



# MPACT Family Trees:

Quantifying academic genealogy  
in library and information science

<http://ils.unc.edu/mpact>

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# MPACT

## ○ Description

The MPACT Project is an ongoing project devoted to defining and assessing Mentoring as a scholarly activity. We're collecting data on dissertations and dissertation committee service.

## ○ Current Statistics

Disciplines	7
Schools	42
Dissertations	3782
Advisorships	3767
Committeeships	9733
People	6831



# MPACT – Initial compilation

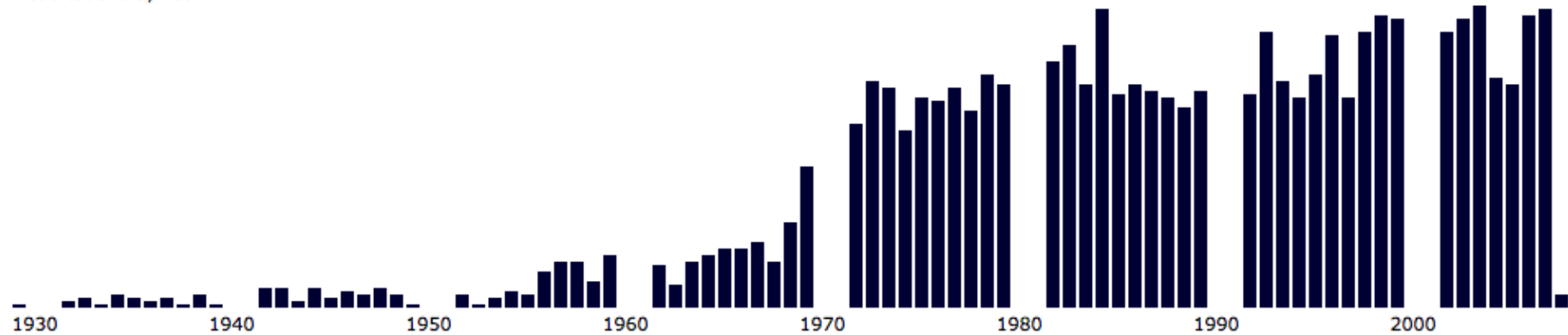
“The initial list of author names was compiled using the UMI Dissertation Abstracts database, WorldCat, two published bibliographies (Eyman, 1973; Schlacter & Thomison, 1982), and the online catalogs of the respective university libraries. Data on advisors and committee members were gathered from full-text versions of the dissertations held in Dissertation Abstracts for most dissertations completed in 1997 and later. Physical searches were made of the print and microforms dissertation collection at the University of North Carolina at Chapel Hill; other copies were obtained through interlibrary lending. A number of ILS schools provided additional information, including missing dissertations and advisor and/or committee member names that were illegible in the copies consulted. In some cases, personal contact with authors was made.”

Gary Marchionini, Paul Solomon, Cheryl Davis and Terrell Russell. Information and library science MPACT: A preliminary analysis. *Library & Information Science Research*, Volume 28, Issue 4, Winter 2006, Pages 480-500.

# MPACT – LIS “Complete”

## Library and Information Science

Dissertations by Year:

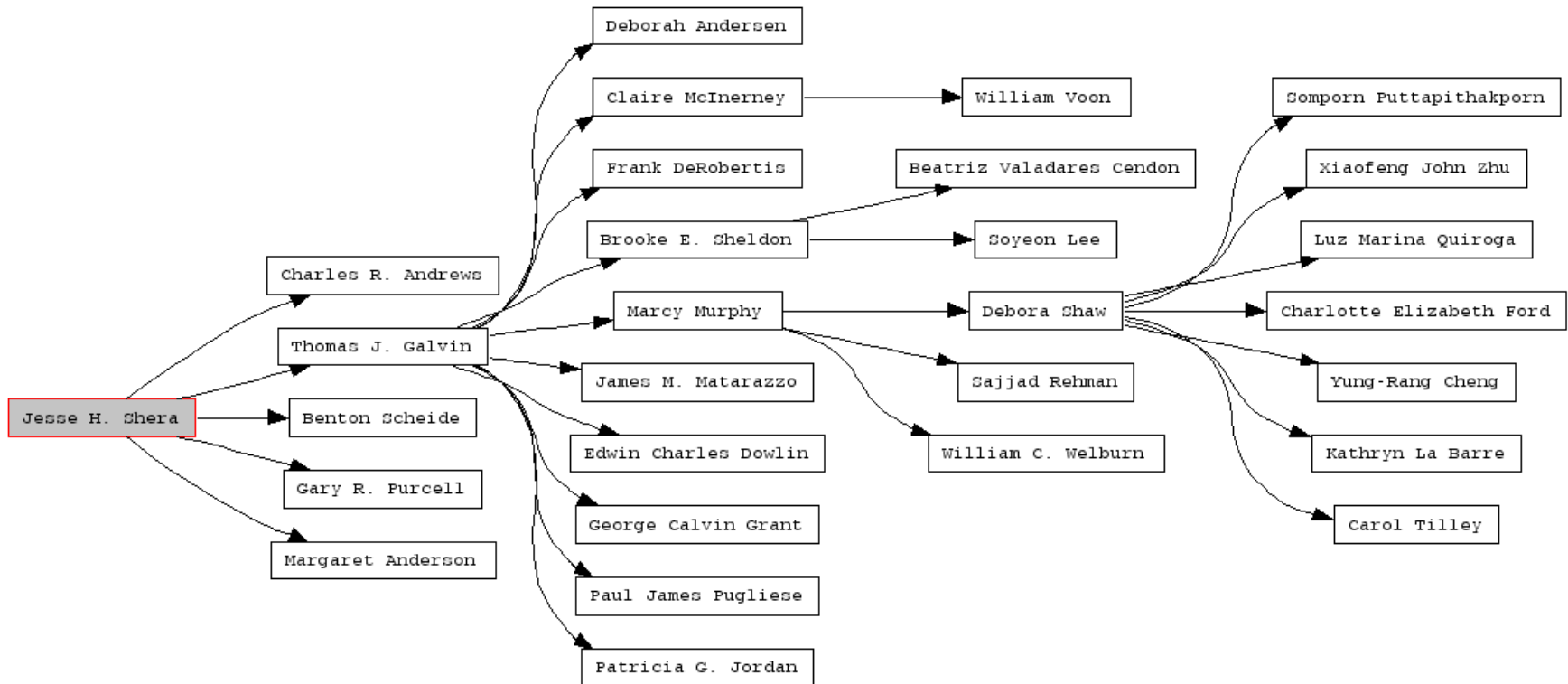


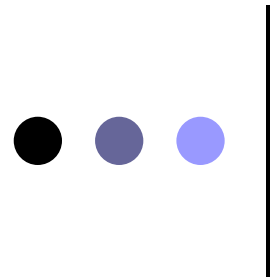


# Academic Genealogy

- Historically done manually/locally
  - Lineage of current prominent scholar
  - Descendants of “patriarch” of a field
  - By Department
    - <http://www.lib.utexas.edu/chem/genealogy/>
  - By Discipline
    - Artificial Intelligence Genealogy Project at the University of Texas at Austin
    - Mathematics Genealogy Project at North Dakota State University

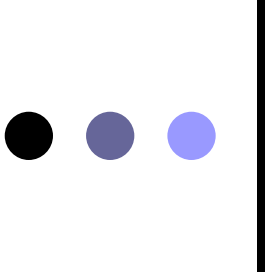
# Example MPACT Tree





# MPACT – Demo

<http://ils.unc.edu/mpact>

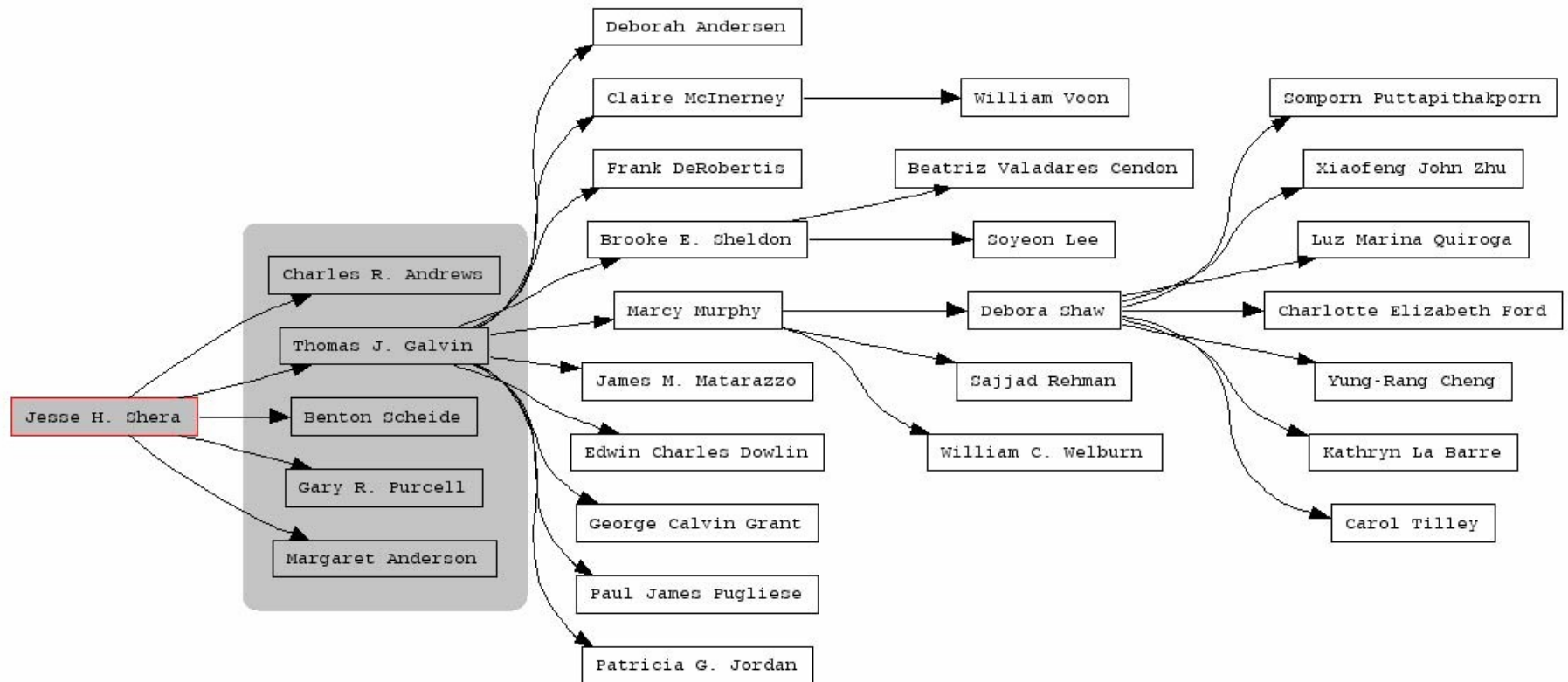


# MPACT – Metrics

- Seven proposed metrics
  - A – Advising
  - A+C – Advising and Committeeship
  - T – Tree
  - D – Decaying Tree
  - G – Generations
  - W – Width
  - TA – Advisors on Tree



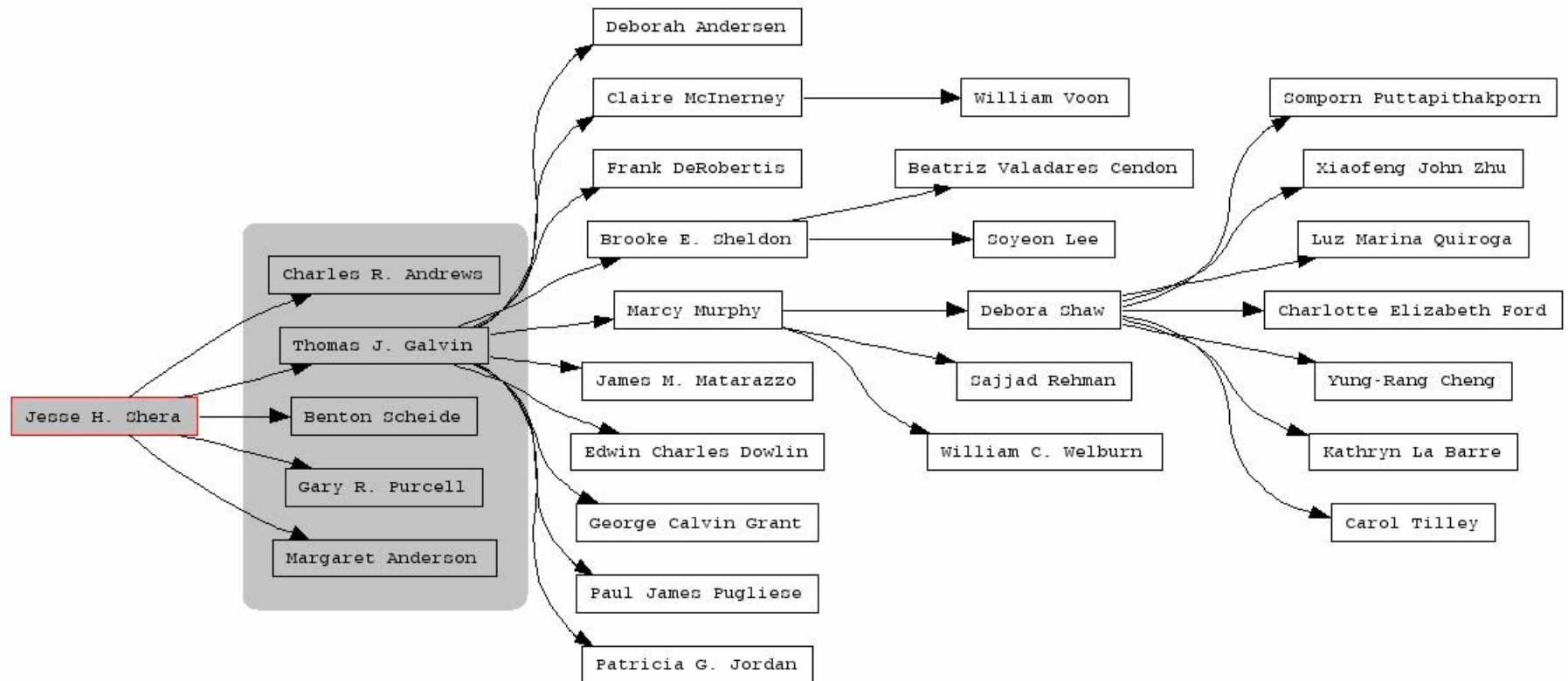
# A Score – Advising



5

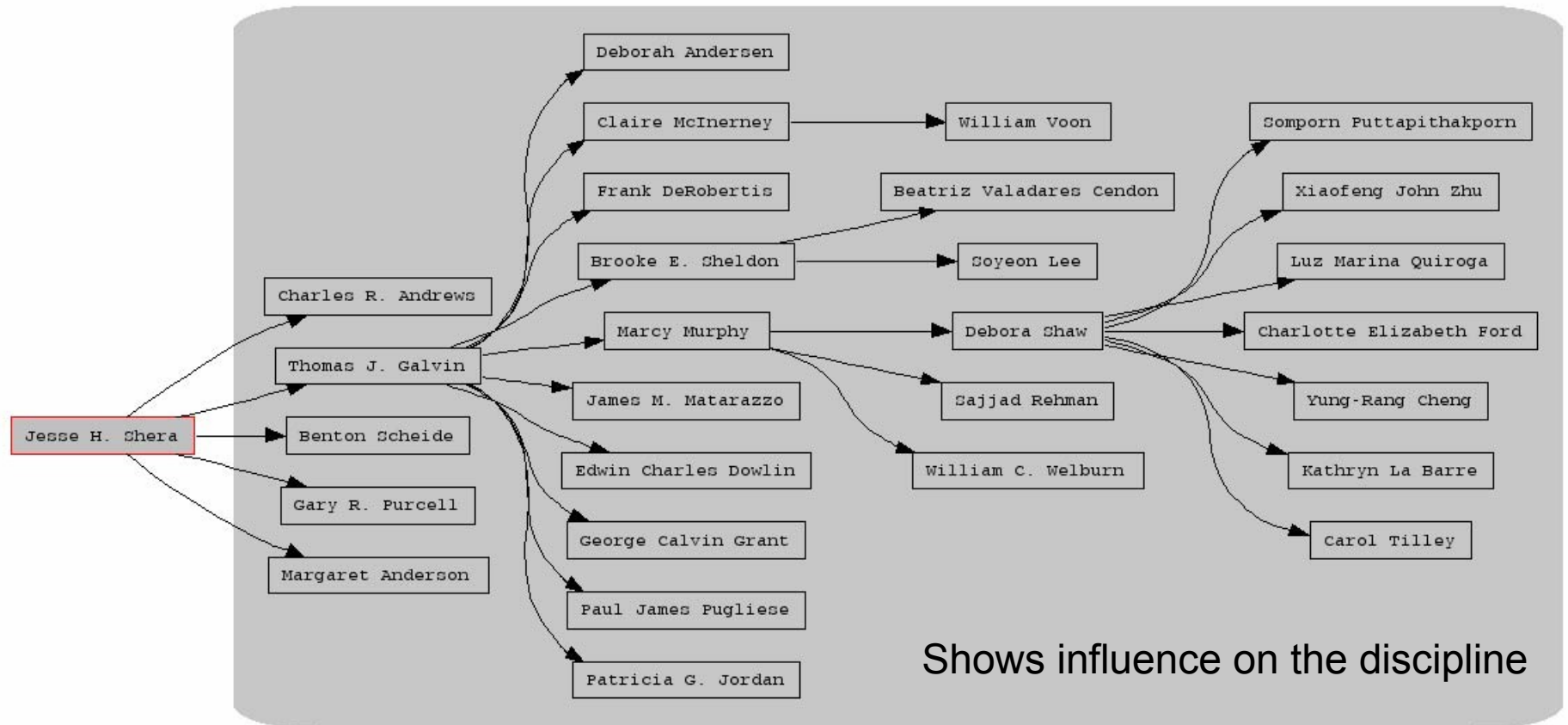
Measure of direct influence  
and “production”

# A+C Score — Advising and Committeeship



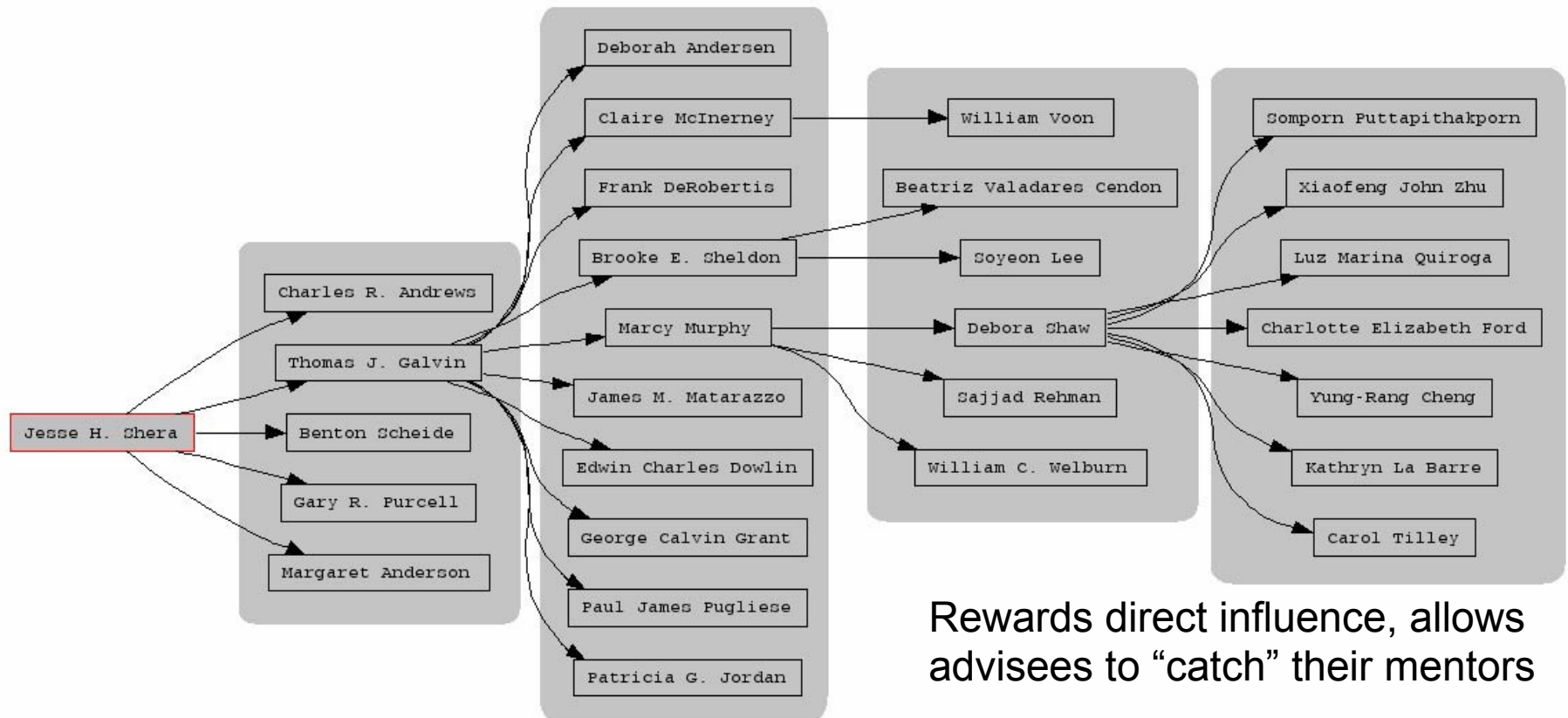
$$5A + 7C = 12$$

# T Score – Tree



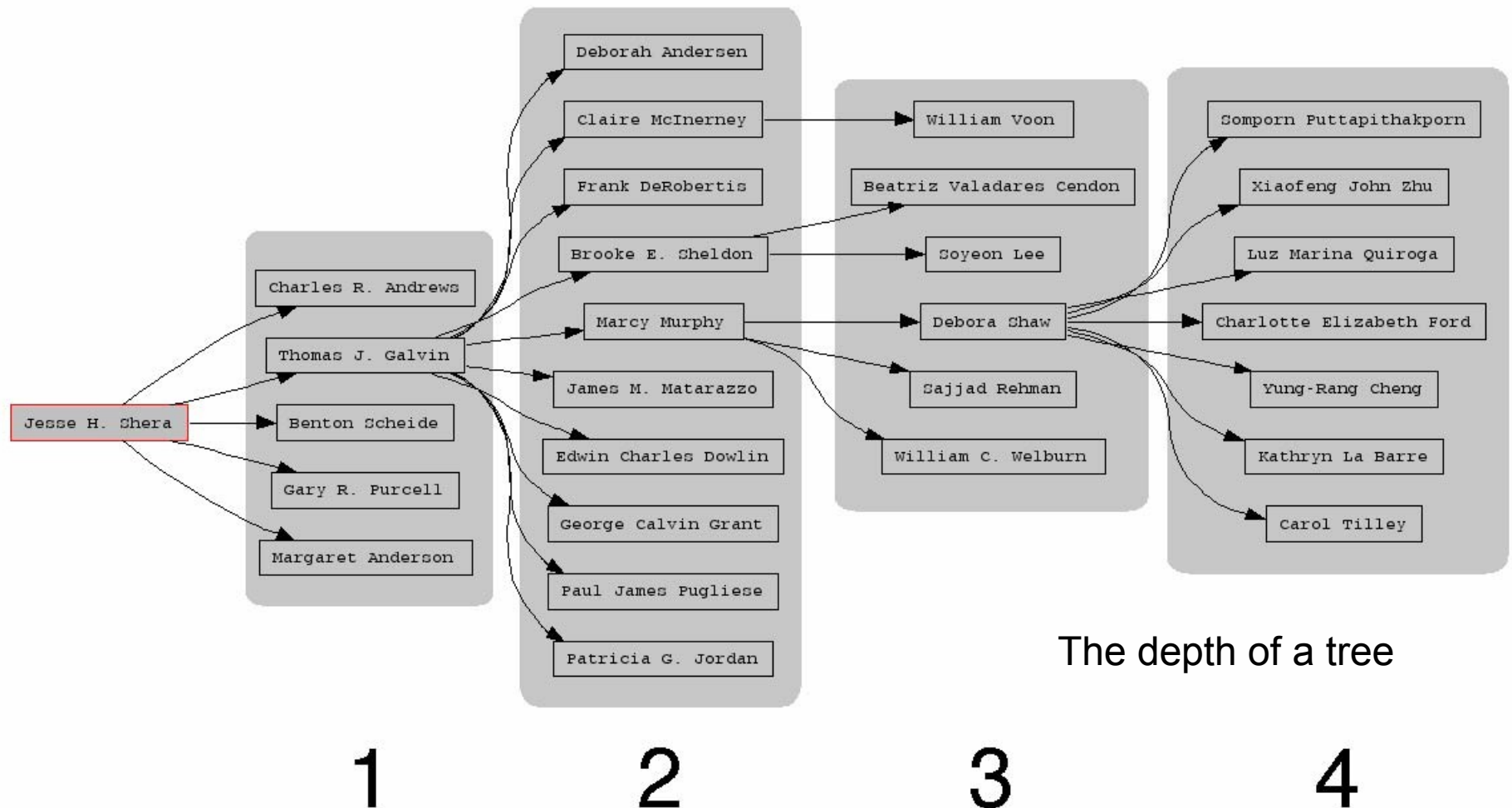
$$28 = 5 + 10 + 6 + 7$$

# D Score – Decaying Tree

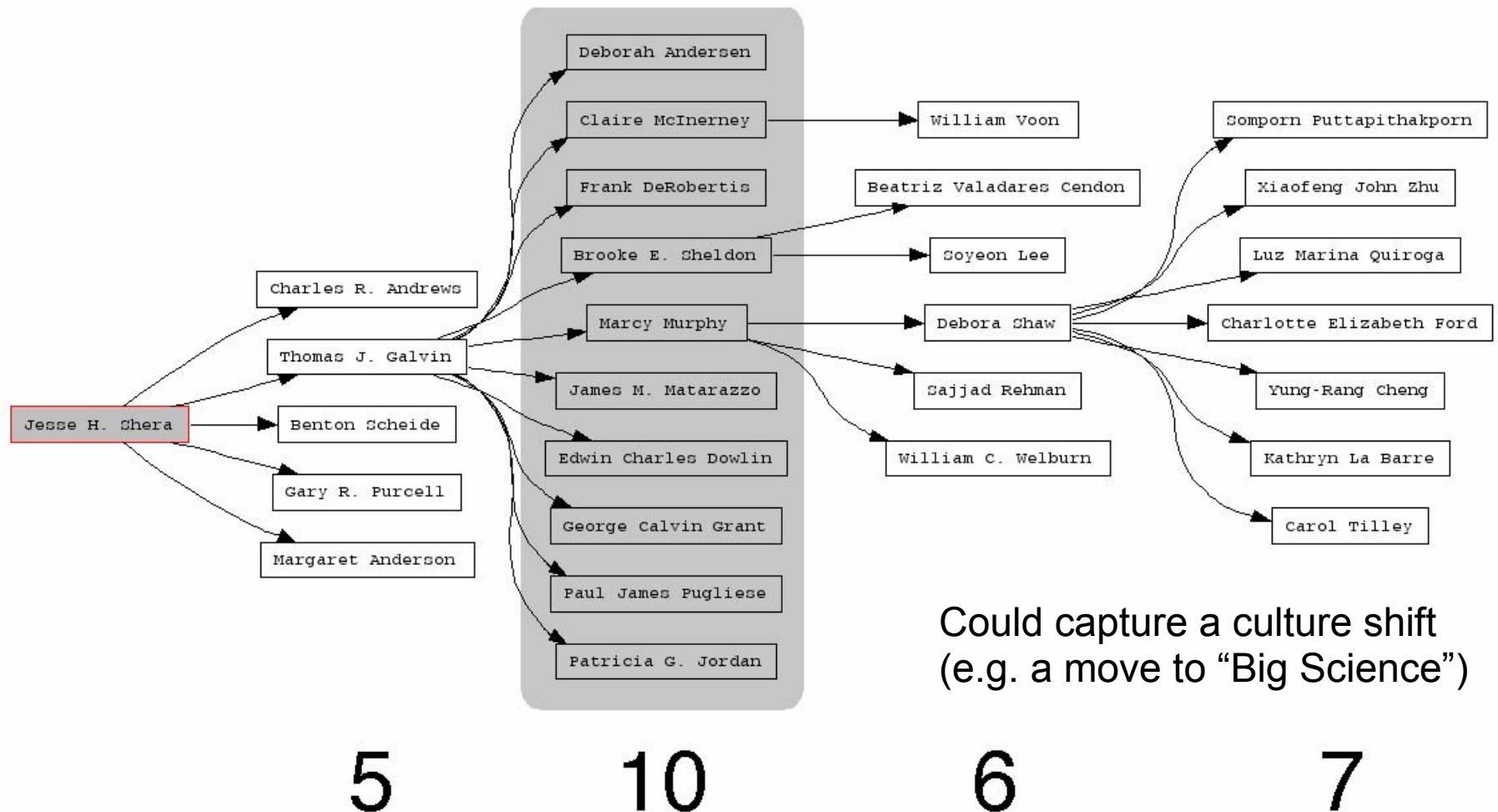


$$12.375 = \left(\frac{5}{1} = 5\right) + \left(\frac{10}{2} = 5\right) + \left(\frac{6}{4} = 1.5\right) + \left(\frac{7}{8} = .875\right)$$

# G Score – Generations

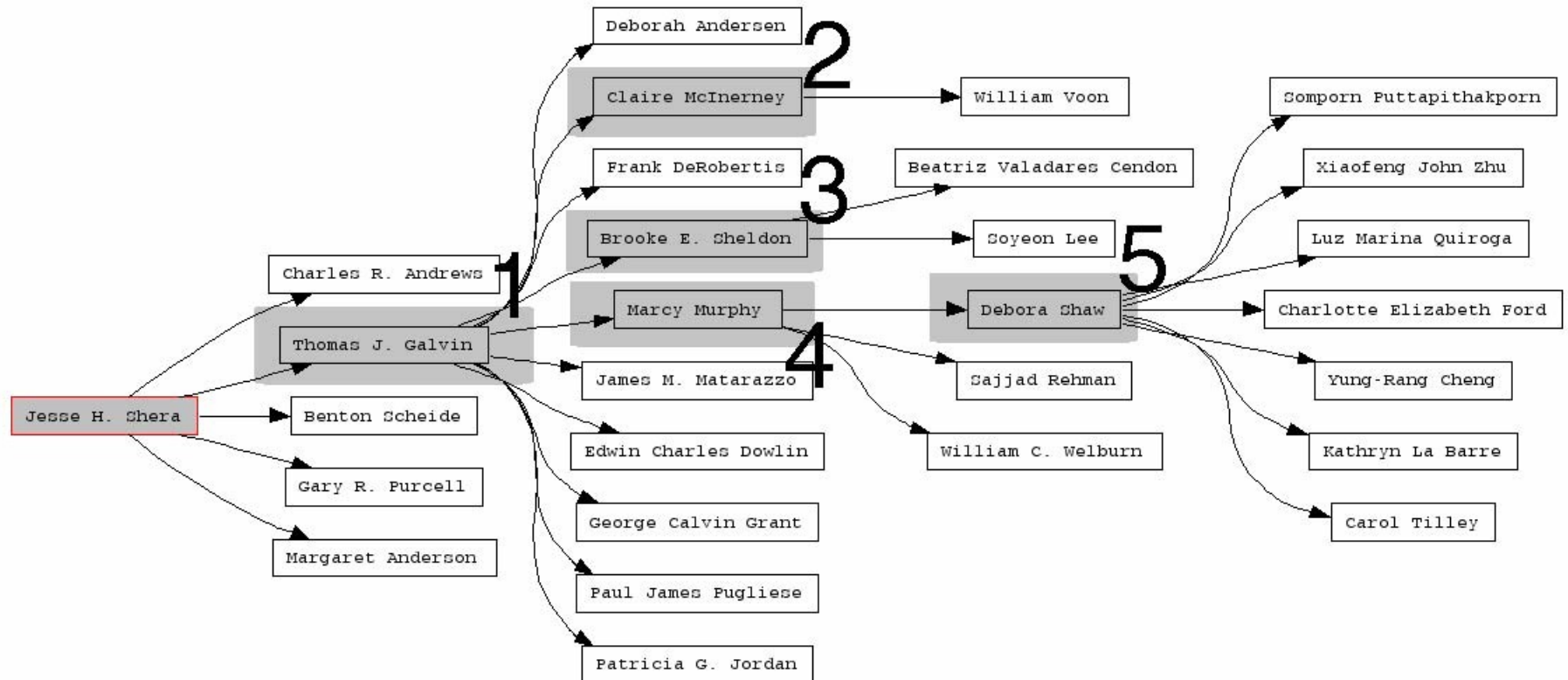


# W Score – Width



Could capture a culture shift  
(e.g. a move to “Big Science”)

# TA Score – Advisors on Tree



Hardest ladder to climb



# Implications

- Could investigate
  - Longevity of lines of inquiry
  - Comparison across disciplines
  - Influence of disciplines
- Automated via larger databases
  - ProQuest/UMI
  - Scopus
  - Google Scholar





# Related and Future Work

- Correlation with other established metrics of scholarly activity
  - Citation Counts
    - Cassidy R. Sugimoto, Terrell G. Russell, Lokman I. Meho, Gary Marchionini (2008). MPACT and Citation Impact: Two Sides of the Same Scholarly Coin? Library & Information Science Research, 30(4), 273-281.
  - Generation of Grant Funding?
  - Salaries?



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