Guide to the Max Mark Frocht Papers circa 1930s-1964
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Max Mark Frocht was an educator and researcher in experimental mechanics. He was an authority on photoelasticity, a method used to visualize stress distribution in materials. His two volume work, Photoelasticity, is a classic text in the field. This collection documents Max Mark Frocht’s work as a researcher and educator. The Max Mark Frocht Papers include manuscripts of his major works; technical illustrations including proofs, photographic reproductions and original drawings; technical reports to the United States Army; teaching materials; calculations and notes.

A student of Steven Timoshenko, Frocht received his Ph.D. from University of Michigan in 1931. He worked at the Carnegie Institute of Technology, and was an important early member of the Society for Experimental Stress Analysis (now the Society for Experimental Mechanics). From 1946 to 1960, Frocht worked in the Department of Mechanics at the Illinois Institute of Technology, where he directed the Laboratory for Experimental Stress Analysis.
Frocht became an honorary member of the Society for Experimental Mechanics (SEM) in 1959. SEM also created the annual M.M. Frocht Award "to honor "outstanding achievement as an educator in the field of experimental mechanics."

Scope Note
This collection documents Max Mark Frocht’s work as a researcher and educator from circa 1930s-1964. The Max Mark Frocht Papers include manuscripts of his major works (most with editorial markup and corrections by Frocht); technical illustrations including proofs, photographic reproductions and original drawings; technical reports to the United States Army; teaching materials; calculations and notes.

Series I: Photoelasticity, Volume 1, 1941, contains manuscripts for each chapter of this text, as well as manuscript versions of its front matter and indexes. Two sets of proofs for illustrations follow. Additional illustrations, mainly representing stress patterns, are also included. Material in this series dates from around 1940-1941, with the exception of some files related to a later revision of the text.

Series II: Photoelasticity, Volume 2, 1948, contains manuscripts for each chapter of the text, as well as manuscripts of front matter, indexes, captions and the appendix. It also includes Frocht’s original drawings for illustrations in each chapter, and proofs of the frontispiece illustration. Additional material in this series includes manuscripts, illustrations, calculations, notes and reader’s comments on individual chapters or topics. Material in this series dates from around 1944-1948.

Series III: Strength of Materials: A First Course, 1951, contains manuscripts for this textbook’s front matter, chapters, appendices, problem sets and review questions. Illustrations include Frocht’s original drawings, as well as proofs. Unused and superseded drafts are also included, as are additional calculations, illustrations and notes. Material in this series dates from around 1950-1951.

Series IV: Early Research, consists of an undated copy of Frocht’s thesis, and a small amount of research material, circa 1930s.

Series V: Teaching, includes lecture notes, calculations, student assignments, and other material related to Frocht’s classroom work at the Illinois Institute of Technology. Files in this series are arranged chronologically, spanning the years 1944-circa 1960.
Series VI: Technical Reports, documents photoelasticity research conducted by Frocht and his colleagues for the United States Army. These reports span the years 1953-1964.

Related Resources
The following related resources are located in the Department of Special Collections:

http://www.lib.uchicago.edu/e/spcl/select.html

Subject Headings
• Frocht, Max Mark, 1894-1974
• Photoelasticity
• Strains and stresses
• Strength of materials

INVENTORY

Series I: Photoelasticity, Volume I, 1941

Box 1
Folder 1
  Preface, manuscript
Box 1
Folder 2
  Indexes, manuscripts
Box 1
Folder 3
  Introduction and table of contents, manuscripts
Box 1
Folder 4-14
  Chapters 1-11, manuscripts
Box 1
Folder 15
  Chapters 1-4, illustrations with notes for copies and slides
Box 2
Folder 1-3
  Chapters 5-14, illustrations with notes for copies and slides
Box 2
Folder 4-6
  Chapters 1-3, proofs of illustrations, mounted
Box 3
Folder 1-7
  Chapters 4-11, proofs of illustrations, mounted
Box 4
Folder 1-6
  Chapters 12-14, proofs of illustrations, mounted
Folder 7-11
Chapters 1-5, proofs of illustrations
Box 5
Folder 1-9
Chapters 6-14, proofs of illustrations
Box 5
Folder 10-20
Chapters 1-11, illustrations of stress patterns
Box 5
Folder 21
Illustrations of stress patterns
Box 5
Folder 22-24
Illustrations
Box 5

Series II: Photoelasticity, Volume II, 1948
Box 6
Folder 1
Manuscripts of front matter and indexes, correspondence and layout drawings
Box 6
Folder 2
Captions for illustrations
Box 6
Folder 3-8
Chapters 1-8, manuscripts
Box 7
Folder 1-6
Chapters 9-14, manuscripts
Box 7
Folder 7
Appendix, manuscripts
Box 7
Folder 8
Frontispiece, proofs of illustration
Box 7
Folder 9-17
Chapters 1-9, original drawings for illustrations
Box 8
Folder 1-5
Chapters 10-14, original drawings for illustrations
Box 8
Folder 6
Chapter 8, manuscripts, illustrations, calculations and notes
Box 8
Folder 7
Chapters 8 and 10, manuscripts and illustrations
Series III: Strength of Materials: A First Course, 1951

Box 8
Folder 10
Front matter and Chapters 1-3, manuscripts

Box 8
Folder 11-13
Chapters 4-11, manuscripts

Box 8
Folder 14
Chapters 12-14, appendices and solutions to problems, manuscripts

Box 9
Folder 1
Review questions, manuscript

Box 9
Folder 2-15
Chapters 1-14, original drawings for illustrations

Box 9
Folder 16-29
Chapters 1-14, proofs of illustrations

Box 9
Folder 30
Chapter 4, unused draft, calculations and illustrations

Box 9
Folder 31
Chapter 7, unused draft, calculations and illustrations

Box 9
Folder 32
Chapter 12, superseded draft

Box 9
Folder 33
Illustrations and notes

Series IV: Early Research

Box 9
Folder 34
Thesis, manuscript, undated

Box 9
Folder 35-36
Principal stresses by graphical integration, illustrations and calculations, circa 1930s
Series V: Teaching

Box 9
Folder 37
   Student assignments, 1944
Box 9
Folder 38-40
   Mechanics 301, lecture notes, calculations and assignments, 1947-1960
Box 10
Folder 1
   Calculations and exam notes, circa 1960
Box 10
Folder 2
   Mechanics 301, errata, undated

Series VI: Technical Reports

Box 10
Folder 3-10
   Technical reports to the Office of Ordnance Research, United States Army, 1953-1960
Box 11
Folder 1
   Technical report to the Office of Ordnance Research, United States Army, 1960
Box 11
Folder 2
   Technical reports to the United States Army Research Office, 1962-1964