Valtec Corporation, 138  
Varian, 92  
venture capital, 15, 18, 23, 26, 27, 28, 29,  
30, 49, 58, 59, 70, 73, 77, 78, 79, 80, 81,  
82, 83, 87, 88, 89, 90, 92, 93, 97, 98, 103,  
109, 110, 111, 112, 113, 118, 119, 127,  
130, 132, 135, 137, 139, 140, 143, 150,  
153, 157, 158, 166  
Vietnam, 68  
Villanova, Pennsylvania, 29

## W

Wall Street, 49, 53, 82, 91, 98, 152  
Wanlass, Frank, 18, 20, 74  
Washington, 127  
Washington University in St. Louis, 2  
Washington, D.C., 126  
Waste Management, 31, 124, 127, 165  
Weinberger, Marvin I., 157  
Weizmann Institute, 85, 87  
Weizmann, Chaim, 85, 86, 116  
Wells Benrus Corporation, 95, 143  
West Coast, 40, 60, 109, 111, 118, 136, 141,  
160  
Westbury, New York, 161  
Western Electric Company, 42  
Wharton School of the University of  
Pennsylvania, 97  
Williamsburg, Brooklyn, New York, 1  
Wisconsin, 47  
Wittenberg, Roland, 41  
Woonsocket, Rhode Island, 11, 15, 19, 89  
World Trade Center, 162  
World War I, 87

## X

Xerox, 82, 83, 103  
Xynetics, Inc., 60, 105, 106, 107, 108, 109

## 8

80, 26