Erhard Luft
fonds

Compiled by Manfred Nissley (2021)

University of British Columbia Archives

Table of Contents

- **Fonds Description**
    - Title / Dates of Creation / Physical Description
    - Biographical Sketch
    - Custodial History
    - Scope and Content
    - Notes

- **Series Descriptions**
    - Correspondence Series
    - Scholastic years in Germany Series
    - Teaching and Work Records Series
    - Mathematics Department Series
    - Ephemera Series
    - Luft Papers Series
    - Proofs and Notes Series
    - Other Mathematicians Works and Notes Thereon Series

- **File List**

- **Catalogue entry** (UBC Library catalogue)

Fonds Description

Erhard Luft fonds. – [1941] -2018.
1.67m textual materials.

Biographical Sketch

Erhard Luft was born September 28, 1933 in Alt-Walddorf, Slovakia. After WWII, he and his parents moved to Germany and Erhard entered the German education system. After graduating from Gymnasium *cum laude*, Luft studied mathematics and physics and gained his PhD from Friedrich-Alexander University Erlangen-Nuremberg in 1959. After becoming Prof. Hirtzebruck's assistant in Bonn, Hirtzebruck sent Luft to the US on Fulbright Scholarship. While in the US, Luft taught and researched at Brandeis University and UC Berkeley, at the later school he met his future wife Maria. In 1963 he accepted a position at UBC where became a tenured professor for 35 years. He also joined the American Mathematical Society in 1963. According to the Mathematics Genealogy website, he had four PhD students who went on to become professors; K. G. Choo, Wolfgang Holzmann, Douglas Maclean, and Zingru Zhang. Luft was a prolific author and was in frequent communication with other mathematicians at other top universities. He loved sports and in his later years he took up cross-country skiing. Luft died February 9, 2017 on Salt Spring Island, BC.

Custodial History

Preceding its arrival at the UBC Archives in 2020, the fonds was kept in a filing cabinet at Luft's home on Salt Spring Island, BC.

Scope and Content

The fonds contains correspondence, drafts of Luft's books and papers, mathematical proofs and notes of Luft's concepts, notes on the work of other mathematician's work, work records pertaining to Luft's time at UBC, records created while Luft was a student, and ephemera. It consists of the following series: Correspondence, Scholastic years in Germany, Teaching and Work Records, Mathematics Department, Luft Papers, Proofs and Notes, and Ephemera Series

Notes

Researchers are strongly advised to check with the University Archives regarding permission to publish or otherwise use materials from this fonds.

File list available.

Series Descriptions

Correspondence Series. – 1965 – 2000.
1cm textual materials.

Series consists of English and German correspondence with Luft's friends, students, other mathematicians.

Scholastic Years in Germany Series. – 1953 – 1960.
2.3cm textual materials

Series consists of notebooks consisting of notes taken in class, papers that Luft likely referred to during his education, and proofs and notes.

Teaching and Work Records Series. – 1963 – 1999.
10cm. textual materials.

Series consists of correspondence, papers, proofs, and test drafts. It also consists of student submitted assignments, technology instructions, notes and slides created for lectures at conferences, and miscellaneous records pertaining to visits from mathematicians.

Mathematics Department Series. – 1973 – 2001.
1.5cm textual materials.

Series consists of potential student inquiries and UBC Mathematics course offering brochures.

Ephemera Series. – 1992 – 2018.
1.4cm textual materials.

Series consists of awards, brochures, correspondence on Luft's passing, and general records.

Luft Papers Series. – 1968 – 1994.
35.8cm textual materials.

Series consists of drafts of Luft's papers and some published papers. It consists of two subseries; A Contractible compact 3-manifold is a 3-cell and Other Titles.

Proofs and Notes Series. – 1974 – 1990.
25.7cm textual materials.

Series consists of proofs and notes by Luft. It is unclear if these notes are his own ideas or are derived from other mathematician's work. The series is divided into two subseries - German Notes and English Notes.

Other Mathematicians Works and Notes Thereon Series. – [1941] – 2000.
88.6cm textual materials.

Series consists of proofs and notes derived from lectures and papers by other mathematicians. Some papers or notes may have been created by Luft's students. The furthest extent of the date range assigned to this series is based on the age of the articles referenced, copies of articles and the notes thereon may be much younger than assumed.

File List

BOX 1

CORRESPONDENCE Series

1-1 "Chess 1965" - Letters from Wolfgang Lindenberg.

1-2 Correspondence 1997-2000

1-3 Correspondence [2002]

1-4 Email (English and German) 2008-2012

1-5 Thank you card from Kee 1992

SCHOLASTIC YEARS IN GERMANY Series

1-6 Class Notebooks in German from 1950s

1-7 Luft scholastic notes in German 1959-1960

1-8 Morse Theory and its Application to Honotopy Theory - R. Bott 1960

1-9 Proofs and notes n.d.

1-10 Sommersemester 1953 - Integralrechnung II von Prof Nobeling - 4. Semester

TEACHING AND WORK RECORDS Series

1-11 Correspondence, Papers, and Proofs [1999-2000]

1-12 Germanic Studies Review Committee 1992/93

1-13 Graduate Math Courses 1994/95

1-14 Homework n.d.

1-15 Mathematics 508 & Proofs and Notes n.d.

1-16 Tech information notes n.d.

1-17 Tech Instructions [1995-2000]

(**continued**)

MATHEMATICS DEPARTMENT Series

1-18 Charles Delman PHD Application and Paper by F.T. Farrell and notes thereon 1973-1991

1-19 Department of Mathematics - Fields of Interest 2000-2001

1-20 UBC Math Graduate Course Outlines 1998/99

EPHEMERA Series

1-21 Correspondence, notes, and proofs. 2012

1-22 Erlangen Germany Brochure 2000

1-23 Mathematics Genealogy Project aft. 1991

1-24 Quarter Century Club 1996

1-25 Springer Math Newsletter 1999

(**continued**)

LUFT PAPERS Series

A Contractible Compact 3-manifold is a 3-cell subseries

1-26 A Contractible Compact 3-manifold is a 3-cell, a pl proof - proofs, notes, drafts n.d.

1-27 Draft of "A contractible compact 3-manifold in a 3-cell. n.d.

(A Contractible Compact 3-manifold is a 3-cell subseries **continued**)

Other Titles subseries

1-28 Characterizing Open Collars among Topological Manifolds - drafts and associated records 1968-?

1-29 Counterexample to Clasp Method - Example Boilou Zieshang 1992

1-30 Draft – unknown paper n.d.

(Other Titles subseries continued)

(**continued**)

PROOFS AND NOTES Series

German Notes subseries

1-31 3-dimensional Mannigfaltigkeiten n.d.

1-32 Abbildungen auf 2(H) n.d

1-33 Abstrakte Simpliziale Komplexe, I) Definitionen n.d.

1-34 Abstrakte Simpliziale Komplexe, Unterteilungen n.d.

1-35 Abstrakte Simpliziale Komplexe, II) Unterteilungen n.d.

1-36 Allgemeine Lage n.d.

1-37 Darstellungen und Darstellungsringe der Klassisoben Gruppen I n.d.

1-38 Darstellungen und Darstellungsringe der Klassisoben Gruppen II n.d.

1-39 Darstellungen kompakter Lie-Gruppen Darstellungsring

1-40 Darsdellungsting, K-Theorie, Prinzipalbundel n.d.

1-41 Der Qumann - Rochishe mol Sirneuirollgimimimimimngin (sp?) n.d.

1-42 Differential - Geometric der Teilmannigfaltigkeiten n.d.

1-43 Differential Operatoren out Mannigfaltigkeiten n.d.

1-44 Differenzierbare Vektorraumbundel n.d.

1-45 Differentialrechnung für normierte Vektorräume nd

BOX 2

2-1 Einbettungen in IRn Whitney-Sätze n.d.

2-2 Einbettungen in Mannigfaltigkeiten n.d.

2-3 Homogene Räume G/T 1986

2-4 Hort - Algebren n.d.

2-5 I-Fredholm Theorie/nach Cordes n.d.

2-6 Immersionen n.d.

2-7 Invarianten Ringe der Weyt Gruppen der Klassisaben Gruppen n.d.

2-8 Kompakte Operatoren n.d.

2-9 Lineate Abbildungen, Flemenlaria n.d.

2-10 Mannigfalligkeiten n.d.

2-11 Many proofs and notes in German n.d.

2-12 M (m,n;k) n.d.

2-13 Multilineare Algebra n.d

2-14 Multiplikative Folgen n.d.

2-15 Orientierung n.d

2-16 Projektive Raume n.d.

2-17 Proofs and notes in German n.d.

2-18 Regulate Nachbarschaften, Anwendungen n.d.

2-19 Roume von ditterenzierhoren Abbildungen n.d.

2-20 Spektral Sequenz (Pasetraume) n.d.

2-21 Spektral Sequenz (Technik)

2-22 Stiefel - Mannigfaltigkeiten n.d.

2-23 Tangentialraum n.d.

2-24 Topologie der Mannigfaltigkeiten n.d.

2-25 Transformations Gruppen/Differentialgeometric n.d.

2-26 Vektorraum uber Sebietkorner n.d.

2-27 Zellenkomplexe n.d.

2-28 Zerlungung der Eins nd

(German Notes subseries continued)

English Notes Subseries

2-29 Block Bundles n.d.

2-30 C (R.∞) n.d.

2-31 Decomposition Spaces (Elementary Results) n.d.

2-32 De Rham Argument 1974

2-33 Fiber Spaces n.d.

2-34 General Notes n.d.

2-35 Handle Subtraction - C.T.C. Wall n.d.

2-36 Immersion Theorem n.d.

2-37 Induced Neighborhoods n.d.

2-38 Localization n.d.

2-39 Mapping Cones of Chain Complexes n.d.

2-40 Mapping To[?]us n.d.

2-41 Moore Spaces n.d.

2-42 (III) Moving handles n.d.

2-43 Nilpotent Groups n.d.

2-44 Notes and Theorems by Luft n.d.

2-45 Proofs and notes n.d.

2-46 Proofs and notes n.d.

2-47 Proofs and notes n.d.

2-48 Proofs and notes 1990

2-49 Proofs and notes n.d.

2-50 Proofs and Notes n.d.

2-51 Proofs and notes n.d.

2-52 Proofs and notes n.d.

2-53 Proofs, notes, and correspondence 2006-2010

2-54 Proper Maps n.d.

2-55 "R3" n.d. Proofs and Notes n.d.

BOX 3

3-1 S- Category n.d.

3-2 S-Duality n.d.

3-3 Simple Poincaye Complexes n.d.

3-4 Spherical Fibrations n.d.

3-5 Sunny Collapsing n.d.

3-6 Thom Theory n.d

3-7 Topology of Joins n.d.

3-8 Unknotting of PL Ball Pairs and Sphere Pairs n.d.

(English Notes subseries continued)

(**continued**)

LUFT PAPERS Series (cont.)

A Contractible Compact 3-manifold is a 3-cell subseries (cont.)

3-9 A Contractible compact 3-manifold is a 3-cell, a PL Proof by Luft n.d.

3-10 §2 Notation and Preliminaries n.d.

3-11 §3 General Position in 2- and 3-simplices n.d

3-12 §4 Surjections and Moves n.d

3-13 §5 Special Surjections n.d.

3-14 §6 Partial General Position n.d

3-15 §7 General and Optimal Position on the I-Skeleton n.d.

3-16 §8 General and Optimal Position on the 2-Skeleton copy n.d

3-17 §g Surjection in general and optimal positions n.d.

3-18 Manifolds - Surjections notes and Book Draft Copy n.d.

3-19 §2 Notation and Preliminaries copy, and John Stallings obit ?-2009

3-20 §3 General Position in 2 and 3 simplices copy n.d.

3-21 §4 Surjections and moves copy

3-22 §5 Special Surjections copy n.d.

3-23 §6 Partial General Position copy n.d.

3-24 §7 General and Optimal Position on the 1-Skeleton copy n.d

3-25 §g. General and Optimal Position copy n.d.

(A Contractible Compact 3-manifold is a 3-cell subseries **continued**)

Other Titles subseries (cont.)

3-26 On Embedding of Balls and Spheres into Incursive [?] Manifolds by Luft n.d.

3-27 The Universal Covering Space of a P2irreducible 3-Manifold with Infinited Fundamental Group by Luft n.d.

3-28 Manifolds or Topology Book Draft n.d.

(Other Titles subseries continued)

The following chapters may or may not be related to each other

3-29 Chapt. 1 §1 Abstract simplicial complexes n.d.

3-29 Chapt. 1 §3 Simplical Complexes in Euclidean space n.d.

3-30 Chapt. 1 §4 Cell Complexities in Euclidean space n.d.

3-31 Chapt. II §2 Relations with the Fundamental Group n.d.

3-32 Chapt. II §3 Classification of Covering Projections n.d

3-33 Chapt. II §4 Covering Transformations n.d.

3-34 Chap. II. §5 [Indecipherable] Discontinuous Groups of Homomorphisms n.d.

3-35 Chapt. II §6 Remarks n.d.

3-36 Chapter III §1 - General Position in Euclidean Space n.d.

3-37 Chapter III §2 - Nondegenerate Linear Maps n.d.

3-38 Chapter III §3. General Position of Linear Maps n.d.

3-39 Chapter III §4. Optimal Linear Maps - n.d.

3-40 Chapter III §5. Optimal PL-Maps n.d.

3-41 Simplicial Homology Chapt. IV. n.d

3-42 Chapt V. §1- §10 Singular Homology n.d.

3-43 Chapt. V. §11 - §14 Singular Homology n.d.

3-44 Chapt. VI CW - Complexes n.d.

3-45 §4 Vertical Surjections and General Position n.d.

3-46 Chapt. 3 - Polyhedral $1 Simplicid Complexes n.d.

BOX 4

4-1 Chapt 5. General Position n.d

4-2 **Δ** [Del/Nabla] - Sets n.d.

4-3 Papers by Luft 1967 -1994

(**continued**)

PROOFS AND NOTES Series (continued)

German Notes subseries (cont.)

4-4 Proofs and notes n.d.

English Notes subseries (cont.)

4-5 Proofs and Notes n.d.

(English Notes subseries continued)

(continued)

OTHER MATHEMATICIANS WORKS AND NOTES THEREON Series

4-6 Assorted Authors 1 1941-1975

4-7 Assorted Authors 2 1969-1992

4-8 Assorted Authors 3 1972-1987

4-9 Assorted Authors 4 1960-1995

4-10 Assorted Authors 5 1972-1998

4-11 Assorted Authors 6 1954-1972

4-12 Assorted Authors 7 1955-1983

4-13 Assorted Authors 8 1962-1996

4-14 Assorted Authors 9 1966-1997

4-15 Assorted Authors 10 1974-1998

4-16 Assorted Authors 11 1965 – 1982

BOX 5

5-1 Assorted Authors 12 1990-1996

5-2 Assorted Authors 13 1980s

5-3 Assorted Authors 1959-1986

5-4 Assorted Authors n.d.

5-5 Assorted Authors n.d.

5-6 Assorted Authors 1990s

5-8 Assorted Authors [1943-1990]

5-9 Assorted authors and notes [1975]

5-10 Assorted Authors 1992-1997

5-11 Assorted Authors n.d.

5-12 Assorted Authors n.d

5-13 Assorted Authors n.d.

5-14 Assorted Authors 1994

5-15 Assorted Authors n.d.

5-16 Assorted Authors or Students n.d

5-17 Assorted Authors, other odds and ends 1954-2000

5-18 Anderson, Vaughn Thesis, notes, and correspondence 1995

5-19 Bing, R. H. Necessary & Sufficient Conditions that a 3-Manifold be S3. N.d.

5-20 Bing, R. - Radial Engulfing n.d.

5-21 Bing, R. + J. Kisler - Taming Complexes in Hyperplanes n.d.

5-22 Borel, A. - Espaces libres principaux La Cohomologie mod 2 de certains espaces homogenes [~1953]

5-23 Bott, R. Morse-Theorie u. Anwendungen 1959

5-27 Browder, Poincare Spaces (1973 - ?)

5-24 Browder, W. 1, Poincare Duality n.d.

5-25 Browder, W. II, The Main Results of Surgery n.d.

5-26 W. Browder Manifolds and Homotopy n.d.

5-27 Brown, M. Algebraische Topologie n.d.

5-28 Brown, Morton on Kister's Isotopy and Wild cells and spheres in higher dimensions 1966

5-29 Brown, M. Schoenflies Problem 1976

5-30 Bryant, J. I 1941-1972

5-31 Cernavskii, A. V. 1966-1970

BOX 6

6-1	M. Cohen - Annals of Math 1967 - Simplicial Structures add Transverse Cellularity
6-2	Coherent Rings (1966-1971)
6-3	Colloquiums and Lectures 1984-1997
6-4	Colloquiums and meetings with notes 1998-2001
6-5	H. E. Connell 1964-1966
6-6	E. H. Connell, Approximating Stable Homeomorphisms n.d.
6-7	Contrell, Schoonflies Theoreme n.d.
6-8	M. Curtis 1957- ?
6-9	Dale Notes n.d.
6-10	Department of Math papers and Zhang 1973-1998
6-11	Diess/[Dieck], Representation Theory of Compact Life Group 1986
6-12	Dynkin, E.B. - Seminaire - Sophus Lie 1961
6-13	Beno Eckmann 1943-1960
6-14	R.D. Edwards Eckmann n.d.
6-15	Enols, L. Siebeumann n.d.
6-16	Fakir Thesis and Correspondence 1993-2001
6-17	Feldman, Symmetry Breaking in Fermionic Many - Body Models n.d.
6-18	Fox, R. - On the Imbedding of Polyhedra in 3-space 1947
6-19	S. Gersten 1972

6-20 Glaser I 1969

6-21 Glaser III ~1970

6-22 Glaser, On the Double Suspension of Combinatorial Homology Spheres I & II n.d.

6-23 L. C. Glaser, On a well-known method for trying to obtain a non-combinatorial triangulation of Sn for n ≥ 5 1967

6-24 H. Gluck, Emboldings in the trivial range n.d.

6-25 Grajek - U of Iowa Thesis and Correspondence 1973

6-26 Gugenheim, V.K.A.M Piecewise Linear Isotopy and Embedding n.d.

6-27 Haefliger and Poenaru - Classification of PL Immersions n.d.

6-18 W. Hakem - Various Aspects of the 3-dimensional Poincaye Conjecture n.d.

6-19 Hermitian K-theory / C.T.C. Wall n.d.

6-20 Hirzebruch, F. 1 1960-1962

6-21 Hirzebruch, F. 2 1958-1966

BOX 7

7-1 On lbe Houptvermutung / Homma n.d.

7-2 Relative Regular Neighborhoods by Hudson and Zeeman 1964-1970

7-3 Kwan, K. Eindentigkeit der offenen Kegdumgebungen n.d.

7-4 Lacher, R. C. [1967 - ?]

7-5 Professor KY Lam Maths 532 Lecture Notes n.d.

7-6 Lectures on Differential Topology Chapter 1 - I-IX n.d.

7-7 Lectures on Differential topology Chapter 1 X-XVI n.d.

7-8 Lectures on Differential topology Chapter 2 n.d.

7-9 Lectures on Differential Topology Chapter III n.d.

7-10 Lectures on Differential Topology Chapter IV n.d.

7-11 Lecture: Differential topology Appendix 1966/67

7-12 Ottmar Loos lectures on Jordan Triples & Koo-Guan Choo Thesis [1971-1972]

7-13 MacLean, Douglas - PHD Thesis 1965

7-14 Mathematics Colloquium Flyers 1989

7-15 Math Colloquium Flyer 1999

7-16 Micro-Bundles n.d.

7-17 J. Milnot Das b-Cobordism Theorem n.d.

7-18 J. Milnot - Killing Homotopy Groups n.d.

7-19 Milnot + Kervaire - Groups of homotopy spheres n.d.

7-20 B. Molzur - Tangentielle Homotopic n.d.

7-21 Multilinear Algebra Lecture and April 1965 Exam 1965

7-22 J. Munkres - Triangulations of differentiable manifolds n.d.

7-23 Price, T. Equivalence of Embeddings of K-Complexes 1964-1971

7-24 Quasibundles 1992- 1994

7-25 Quillen, Solomon, Dress – notes on n.d.

7-26 Rego and Rourke - a Proof of Poincar's conjecture reprint 1966

7-27 Rice, P.M. On the Houptvermutung n.d.

7-28 Rings 1950 nd.

7-29 Rolfsen, D. 1968-1998

7-30 Seebeck 1966-1969

7-31 Peter Shoden's Volumes of hyperbolic 3-manifold, proofs and notes n.d.

7-32 Siebenmann, L. Disruption of Handlebooly Theory n.d.

BOX 8

8-1 Steinmetz, Gerhard - Inscribed Thesis given to Luft 1980

8-2 Sullivan, D. triangulating Homotopy Equivalencies n.d.

8-3 Suter n.d.

8-4 Anders Svensson Thesis and Correspondence 1995-1996

8-5 Veklorraum Bundel ; K-Theorie Grundlagen n.d.

8-6 Vu n.d.

8-7 Waldhausen, Whitehead Groups of Generalized Free Products 1972

8-8 Walker, Alexander - Master's Thesis and related correspondence 1968

8-9 C.T.C. Wall, Finiteness Conditions for CW-Complexes n.d.

8-10 C. T.C. Wall, Normal Cobordism Groups n.d.

8-11 C.T.C. Wall, Separating Submanifolds n.d.

8-12 C.T.C. Wall - Surgery below the Middle Dimension n.d.

8-13 The Even Dimensional Case - C.T.C. Wall n.d.

8-14 Whittaker, Homoomorphismengruppen 1960-1973

8-15 Yang Thesis, Correspondence, and notes 1997

8-16 Yiu Oral Examination Programme 1985

8-17 Pseudo - Zellen 1961-62

8-18 Zhongmou - Thesis and Correspondence Thereon 2000

8-19 Bott, R. Morse Theory U. Anwendungen ~1958

8-20 Browder, W. IV – Surgery and the Fundamental Theorem n.d.

8-21 Homology Groups of Maps n.d.

8-22 Kirby and Siebermann – On the Triangulation of Manifolds n.d.

8-23 Literaturauszüge 1957-1963

PROOFS AND NOTES Series (continued)

English Notes subseries (continued)

8-24 Embeddings of top manifolds - Main Theorem n.d.

LUFT PAPERS Series (cont.)

A Contractible Compact 3-manifold is a 3-cell subseries (cont.)

8-25 A Contractible compact 3-manifold is a 3-cell – brown folder 1 – drafts and notes n.d.

8-26 A Contractible compact 3-manifold is a 3-cell – brown folder 2 – technology notes n.d.

8-27 A Contractible compact 3-manifold is a 3-cell – brown folder 3 – drafts and notes n.d.

BOX 9

9-1 A Contractible compact 3-manifold is a 3-cell – brown folder 4 – drafts and notes n.d.

Other Titles subseries (cont.)

9-2 Involutions w/isolated fixed points on orientable 3-dimensional flat space forms by Luft and Stevens 1984

9-3 Luft Articles 1965-1995

9-4 Luft Articles 1959-1991

9-5 Reviewer Abstract by Cynthia Hog-Angeloni of Luft Book 1997

TEACHING AND WORK RECORDS Series (cont.)

9-6 International Congress of Mathematics slides and notes - n.d.

9-7 Lectures and Seminars 1963-1998

9-8 Luft Referee of Sakaria - Embedding and unknotting of some polyhedra [July, 1986)

9-9 Planning for Xingru Visit n.d.

9-10 Problems 1973-1993

9-11 Requests for Reprints 1963-1999

9-12 UBC 1 1990-93

EPHEMERA Series (cont.)

9-13 Facebook comments on Luft Passing 2018