



Guide to the Robert (Bob) Bemer papers

Creator: Robert (Bob) Bemer

Dates: 1943-2002, bulk 1955-1999

Extent: 5.42 linear feet, 4 record cartons, 1 manuscript box

Collection number: X3054.2005

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Collection processed by: Jack Doran, October, 2018

Finding aid prepared by: Jack Doran and Sara Chabino Lott, October 2018

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Abstract

The Robert (Bob) Bemer papers, ranging in date from 1943 to 2001, with the bulk between 1955 and 1959, trace Bemer's career in programming at IBM, Rand Corporation, General Electric, and Honeywell, Inc., as well as his personal interest in documenting, sharing and preserving information about the history of computing. Bemer was responsible for developing six ASCII characters, played a key role in the development of COBOL (Common Business Oriented Language), and identified what became known as the Y2K problem. Materials include correspondence, memoranda, published papers and articles, speeches, newspaper clippings, and technical documentation. Roughly one-fourth of the collection relates to Bemer's discovery of the Y2K problem and his subsequent work to solve it. The remaining three-fourths of the collection relates to Bemer's work on programming languages and standards, and among these documents are what Bemer called "vignettes" about the history of computing and software, as remembered by Bemer and his contemporaries.

Administrative Information

Access Restrictions

The collection is open for research.

Publication Rights

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Languages

Collection material is primarily in English, with a small amount of material in French and German.

Preferred Citation

[Identification of Item], [Date], Robert (Bob) Bemer papers, Lot X3054.2005, Box [#], Folder [#], Catalog [#], Computer History Museum.

Immediate Source of Acquisition

Gift of Bettie Bemer, 2004.

Repository

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Biographical/Historical Note

Robert "Bob" William Bemer was born February 8, 1920 in Sault Ste. Marie, Michigan. Known among his colleagues and contemporaries as "the father of ASCII," he was a member of the American Standards Association committee that defined the "ASCII" character-encoding standard for electronic telecommunications and computing. Bemer was responsible for six characters in ASCII, most notably the escape and backslash characters. He later played a key role in the development of the COBOL programming language, which drew on aspects of Bemer's COMTRAN programming language developed at IBM. Bemer is credited with the first public identification of the Y2K problem, publishing in 1971 his concern that the standard representation of the year in calendar dates within computer programs by the last two digits rather than the full four digits would cause serious errors in confusing the year 2000 with the year 1900.

After receiving his B.A. in mathematics from Albion College and his certificate in aeronautical engineering from Curtiss-Wright Technical Institute of Aeronautics, he took a job as an aerodynamicist at the Douglas Aircraft Company. Several other jobs followed, including

manager of the numerical analysis group at Marquardt Aircraft and manager of the mathematical analysis department at Lockheed Missile Systems division before he took a position as assistant manager of programming research at the IBM Corporation in 1955. It was at IBM that Bemer worked on both COBOL and ASCII (American Standard Code for Information Interchange). In the following years at IBM, he worked on a team that developed FORTRAN and then helped develop the first load-and-go printing system called PRINT I. Bemer then took a job at the Sperry Rand Corporation's Univac Division in 1962 before moving to France in 1965 to work at Bull General Electric as General Manager. He returned to the U.S. as the manager for systems and software engineering integration at General Electric, and it was in this capacity that he developed the ideas around what he would call the "Software Factory" as a solution to the so-called "software crisis" that was a major concern in late-1960's computing. After GE computer division's acquisition of Honeywell, Inc., Bemer stayed on in several successive positions before retiring as senior consulting engineer in 1982.

Bemer worked tirelessly to publicize and try to compel the United States Government to address the Y2K problem from the early stages of its discovery. He campaigned unsuccessfully to have the Nixon Administration deem 1970 "The Year of the Computer," and in 1971, published, "What's the Date?" in the *Honeywell Computer Journal*. A much wider-circulated *Interface Age Magazine* published another article by Bemer titled, "Time and the Computer" in 1979. In 1997, he founded BMR Software. With growing concern about the Y2K problem, Bemer made numerous media appearances, and eventually sold BMR Software to BigiSoft.

In 2002, Bemer received the IEEE Computer Pioneer Award for his lifetime achievements, namely "meeting the world's needs for variant character sets and other symbols, via ASCII, ASCII-alternate sets, and escape sequences."

Bemer passed away on June 22, 2004 at his home in Possum Kingdom Lake, Texas after a battle with cancer.

Scope and Content of the Collection

The Robert (Bob) Bemer papers consist of materials created over the course of Bemer's career in various software and management positions at IBM, Rand Corporation, General Electric, and Honeywell, Inc. The collection represents his work related to programming and code standards, text processing and the Y2K problem, and spans from 1943 to 2002, with the bulk of the collection ranging from 1955 to 1999.

Materials related to the Y2K problem consist of several public relations files Bemer kept where he either appeared in interviews or was mentioned in articles concerned with what is variously called the Y2K problem or millennium bug. There is also some correspondence and a collection of web publications written by other experts, as well as one folder on a Y2K conference held in Washington, DC in 1998.

Much of the collection's remaining content concerns Bemer's activities related to programming standards such as ASCII, COBOL and FORTRAN, as well as his work with character sets, text

processing, printer technology and OCR. These materials are made up of technical papers, specifications, manuals, correspondence, memoranda, meeting minutes, and conference proceedings. Some of these folders also contain activities and histories in computing (what Bemer deemed “vignettes”) that were contemporary to Bemer’s work, but which he may not have been directly involved with.

The collection’s original order is a mix of arrangement by either form or subject, and this arrangement has been retained. Bemer’s notable accomplishments and professional activities are sometimes arranged by name (as is the case for character sets, escape sequences, programming standards, and Y2K problem), but the researcher will also find materials related to these activities in the memoirs, published papers, scrapbooks, and speeches and papers folders. The folder list is arranged alphabetically.

Arrangement

The collection is arranged into 1 series:

Series 1, Papers, 1943-2002; bulk 1955-1999

Indexing Terms

ASCII (Character set)

Assembly languages (Electronic computers)

COBOL (Computer program language)

Electronic data processing

FORTRAN (Computer program language)

Year 2000 date conversion (Computer systems)

Separated Material

A slide rule was separated from the main collection. To view catalog records for separated material search the CHM catalog at <http://www.computerhistory.org/collections/search/>.

Collection Contents

Series 1, Papers, 1943-2002, bulk 1955-1999

	<u>Catalog Number</u>	<u>Title</u>	<u>Date</u>
		<u>Folder List</u>	
		<u>Papers</u>	
Box 1	102785361	Anecdotes of mistakes in computing design and management	1967; 1970-1972
Box 2	102785362	Association for Computing Machinery (ACM 70)	1970
Box 1	102785363	Biographical papers	1943-1973; 1990-1992
Box 2	102785364	Character sets - general	1964-1974
Box 2	102785366	Character sets - International Organization for Standardization TC 46/SC 4	1972-1978
Box 2	102785369	Code and text processing - International Organizatino for Standardization	1967-1972
Box 2	102785370	College reunion	1985; 1995-1996
Box 1	102785372	Correspondence	1958-1989; bulk 1967-1979
Box	102785375	Ephemera	ca. 1970
Box 3	102785376	Escape sequences	1965-1969
Box 1	102785380	Historical file	1959-1999; undated
Box 3	102785385	IBM 650 - Annals of the History of Computing special issue	1985-1986
Box 3	102785386	IBM 650 - Flair system	1955
Box 3	102785388	IBM 650 - lab book	1952-1955
Box 3	102785389	IBM 650 - photographs and clippings	1955-1964; 1979
Box 3	102785390	IBM lawsuit	1987-1988
Box 2	102785391	Meeting minutes - International Organization for Standardization and European Computer Manufacturers Association	1965-1983

	<u>Catalog Number</u>	<u>Title</u>	<u>Date</u>
Papers			
Box 1	102785392	Memoirs - applied programming	1957-1962; 1984
Box 1	102785393	Memoirs - collating sequence, optical character recognition, "gang agley"	1964-1971
Box 1	102785394	Memoirs - computing prior to fortran	1955-1957; 1982-1987
Box 1	102785395	Memoirs - printers, 0 and O, square root, X-3.4.5	1962-1975
Box 1	102785396	Memoirs - timesharing, Federal Aviation Administration, compression, 3-D, Approximation, polynomia, Print I system	1953-1989; bulk 1960-1969
Box 1	102785397	Memoirs - Various	1962-2000
Box 3	102785398	Optical character recognition	1967-1970; 1990; bulk 1969
Box 3	102785420	Programming standards	1957-1985
Box 1	102785423	Published papers	1951-1999
Box 2	102785426	Reports - Rand Corporation	1953-1954
Box 1	102785427	Scrapbooks	1955-1982
Box 3	102785429	Screen Environment	1986-1992
Box 2	102785430	Speeches and papers	1955-1982
Box 3	102785435	Text processing - Text Executive Processor (TEX)	1977-1983
Box 3	102785436	Text processing - various materials	1957-1978; 1982-1991
Box 3	102785437	Text Reckoning and Compiling (TRAC) language	1966-2002
Box 4	102785439	Universal Time Engine - project planning/technical specifications/programs	2000

	<u>Catalog Number</u>	<u>Title</u>	<u>Date</u>
	Papers		
Box 4	102785440	Universal Time Engine - project summary	2001
Box 4	102785441	Universal Time Engine - proposal	2001
Box 4	102785442	Universal Time Engine - specifications (excerpt)	2001
Box 4	102785438	Universal Time Engine/program language	2000-2001
Box 4	102785444	Y2K problem - articles on projection and potential impact of Y2K problem	1998
Box 4	102785443	Y2K problem - articles on public reaction	1999
Box 4	102785448	Y2K problem - BMR Software logos	ca. 1997
Box 4	102785449	Y2K problem - correspondence with Capers Jones	1998
Box 4	102785450	Y2K problem - government Y2K conference	1997-1998
Box 4; 5	102785451	Y2K problem - North, Gary	1999
Box 4	102785453	Y2K problem - patent for method of solving millennium problems of some application programs	1997-2000
Box 4	102785454	Y2K problem - public relations	1997-2000
Box 5	102785457	Y2K problem - website articles and links	ca. 1997-2000
Box 5	102785458	Y2K problem - website directory printouts	1997