



Smithsonian

National Museum of American History Kenneth E. Behring Center

Robert G. Chamberlain Numerical
Control Collection, 1954-1984

NMAH.AC.0527

Don Darroch

April 13, 1995

Archives Center, National Museum of American History

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Collection Overview

Repository:	Archives Center, National Museum of American History
Title:	Robert G. Chamberlain Numerical Control Collection
Date:	1954-1984
Identifier:	NMAH.AC.0527
Creator:	Chamberlain, Robert G.
Extent:	3.5 Cubic feet (8 boxes) 2 Motion picture films
Language:	English .

Administrative Information

Acquisition Information

This collection was donated to the Archives Center of the National Museum of American History by Mr. Chamberlain in February 1995. The three reports in series seven were donated by Mr. Chamberlain in March 1997.

Processing Information

Collection processed by Don Darroch, April 13, 1995.

Preferred Citation

Robert G. Chamberlain Numerical Control Collection, 1954-1984, Archives Center, National Museum of American History.

Restrictions

Collection is open for research.

Conditions Governing Use

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Biographical / Historical

Robert G. Chamberlain graduated in 1949 from Iowa State University with a degree in mechanical engineering; he later did graduate work towards an MBA in finance at the University of Wisconsin, Milwaukee. In 1954 he went to work for Giddings & Lewis, Inc., a Wisconsin machine-tool builder. Chamberlain became involved in the early development of technology and processes for the computer-programmed control of heavy machinery, known in the industry as numerical control (NC). In fact, he was one of the first numerical control programmers in the United States. Chamberlain rose through the ranks to management level at Giddings & Lewis, holding successive positions as Vice President of Information Systems, Vice President and General Manager of the Giddings & Lewis Electronics Company, Group Vice President--Industrial Products, and Executive Vice President--Industrial Products. Before his retirement in 1983, he also served on

the firm's Board of Directors. Chamberlain was also a very active member and officer of several professional societies in the NC field, including the national Machine Tool Builders Association and the American Society of Mechanical Engineers. In addition, Chamberlain is the author of several articles on numerical control of machine tools, computer-assisted manufacturing, information systems, and quality assurance.

Scope and Contents

Chamberlain's review of his work in the field of numerical control is detailed in his personal "Recollections of a Pioneer Numerical Control Programmer," which comprises Series 1. This is a roughly chronological summary of his career, presenting his major work experiences and accomplishments at Gidding & Lewis from his initial employment there in 1954 through his retirement in 1983, along with some post-retirement free-lance work. Major technological problems and challenges that Chamberlain encountered are described, together with the changing roles he played at Giddings & Lewis as he was promoted or shifted from position to position. Several important foreign trade missions in which Chamberlain participated, including a 1979 trip to China, are also described. Series 2 of the collection includes numerous speeches and articles that Chamberlain gave or wrote over a period of more than 20 years on the subject of numerical control of manufacturing operations. They relate to the use of computers in controlling machine tools and to problems of ensuring accuracy in metal cutting and forming operations under computer controls. These are arranged in chronological order. From 1963 to 1973, Chamberlain was intimately involved in the work of the Numerical Controls Committee of the National Machine Tool Builders Association (NMTBA). Records of this group found in Series 3 of the collection document the expanding use of numerical control technology. They include projects to increase the accuracy of numerically-controlled machining operations and to standardize the computer language used in such operations. Series 4 of the collection documents an official trade mission to China in which Chamberlain participated (1979), as well as his meetings with French numerical control industry colleagues in the U.S. (1971) and in France (1980). Series 5 of the collection consists of slides used to illustrate some of Chamberlain's lectures. Series 6 contains 2 reels of film about Giddings & Lewis' development of numerical control technology. Series 7 consists of two Giddings and Lewis reports on programming the Numericord system and one proposal to the Atomic Energy Commission entitled "Project Prometheus," ca. 1968.

Arrangement

Collection arranged into 6 series. Chronologically arranged.

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

Machine tools -- Numerical control -- Programming

Types of Materials:

Lectures -- 1950-2000
Photographs -- 1950-2000
Photographs -- Phototransparencies -- 1950-2000
Slides (photographs) -- 1950-2000

Names:

National Machine Tool Builders Association. Numerical Controls Committee.

Container Listing

Series 1: "Recollections of a Pioneer NC Programmer, 1954-1984", 1994

Box 1, Folder 1 Recollections, 1994

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Series 2: Speeches and Articles by R.G. Chamberlain, 1960-1982

Box 1, Folder 2	American Society of Mechanical Engineers (ASME), April 18, 1960
Box 1, Folder 3	University of Washington, May 5-6, 1960
Box 1, Folder 4	ASME, May 18, 1960
Box 1, Folder 5	Association for Computing Machinery, September 5, 1961
Box 1, Folder 6	American Society for Eng Ed., January 18, 1962
Box 1, Folder 7	Computer Seminar, Marquette University, March 29, 1962
Box 1, Folder 8	Products and Mensuration -- Fieldmen, February 13, 1963
Box 1, Folder 9	American Machinist, December 2, 1963
Box 1, Folder 10	American Management Association (AMA), Dallas, February 10, 1964
Box 1, Folder 11	Defense Industrial Plant Equipment Center, May 12, 1964
Box 1, Folder 12	American Society of Tool & Manufacturing Engineers, April 9, 1965
Box 1, Folder 13	Apprentices, April 16, 1965
Box 1, Folder 14	Foremen's Club, April 25, 1965
Box 1, Folder 15	AMA Quality Costs, May 19, 1965
Box 2, Folder 1	ASTME, November 12, 1968
Box 2, Folder 2	SME, June 3, 1970
Box 2, Folder 3	Gisholt Management Club, November 11, 1970
Box 2, Folder 4	NYC Security Analysts, November 17, 1970
Box 2, Folder 5	Cleveland Security Analysts, November 18, 1970
Box 2, Folder 6	Staff Club, December 5, 1970
Box 2, Folder 7	Speeches -- Basic Computer, 1970-1972
Box 2, Folder 8	Speeches -- Bickford, January 5, 1971
Box 2, Folder 9	Verson Representatives, January 15, 1971

Box 2, Folder 10	Financial Training, February 5, 1971
Box 2, Folder 11	G & L Machine Tool Training, 1971-1972
Box 2, Folder 12	Speeches -- Purchasing -- Financial Training, July 11, 1972
Box 2, Folder 13	Speeches -- Foremen, November 7, 1972
Box 2, Folder 14	Speeches -- Foundry, December 16, 1972
Box 2, Folder 15	Speech -- Manufacturing Training, December 27, 1972
Box 2, Folder 16	IBM Seminar, April 8, 1973
Box 2, Folder 17	Fond du Lac Training, June 6, 1973
Box 2, Folder 18	Systems & Procedures Society, November 26, 1973
Box 2, Folder 19	NC -- Pioneer's Potpourri, January 29, 1974
Box 2, Folder 20	University of Wisconsin Speech, October 30, 1974
Box 2, Folder 21	Westinghouse Forum, June 3, 1975
Box 2, Folder 22	Society of Manufacturing Engineers, November 18, 1976
Box 2, Folder 23	SME, Detroit, May 10, 1977
Box 2, Folder 24	SME, November 31, 1978
Box 2, Folder 25	Speech, October 17, 1978
Box 2, Folder 26	Speech -- Metrology, November 7, 1978
Box 3, Folder 1	CASA/Society of Manufacturing Engineers, Chicago, March 1, 1979
Box 3, Folder 2	CASA/SME, Milwaukee, March 15, 1979
Box 3, Folder 3	Caterpillar Seminar, East Peoria, June 15-16, 1979
Box 3, Folder 4	SME, Baltimore, September 5, 1979
Box 3, Folder 5	SME, Phoenix, November 12, 1979
Box 3, Folder 6	Speeches -- Manufacturing Systems & Productivity Disgnostics, 1979
Box 3, Folder 7	SME, LaCrosse, February 25, 1980

Box 3, Folder 8	Speech -- MARGO "First Nighter", March 10, 1980
Box 3, Folder 9	Production Engineering Article, March 18, 1980
Box 3, Folder 10	SME, Kansas City, April 1, 1980
Box 3, Folder 11	CADCAM & Electronics, St. Paul, May 13, 1980
Box 3, Folder 12	Society for Advancement of Management, September 11, 1980
Box 3, Folder 13	Machine Tool Task Force Conference, October 16-17, 1980
Box 3, Folder 14	Press Conference, June 3, 1981
Box 3, Folder 15	Interview -- Manufacturing Engineering, June 4, 1981
Box 3, Folder 16	Speech -- Kiwanis, Fond du Lac, August 18, 1981
Box 3, Folder 17	Baird Machinery Seminar, September 11, 1981
Box 3, Folder 18	Diebold Group, September 19, 1981
Box 3, Folder 19	Westinghouse Conference, Pittsburgh, April 6-7, 1982
Box 3, Folder 20	Interview -- Manufacturing Engineering, May 1982
Box 3, Folder 21	Distribution Seminar, June 6 & 21, 1982

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Series 3: National Machine Tool Builders Association

Box 3	Numerical Controls Committee, 1963-1979
Box 4, Folder 1	Committee Meetings, Minutes and Correspondence, 1963-1966
Box 4, Folder 2	Committee Meetings, Minutes and Correspondence, 1967-1968
Box 4, Folder 3	Committee Meetings, Minutes and Correspondence, May 22, 1905
Box 4, Folder 4	Committee Meetings, Minutes and Correspondence, 1970-1972
Box 4, Folder 5	Studies and Projects, 1963-1966
Box 5, Folder 1	Studies and Projects, 1967-1968
Box 5, Folder 2	Studies and Projects, May 22, 1905
Box 5, Folder 3	Studies and Projects, 1970-1979
Box 5, Folder 4	Numerical Control in Manufacturing (New York: McGraw-Hill, 1963)

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Series 4: Foreign Meetings and Visitors, 1971-1980

Box 6, Folder 1	French Visitors, 1971
Box 6, Folder 2	China National Machine Tool Builders Association Trade Mission, May 01, 1979
Box 6, Folder 3	UNIVAC, Nice, France, June 17-19, 1980

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Series 5: Slides, undated

Box 6, Folder 4	Misc Slides used in Lectures, undated
Box 6, Folder 7	Lantern Slides, undated

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Series 6: Films

Reel 1	Giddings & Lewis "Home Movies" Series, circa 1955-1970
Reel 1	Machine Tool Sign
Reel 1	Neon Shield
Reel 1	Prototype Skin Mill Series
Reel 1	NumeriScript Programming Series
Reel 1	Variax 5-Axis Test Series
Reel 1	Crabapple Trees (Courtyard)
Reel 1	Helicopter Series
Reel 2	Symbolic Programming for Giddings & Lewis Numericord, #2

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Series 7: Numericord and Project Prometheus

Box 8, Folder 1	Programming for Numericord, Giddings and Lewis, undated
Box 8, Folder 2	Programming for Numericord, Giddings and Lewis, 1957
Box 8, Folder 3	Project Prometheus, Proposal to Atomic Energy Commission, ca. 1968

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