CHEMICAL HERITAGE FOUNDATION

# MAX D. LISTON

BECKMAN HERITAGE PROJECT

Transcript of Interviews
Conducted by

David C. Brock and Gerald E. Gallwas

in

Irvine, California and Fullerton, California

on

19 February 2002 and 22 January 2003

(With Subsequent Corrections and Additions)

CHEMICAL HERITAGE FOUNDATION
Oral History Program
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Mark D. Liston

(Date) 12/29/03

Chemical Heritage Foundation
Oral History Program
315 Chestnut Street
hiladelphia, Pennsylvania 19106

MAX D. LISTON

1918 Born in Oswego, Kansas on 16 March

## Education

1938 A.S., Fort Scott Jr. College
1940 B.S., electrical engineering with communication option, University of Minnesota
1941 M.S., mechanical engineering, Chrysler Institute

## Professional Experience

1940-1942 Chrysler Corporation

General Motors Corporation
1942-1946 Researcher

Perkin Elmer, Inc.
1946-1950 Chief Engineer

Liston-Becker Corporation
1950-1955 Founder

Beckman Instruments, Inc.
1955-1958 Manager, Liston Becker
1958-1965 Director of Engineering

Liston Scientific Corporation
1975-present Founder and President

## ABSTRACT

Max D. Liston begins the interview with a discussion of his education. After graduating from high school in Fort Scott, Kansas, Liston attended the University of Minnesota. In 1940, he received a B.A. in electrical engineering with an option in communications. He was hired at the Chrysler Corporation that same year, and he participated in the Chrysler Institute; receiving his M.S. in mechanical engineering in 1941. After transferring to General Motors in 1942, Liston developed the breaker-type DC amplifier while modifying a submarine analyzer developed by Charles Kettering. With the assistance of Morris Reeder, Liston also developed an innovative vacuum thermocouple. In 1946, he was hired at Perkin-Elmer as the chief engineer. While there, he incorporated the breaker amplifier and vacuum thermocouple in to his designs for the Model 12 and Model 21 spectrophotometers. In 1950, Morris Folb and he formed the Liston-Folb company, which later became Liston-Becker. Together, they developed three atmospheric-analyzer models for the US Navy's submarines, and the Model 16 capnograph. Beckman Instruments acquired Liston-Becker in 1955. When Beckman Instruments consolidated their assets three years later, the Connecticut-based Liston-Becker plant was closed and Liston moved to California to become the corporate director of engineering. One of his most significant projects at Beckman Instruments was the development of automobile-emissions analyzers for smog tests in L.A. Liston is currently the president of Liston Scientific, a company he formed in 1975. His numerous accomplishments since its founding include the development of the Paramax, Digital-Alpha technology, and chemical-luminescence instrumentation. Liston concludes the interview with a brief discussion of his perceived influence on the field of spectrophotometry.


## INTERVIEWERS

David C. Brock is Program Manager for Educational and Historical Services at the Chemical Heritage Foundation in Philadelphia. He is currently a Ph.D. candidate in the History Department, Program in the History of Science at Princeton University. In 1995, Mr. Brock received his M.A. in the History of Science from Princeton University and in 1992, he earned a M.Sc. in the Sociology of Scientific Knowledge from the University of Edinburgh.

Gerald E. Gallwas was a member of the original team in the mid 1960s that founded and managed the growth of what became the clinical diagnostic business of Beckman Instruments. As the business grew, he served in many roles from new product development to directing clinical field trials in the United States, Europe, and Japan. This led to an extensive involvement with professional and trade organizations as well as regulatory agencies. He retired after thirty years of service as director of program management overseeing new product development programs.

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NOTES

1. John Bertrand Johnson, “Thermal agitation of electricity in conductors,” *Phys. Rev.* 32, (1928): 97-109.

2. Richard Joseph Henry, *Clinical Chemistry: Principles and Techniques* (New York: Harper and Row, 1964).

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