University of British Columbia, VIZ@UBC, March 4, 2020

Visual Data and Data Visualization for Digital Humanities

Ben Shneiderman @benbendc

Founding Director (1983-2000), Human-Computer Interaction Lab Professor, Department of Computer Science

Member, National Academy of Engineering



Photo: BK Adams







Interdisciplinary research community

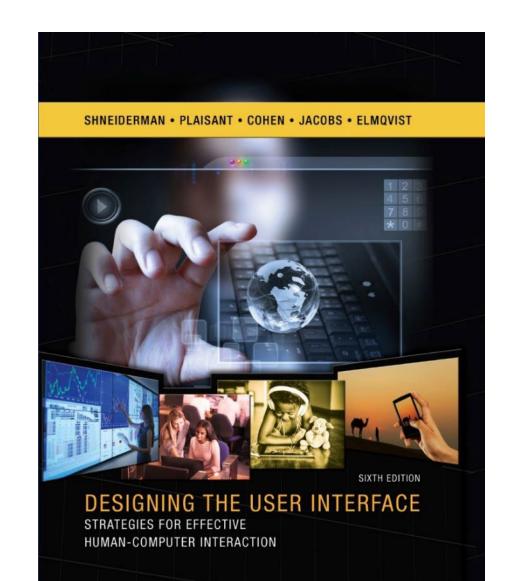
- Computer Science & Info Studies
- Psych, Socio, Educ, Jour & MITH

hcil.umd.edu vimeo.com/72440805

Designing the User Interface

Design Theories

Direct manipulation Menus, speech, search Social Media Information Visualization



Sixth Edition: 2016

Web links

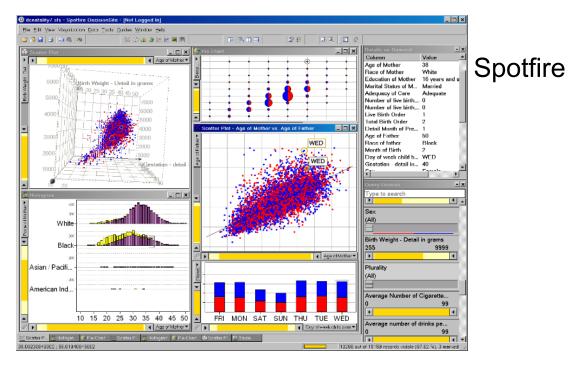
The University of Maryland, College Park (often referred to as the University of Maryland, Maryland, UM, UMD, UMCP, or College Park) is a public research university^[10] located in the city of College Park in Prince George's County, Maryland, approximately 4 miles (6.4 km) from the northeast border of Washington, D.C. Founded in 1856, the university is the flagship institution of the University System of Maryland. With a fall 2010 enrollment of more than 37,000 students, over 100 undergraduate majors, and 120 graduate programs,

Tiny touchscreen keyboards

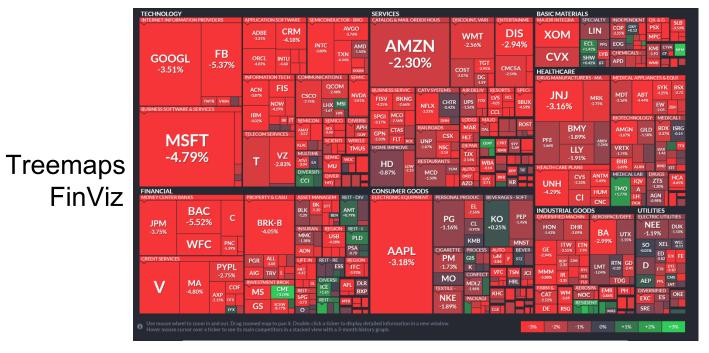


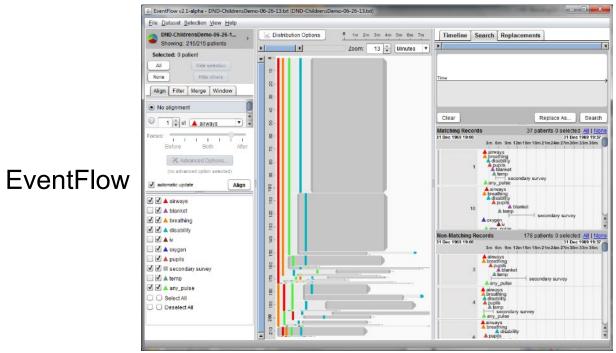
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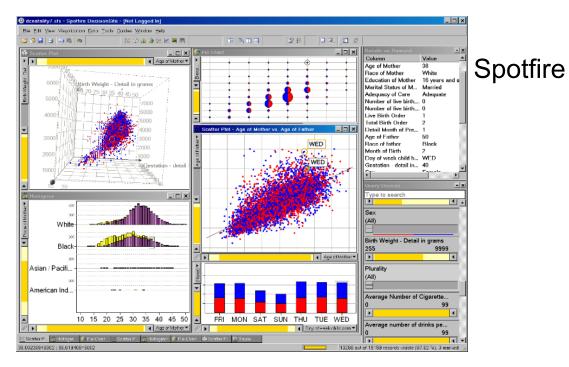




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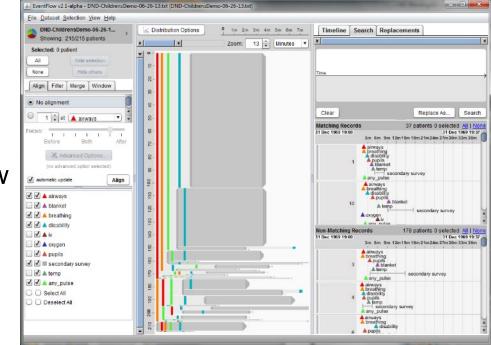






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NodeXL

EventFlow



Information Visualization & Visual Analytics

READINGS IN INFORMATION VISUALIZATION USING VISION TO THINK WRITTEN AND EDITED BY

> STUART CARD JOCK MACKINLAY BEN SHNEIDERMAN

Information Visualization & Visual Analytics

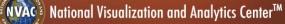
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Illuminating the Path

Research and Development Agenda for Visual Analytics

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Edited by Daniel Keim, Jörn Kohlhammer, Geoffrey Ellis and Florian Mansmann

mastering the information age

solving problems with

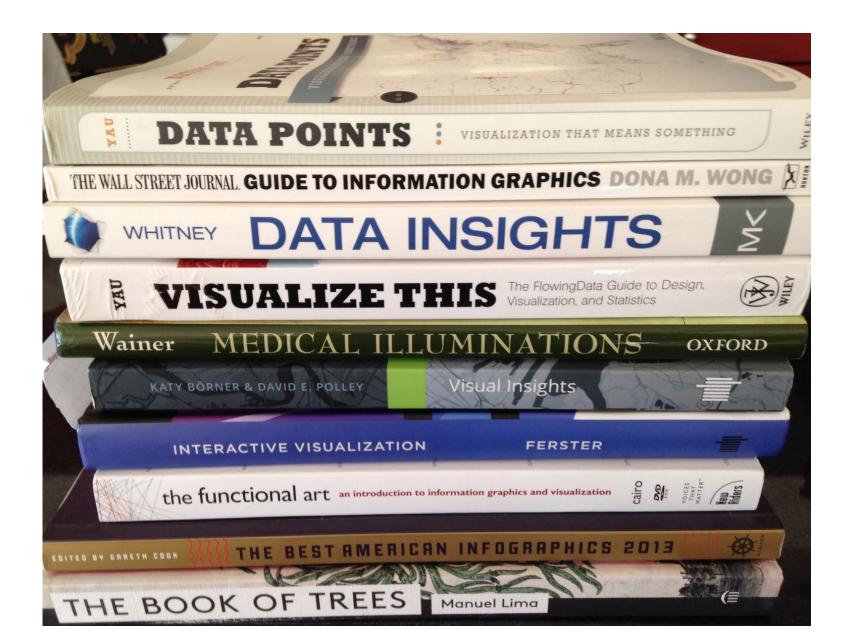
visual analytics







Information Visualization: Cultural Meme



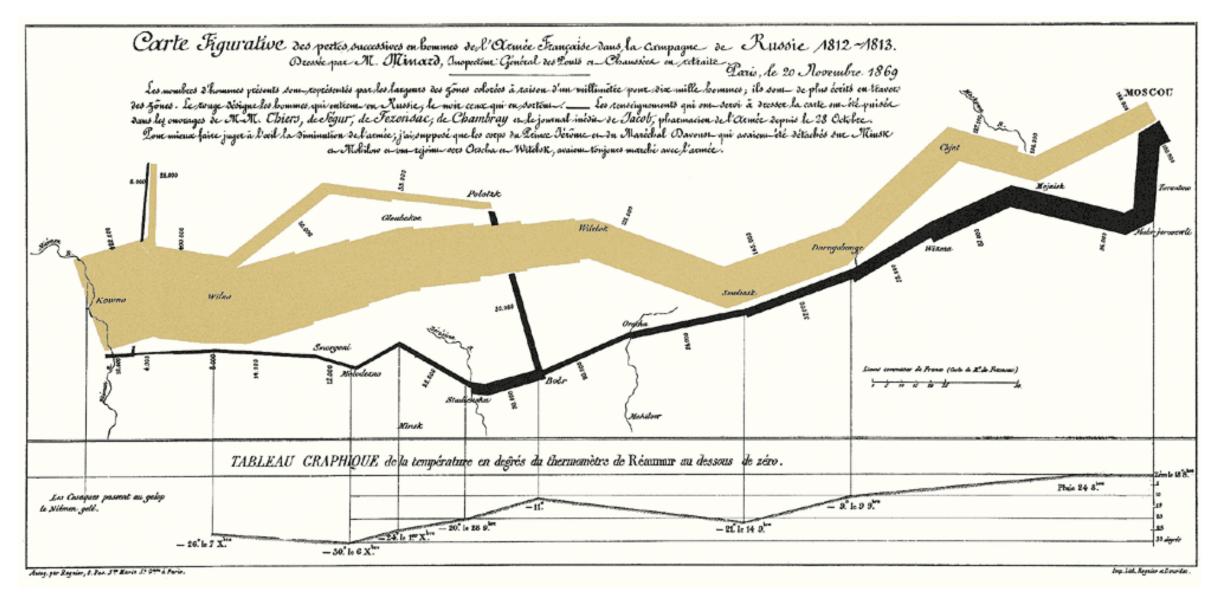
Information Visualization: Textbook



Tamara Munzner

Visualization Analysis and Design CRC Press, 2014 ISBN 1466508914 http://www.cs.ubc.ca/~tmm/vadbook/

Minard's Napoleon's 1812 March



https://thoughtbot.com/blog/analyzing-minards-visualization-of-napoleons-1812-march



Information Visualization: Mantra

- Overview, zoom & filter, details-on-demand

Information Visualization: Data Types

- 1-D Linear Document scrolling/panning
 - 2-D Map 3-D World Maps & Medical imagery
- SciVis CAD, Medical, Molecules, Architecture

Information Visualization: Data Types

InfoVis

Text

- **1-D** Linear Document scrolling/panning
 - 2-D Map Maps & Medical imagery
- SciVi **3-D World** CAD, Medical, Molecules, Architecture
 - Multi-Var Spotfire, Tableau, Qliktech, Visual Insight
 - Temporal EventFlow, TimeSearcher, Palantir, DataMontage
 - Tree Node-link, Nested-Indented, Treemap
 - Network Pajek, UCINet, NodeXL, Gephi, Tom Sawyer
 - TagClouds, Wordle, Google Ngram Viewer
 - Visual LightBox, PhotoShop, Flickr, Google Photos

Information Visualization: Data Types

- 1-D Linear Document scrolling/panning SciVi
 - 2-D Map Maps & Medical imagery
- 3-D World CAD, Medical, Molecules, Architecture
 - Multi-Var Spotfire, Tableau, Qliktech, Visual Insight
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 - Visual LightBox, PhotoShop, Flickr, Google Photos

flowingdata.com eagereyes.org visualisingdata.com informationisbeautiful.net perceptualedge.com https://mdl.library.utoronto.ca/dataviz/getting-started





Data Visualization As an Act of Witnessing

The Undocumented Migration Project pop-up installation "Hostile Terrain" visualizes the humanitarian crisis on the U.S.'s



The Mental Mindgames of Measuring Milk

A quick data experiment to test whether the volume measurements on different bottles vary or the bottles are just

Visualization amplifies cognitive & perceptual abilities → engaging viewers, provoking bolder questions, enabling deeper insights.

Visualization has the power to unleash imaginative and conceptual potential.

The purpose of visualization is insight, not pictures.

Visualization opens up new scholarly methods for humanities

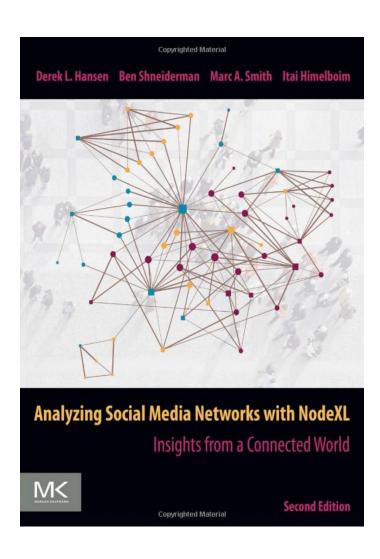
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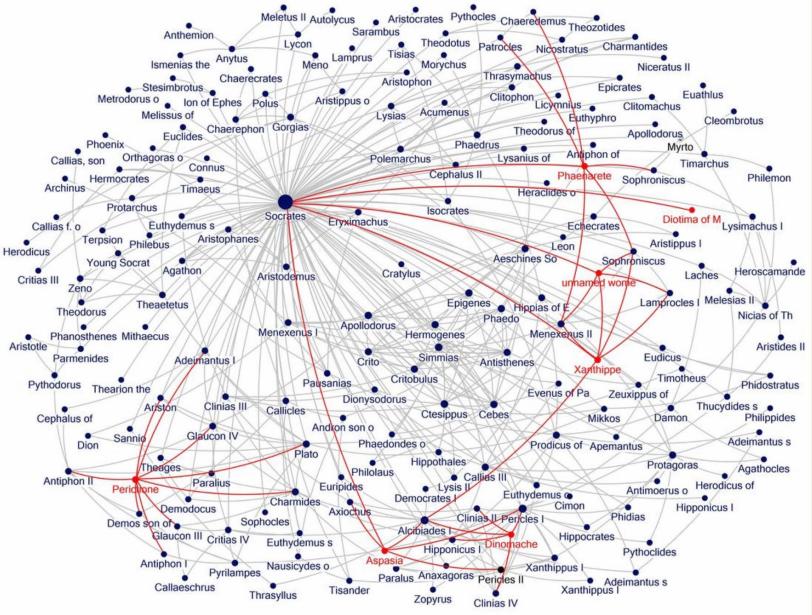
4th Workshop (2019) Visualization for the Digital Humanities http://vis4dh.dbvis.de/

Johanna Drucker (2014): Graphesis: Visual Forms of Knowledge Production https://www.hup.harvard.edu/catalog.php?isbn=9780674724938

NodeXL Social Network Visualization Tool & Book NodeXLgraphgallery.org

Socrates: Relationships (women in red) (Diane Cline)

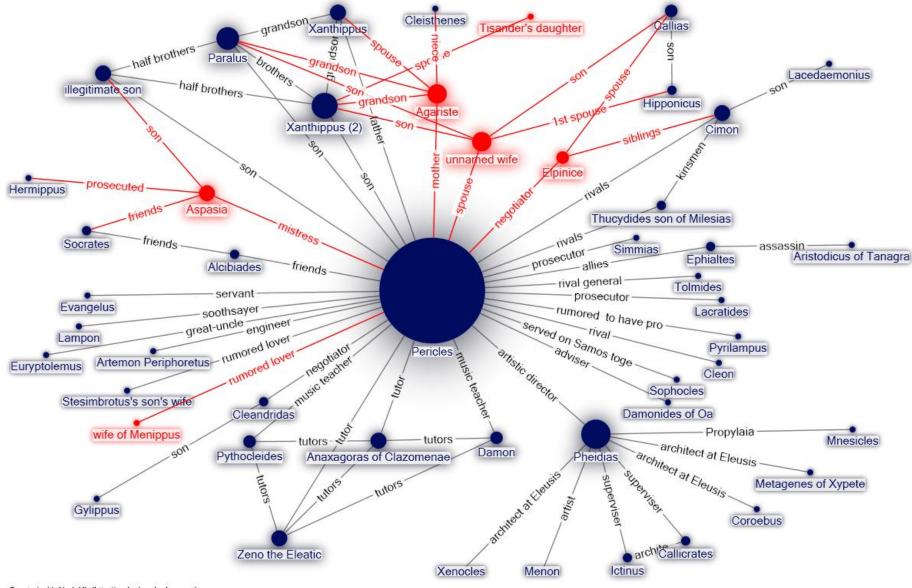




http://www.chs-fellows.org/2019/02/21/social-network-of-socrates/

Pericles: Relationships (women in red) (Diane Cline)

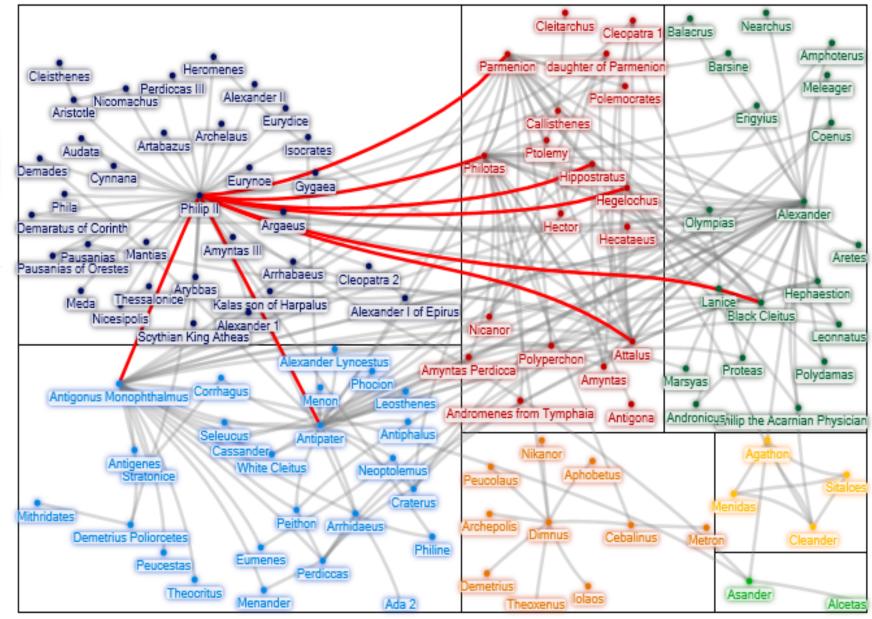




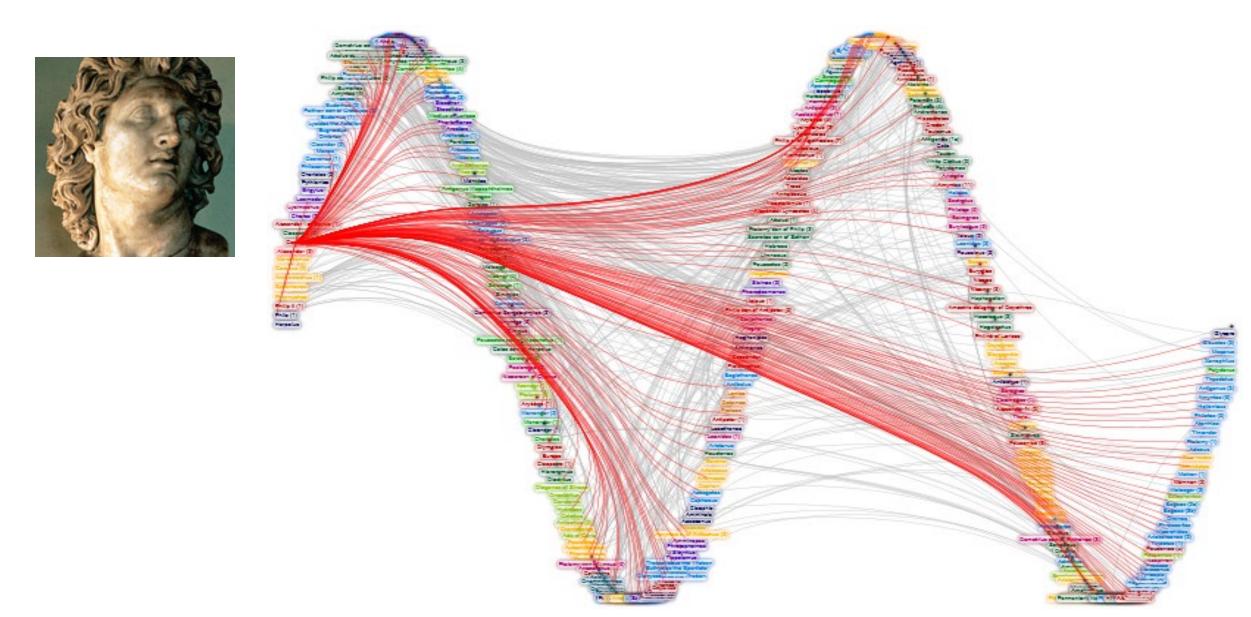
Created with NodeXL (http://nodexl.codeplex.com)

Philip II & and His Generals

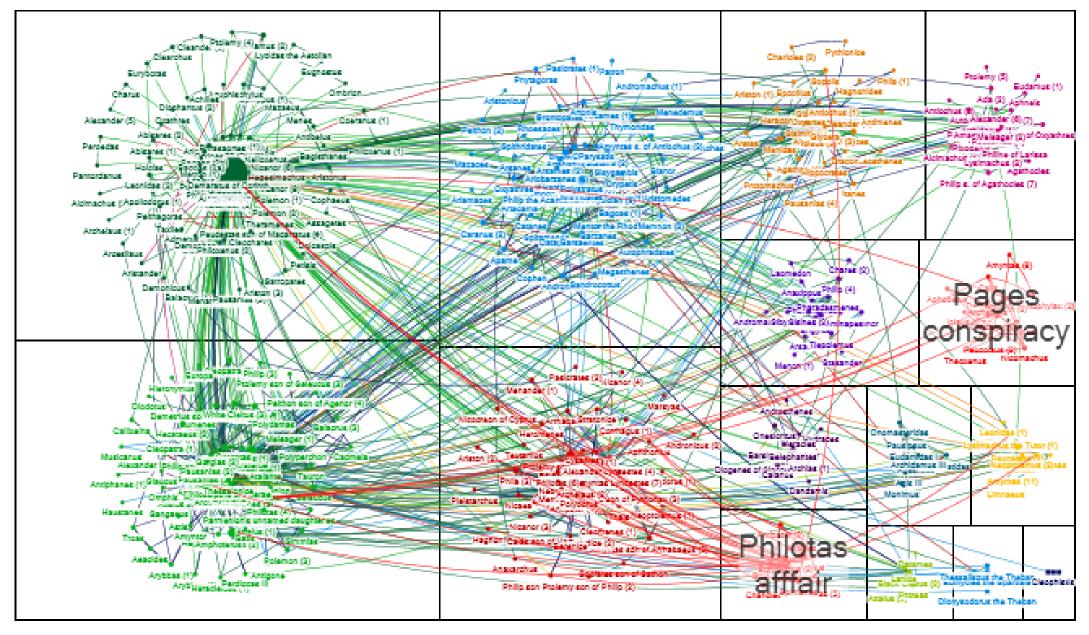




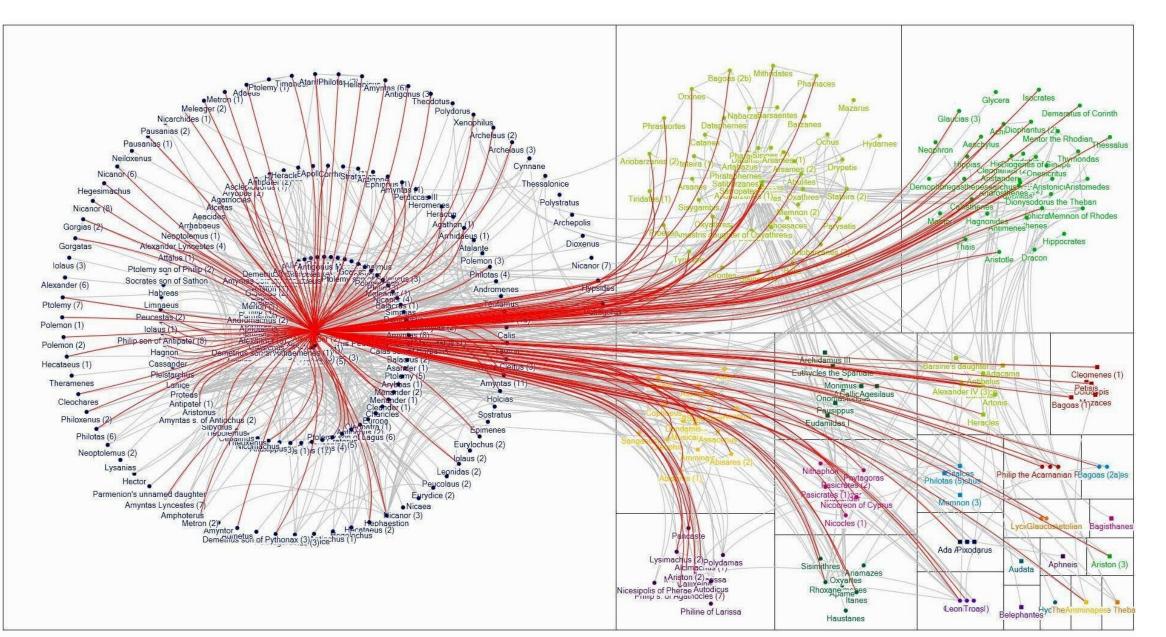
Alexander the Great: Social Network Analysis



Alexander the Great: Network & Two Conspiracies

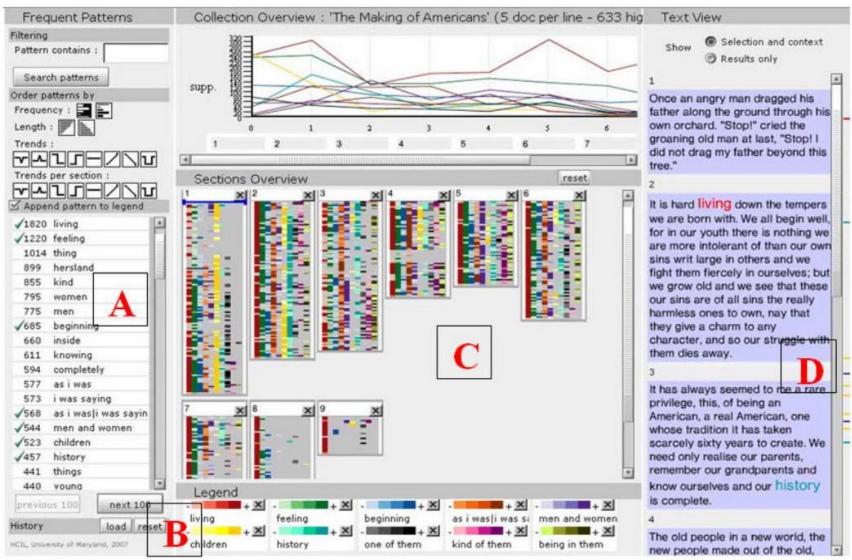


Alexander the Great: Relationships to Ethnic Groups





FeatureLens: Word Frequencies by Chapter



Discovering Interesting Usage Patterns in Text Collections: Integrating Text Mining with Visualization Anthony Don, Elena Zheleva, Machon Gregory, Sureyya Tarkan, Loretta Auvil, Tanya Clement, Ben Shneiderman and Catherine Plaisant

http://www.cs.umd.edu/hcil/textvis/featurelens/

BasketLens: Multiple word search across documents

🕸 BasketLens 1.0									
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Delayed till she March is	had ceased to kno				5	1	1		Words in dic: 3453
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l feltitno Itis			1		1		1		A little bread , a crust - a crumb ,
God bless you for the Bread ! Wish I had			1				1		A little trust , a Demijohn , Can keep the soul alive ,
A Promise						1	1		Not portly - mind !
E xcu se me - Dollie - Her breast is fit for pearls ,									But breathing - warm - Conscious , as old Napoleon
These are the d								The night before the Crown ! A modest lot , a fame petite .	

Exploring Erotics in Emily Dickinson's Correspondence with Text Mining and Visual Interfaces

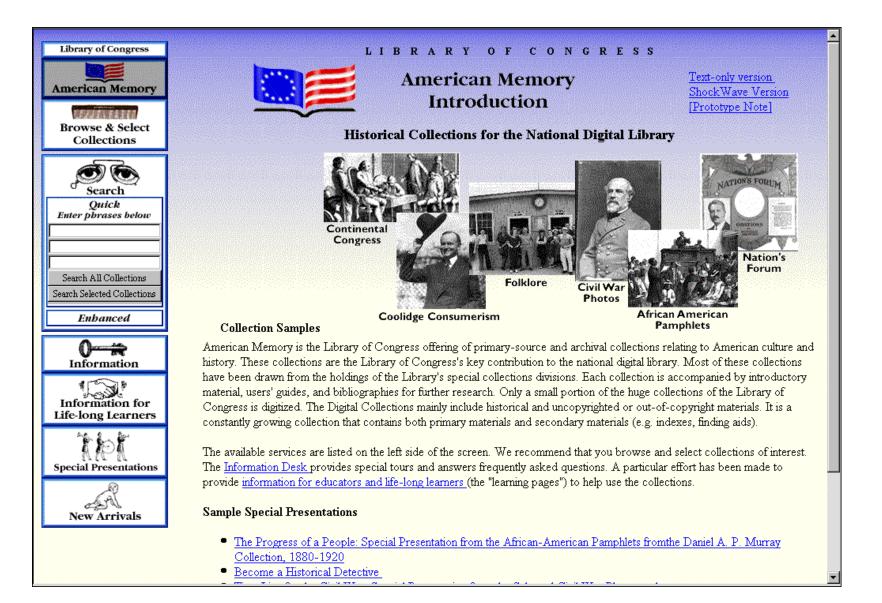
Catherine Plaisant, James Rose, Bei Yu, Loretta Auvil, Matthew G. Kirschenbaum, Martha Nell Smith, Tanya Clement & Greg Lord, ACM/IEEE JCDL (2006)

http://www.cs.umd.edu/hcil/textvis/basketlens/

U.S. Library of Congress

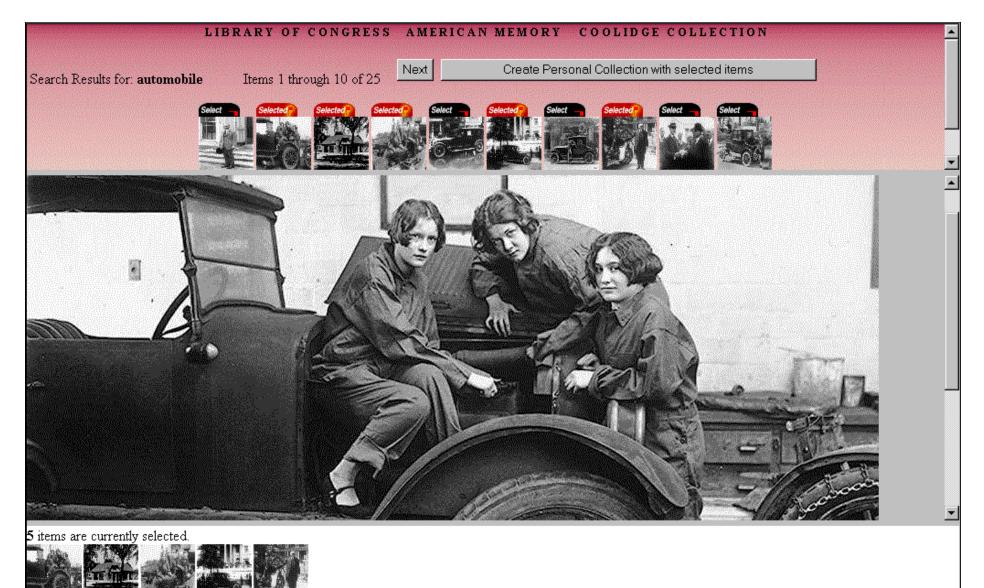


- Scholars, Journalists, Citizens
- Teachers, Students

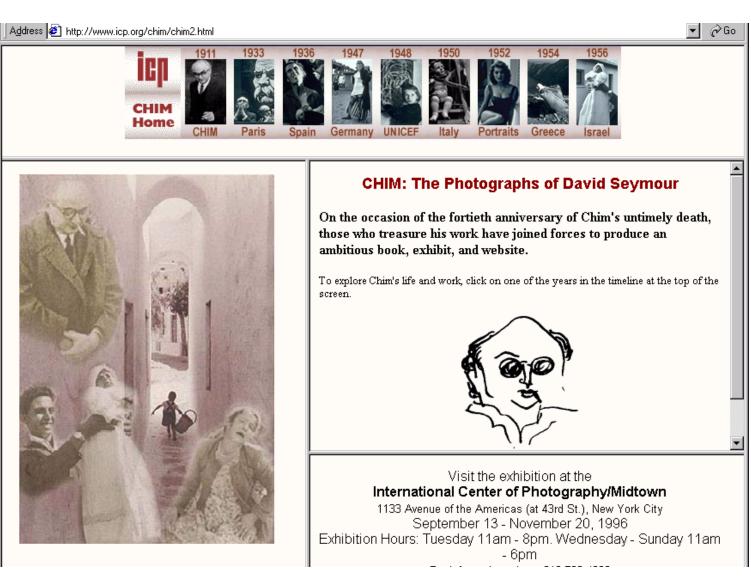


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N PN	 ✓ Gary Jones - Railroad safety Collection ✓ Jones music collection (Fake) 	(Fake)		
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New Arrivals				

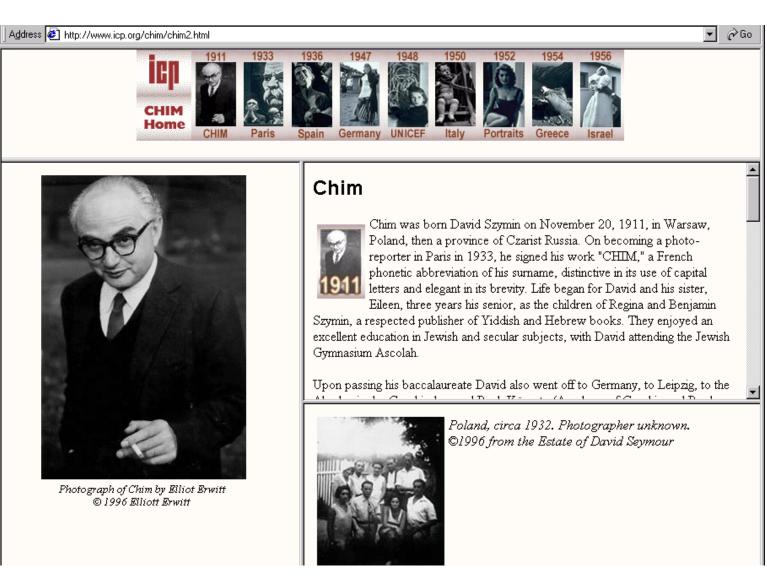
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Information Information for Life-long Learners	A - F Ara Shirinian collection (Fake) Coolidge-Consumerism Collection Earl Jones collection (Fake) Ford Automobile History Collection (Fake) G - L Gary Jones - Railroad safety Collection (Fake) M - R
Special Presentations	Marking Collection (Fake) Plaisant Publishing Company collection (Fake) S - Z
New Arrivals	The Coolidge-Consumerism collection assembles a wide array of LC primary-source materials from the 1920s, some 17,000 pages reflecting the propserity of the Coolidge years, the nation's transition to a mass-consumer economy, and the role of government in this transition. The selective thematic focus and range of formats in this collection represent an effort to assemble topical bodies of material as opposed to reproducing preestablished collection entities.

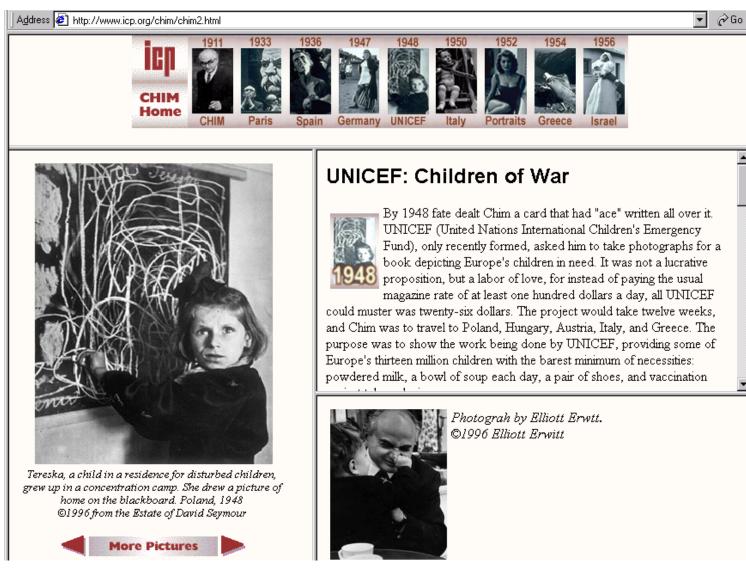




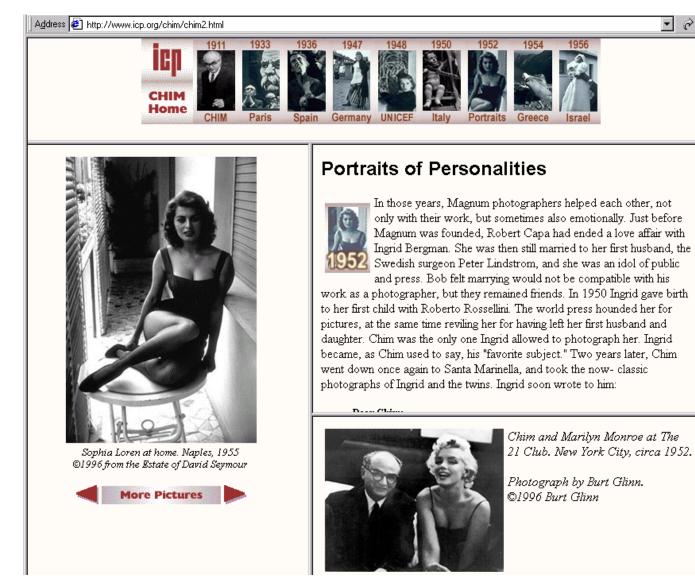


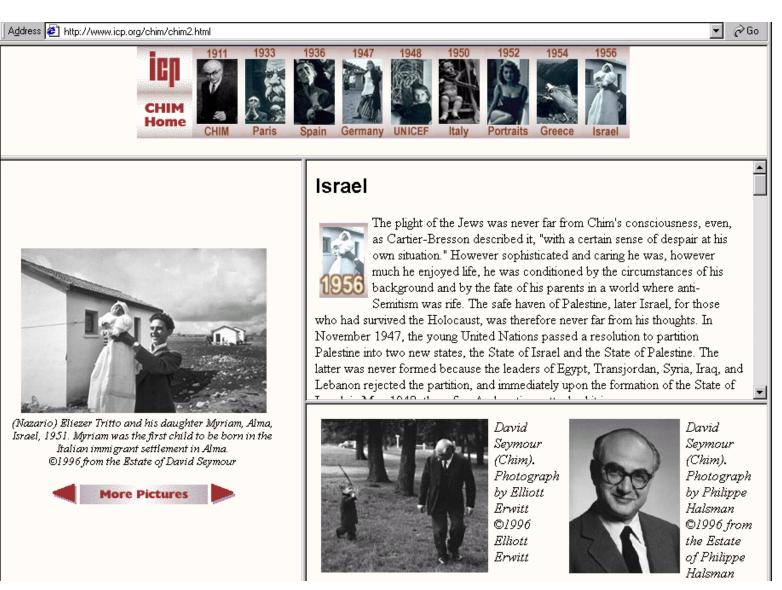
http://chim.icp.org/index.html





🔻 🤗 Go





David Seymour – CHIM



https://davidseymour.com/

CHIM Archive: 700+ letters

CHIM ARCHIVE THIS ARCHIVE CONTAINS PERSONAL AND WORK-RELATED LETTERS DOCUMENTS AND PHOTOS OF DAVID SEYMOUT (CHIM).

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> Letters to/from Friends

> Work Related Correspondence

> Letters to/from his sister Hala

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David Seymour (1911-1958) was one of the most influential photojournalists of the 20th century. He took the name 'CHIM' based on his family's original Polish name (Bzymin). CHIM was known for his early work in Paria and the Spanish Civil Way. After Word War II his photographot of orphan children for UNESCO-estabilished his repution. He was a co-founder of the photo cooperative llagrum in 1947 and was President at the time of his death by Egyptian fire while photographing for Newsweek after the cases fire in the 1968 Suc Circles. His biography www.icp.org/chim tells the story of how he won the trust of Hollywood personalities, political luminaries, and ordinary people in order to make compelling portraits and tell revealing stores.

For more information on the CHIM portfolio of photos, recent exhibits or books, historical reports on his life, and personal recollections visit the David Seymour Web Site.

This CHIM Archive includes 680 documents, spanning the period from 1931 to 1961. Most are in English, but some are also in French, Polish and Spanish. The originals remain with CHIM's nephew, Ben Shneiderman, and niece, Helen Sarid.



CHIM ARCHIVE

THIS ARCHIVE CONTAINS PERSONAL AND WORK-RELATED LETTERS, DOCUMENTS AND PHOTOS OF DAVID SEYMOUR (CHIM).

- > About the CHIM Archive
- > Letters to/from Friends
- > Work Related Correspondence
- > Letters to/from his sister Hala
- > Press Accreditations
- > CV, Documents & Misc.
- > Condolences
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www.davidseymour.com/archive/

CHIM Archive: Index as Overview



CHIM ARCHIVE

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Letters to/from Friends

Letters from Chim, Paris, to Emma [last name unknown] in Warsaw [in Polish], and from Emma to Chim [in Polish, when he was studying in France,] 1931-33

Notes made by CHIM's sister of correspondence with his girlfriend Emma in Warsaw when he was studying in France [translated from Polish] 1931-32

Letter from Chim to Emma, Paris [on cafe Brasserie Roblin letterhead, in Polish: Hala Shneiderman's handwritten note on the back says Emma, 1931-32]

Letter from Emma to CHIM [in Polish], 1932

Letter from Emma to CHIM [in Polish], May 1932

Letter from Emma to CHIM [in Polish], May 1932

Hala Shneiderman's typed quotes from CHIM's letters to Emma, 1933

Letter from Emma to CHIM [in Polish], undated [c. 1933]

Letter from CHIM to Emma [in Polish], undated [c. 1933]

Letter from CHIM to Emma [in Polish], undated [c. 1933] ?

Letter from Emma to CHIM [in Polish], undated [c. 1933] ?

Letter from CHIM, Paris, to Emma [in Polish], undated [c. 1933] ?

Letter from CHIM, Paris, to Emma [in Polish], undated [c. 1933] ?

Letter from Emma [?] to CHIM with heading: "cercle des etrangers de Monaco", [in Polish]

Letter from Denise to CHIM [in French], July 1945

Letter from Denise to CHIM [in French], Aug. 1945

Letter from Ted Allen, Canadian playwright, London, to Chim [asking Chim to find him a place to stay with his family

CHIM Archive: Ingrid Bergman

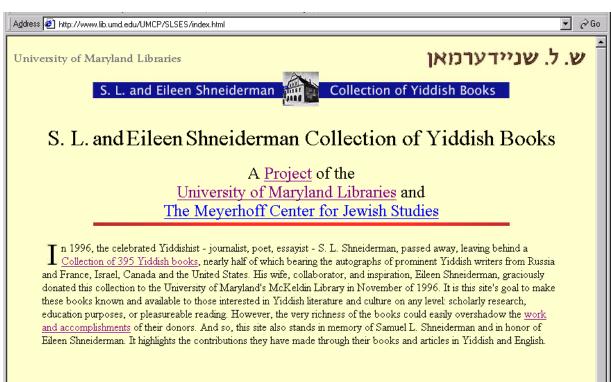
Letter from Ingrid Bergman, Rome, to CHIM, ["You are a marvelous photographer and I am a marvelous baby maker"], Oct. 1952

eacs	two c	(Original in JCP - E.S.)
st me know very soon about the photos b verybody is after me. You dont have to	photos with him and twins and one or t	Rome, Oct. II- 52 Dear Chim;
	my cousifs, the en a few of the	you are a marvelous photographer and I am a marvelous baby maker! Of course I have IO3 re- quests among friends for these photos! Can you make
		me some copies of the good ones, or do I have your permission to make copies here? I am so afraid that you have given the negatives to England as you did
	a L Be	to LOOK. However these are the numbers I would like to have more of; 80, 83, 84 , and 79. But here is

Again thanks and best wishes to you from Roberto

Quegrio (

and



The Donors



In my recollection, <u>my</u> <u>parents</u> always worked as a team. I often heard my father dictating in Yiddish, while my mother wrote her mystical shorthand notations. She would re-

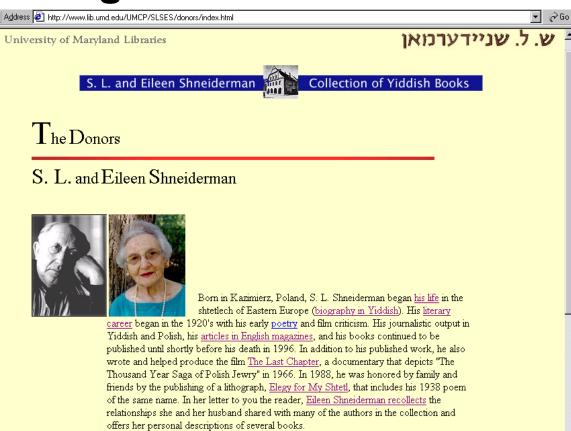
read sentences while suggesting improvements and he would revise repeatedly, searching for the appropriate phrasing and asking her for names, dates, etc. Then she would repeatedly re-type the text for several passes of cutting and pasting with strips of white and yellow paper covered with handwritten revisions. The final returning Here at McKeldin Library, <u>these</u> <u>Yiddish books</u> proudly take their place alongside other Jewish literatures in Hebrew and all the major languages of western civilization. The books in this collection, range from fiction to journalism, from poetry to memoirs, from evocations of the shtetl (small town) to analyses of contemporary Israeli foreign policy.

There are autographed volumes from famous poets like A. Sutzkever and J. Glatstein, and Yiddish historians and religious thinkers like Isaac Lewin To bioblight the

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S. L. Shneiderman's key book publications in English include:



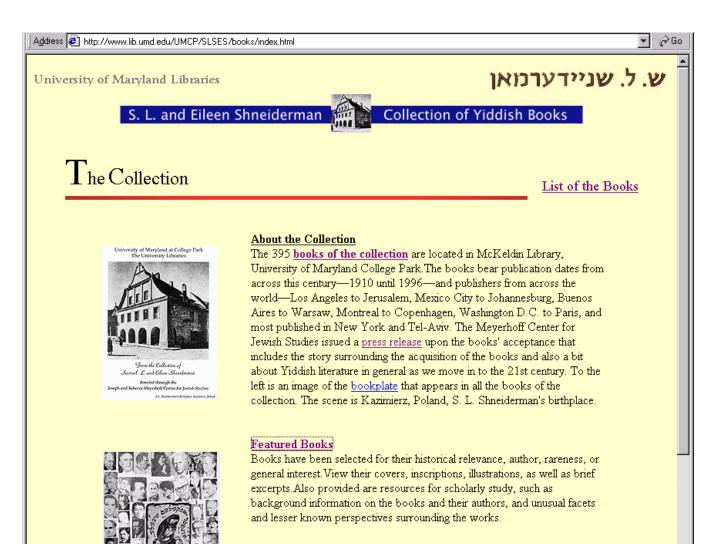
that were largely destroyed by the Nazis during World War II. He wrote an early book about post-war Poland, <u>Between Fear and Hope</u>, and a review of the Polish uprising of

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quote one of his poems in the original [English translation provided]: (view translation and image of Yiddish text



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Take Away Messages

Digital humanities designers can learn a lot from information visualization researchers



 Digital humanities designers can learn a lot from information visualization researchers

 Computer scientists can learn a lot from cultural heritage scholars



 Digital humanities designers can learn a lot from information visualization researchers

 Computer scientists can learn a lot from cultural heritage scholars

• The Best is Yet to Come!





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