Ideological Alliances on the United States Supreme Court:

Visualizing 50 Years of Co-Voting Data

2006 SLIS Doctoral Student Research Forum

SLIS

InfoVis @ SLIS
Indiana University

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http://ella.slis.indiana.edu/~pahook
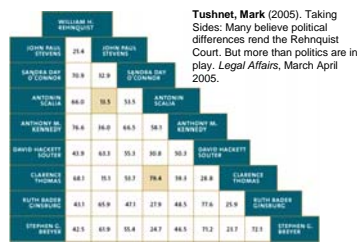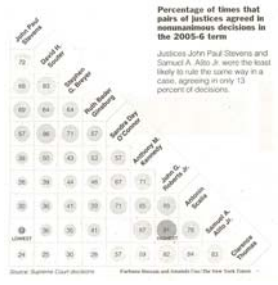

Research Frame

1. **Question:** How can network graphing and information visualization techniques improve the understanding of the work of the United States Supreme Court?

2. **Context:** Visualizations used for instruction. (Pedagogy)

3. **Learning Objective:** Students will understand the voting associations of the Justices of the Supreme Court and the ideological alliances and divides suggested by these associations.

4. **Domain:** Political Science, Law, Everyone interested in understanding one third of the Federal government.

5. **Methodology**: Harvesting and manipulating existing data using multidimensional scaling (MDS) and spring force algorithms as contained in the two programs, R and Pajek.

6. **Underlying Premise**: Distance-Similarity Metaphor (Items closer together are more similar than items further apart.)

Mania for Co-Voting Data

July 2, 2005 *New York Times*

Agreement Among Supreme Court Justices

Percentage of times that justices agreed in non-unanimous cases from the 1994-95 term through the 2003-04 term.

Justice Sandra Day O'Connor was near the center of the court and was a swing vote on abortion and a host of other social issues.

Justices Antonin Scalia and John Paul Stevens were the least likely to be on the same side of a case, agreeing in only 14 percent of cases. Justices Scalia and Clarence Thomas had the highest agreement rate at 79 percent.

Sources: Legal Affairs; Harvard Law Review

The New York Times

THE NEW YORK TIMES NATIONAL SUNDAY, JULY 2, 2006

Percentage of times that pairs of justices agreed in nonunanimous decisions in the 2005-6 term

Justices John Paul Stevens and Samuel A. Alito Jr. were the least likely to rule the same way in a case, agreeing in only 13 percent of decisions.

Tushnet, Mark (2005). Taking Sides: Many believe political differences rend the Rehnquist Court. But more than politics are in play. *Legal Affairs*, March April 2005.


1951 Visualizations
(Thurston & Degan)

- Factorial / Vector Analysis of Co-Voting
- 1943 & 1944 Terms
- 9 Vectors (one for each Justice) in 3 dimensions

TABLE 1
INTRACLASS ϕ COEFFICIENTS R

		1	2	3	4	5	6	7	8	9
Black	1	..	0.59	0.42	0.40	−0.15	−0.25	−0.41	−0.46	−0.66
Douglas	2	0.59	..	0.30	0.35	−0.10	−0.16	−0.36	−0.45	−0.60
Rutledge	3	0.42	0.30	..	0.46	−0.19	−0.21	−0.36	−0.38	−0.50
Murphy	4	0.40	0.35	0.46	..	−0.25	−0.28	−0.42	−0.32	−0.39
Reed	5	−0.15	−0.10	−0.19	−0.25	..	−0.13	0.29	0.07	−0.07
Jackson	6	−0.25	−0.16	−0.21	−0.28	−0.13	..	−0.05	0.26	0.03
Stone	7	−0.41	−0.36	−0.36	−0.42	0.29	−0.05	..	0.19	0.23
Frankfurter	8	−0.46	−0.45	−0.38	−0.32	0.07	0.26	0.19	..	0.40
Roberts	9	−0.66	−0.60	−0.50	−0.39	−0.07	0.03	0.23	0.40	..
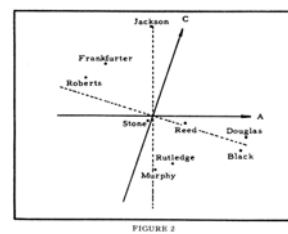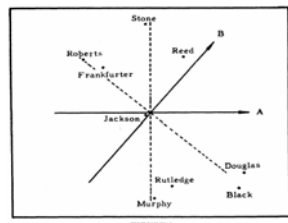
Thurstone, L. L. & Degan, J. W. (1951) A Factorial Study of the Supreme Court, *Proceedings of the National Academy of Sciences of the United States of America,* Vol. 37, No. 9 (Sept. 15, 1951), 628-635.
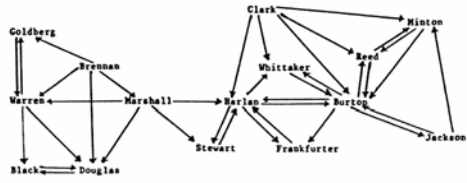
1985 Diagrams

FIGURE 1. INFLUENCE RELATIONSHIPS OF THE WARREN COURT
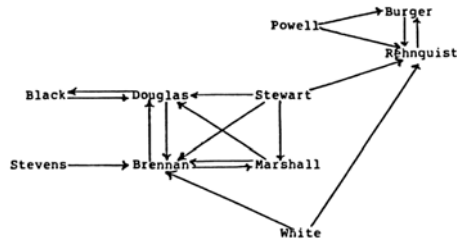
Warren Court (1953 – 1969)

FIGURE 2. INFLUENCE RELATIONSHIPS OF THE BURGER COURT

Burger Court (1969 – 1986)

Spaeth, Harold J. & Altfeld, Michael F. (1985) Influence Relationships within the Supreme Court: A Comparison of the Warren and Burger Courts, *The Western Political Quarterly,* Vol. 38., No. 1. (March 1985), pp. 70-83.
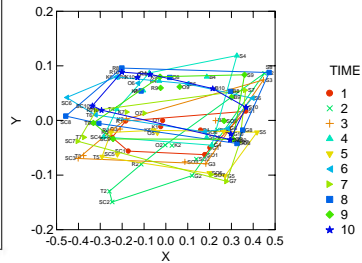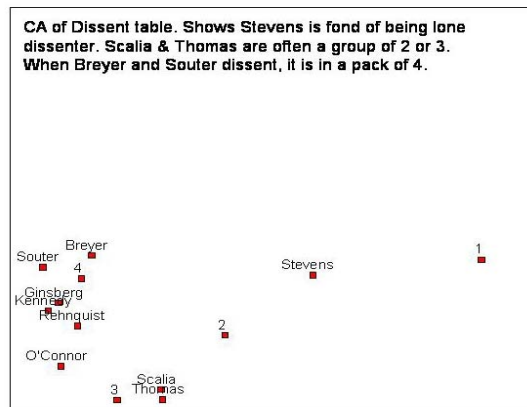

2005 Visualizations

• Jeffrey C. Johnson, Stephen P. Borgatti, "Analysis Of Voting Patterns In U.S. Supreme Court Decisions" Sunbelt XXV, International Sunbelt Social Network Conference, Redondo Beach, CA, February 16-20, 2005.

CA of Dissent table. Shows Stevens is fond of being lone dissenter. Scalia & Thomas are often a group of 2 or 3. When Breyer and Souter dissent, it is in a pack of 4.

Jeffrey C. Johnson   Stephen P. Borgatti

My Approach

Harvard Law Review

Annual Review of the Supreme Court Term

Co-Voting Statistics:
1956 - present

1974 Term →

Spreadsheet Capture Process

30 Worksheets Aggregated on Excel

Rendered with Spring Force Algorithm in Pajek

Stochastic As to Overall Layout

But individual relationships become more deterministic and fixed.
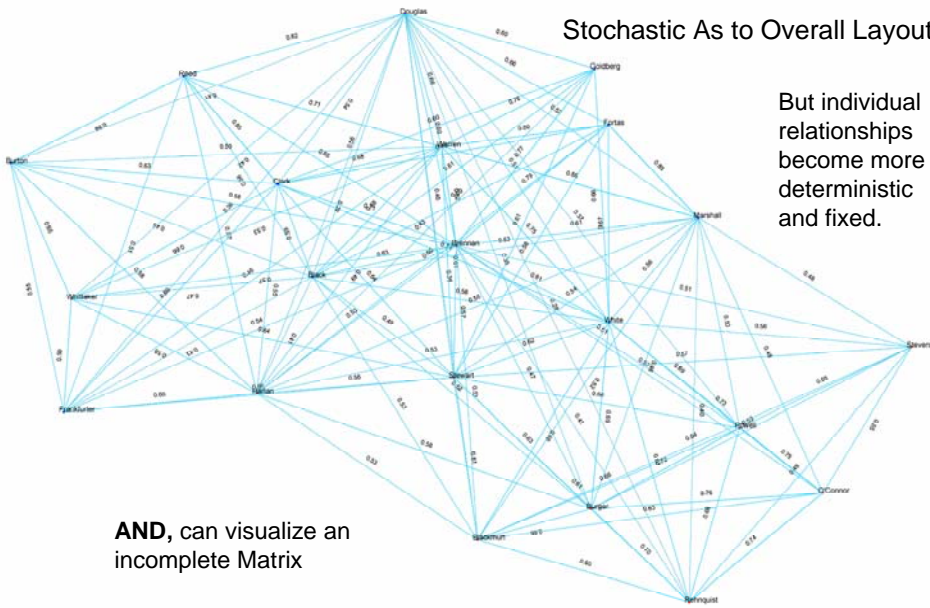
AND, can visualize an incomplete Matrix

Justices of the United States Supreme Court
(1956 – 1985 Terms)
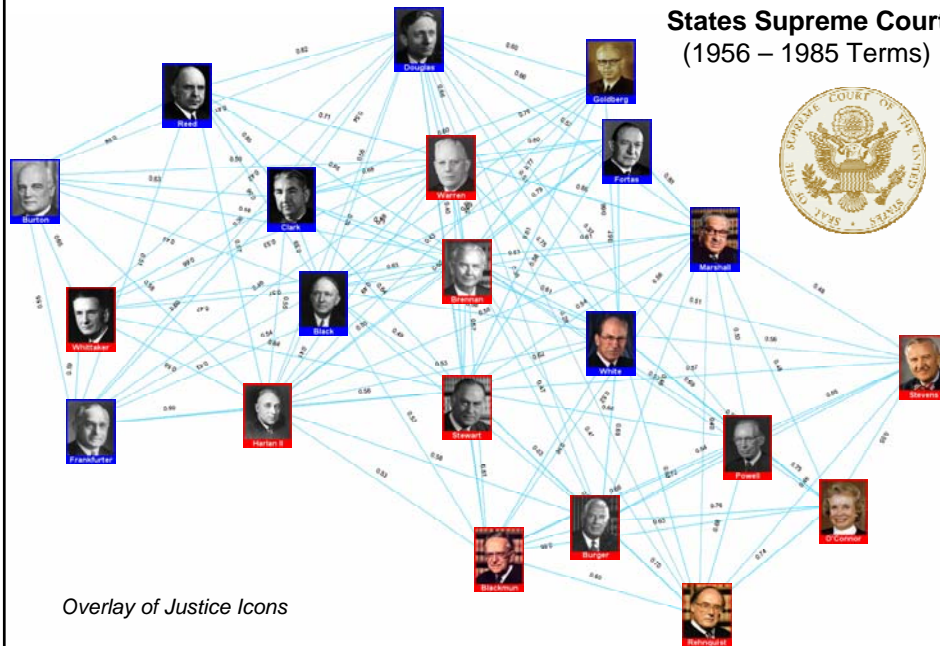
Overlay of Justice Icons

6

Iconographic Lineups

New York Times, July 2, 2005

NY Times Representational Device:

- Justices listed in linear fashion along a political spectrum (progressive to conservative)
- Justices in losing voting block are grayed-out.

Major Rulings of the 2005-6 Term

New York Times, July 2, 2006

Warren Court 1 (Oct. 5, 1953 – March 27, 1955 **1.47 years**)

- Chief Justice **Fred M. Vinson** *died* Sept. 8, 1953
- Chief Justice **Earl Warren** (Eisenhower appointee) *oath* Oct. 5, 1953

Warren Court 2 (March 28, 1955 – Oct. 15, 1956 **1.55 years**)

- **Robert H. Jackson** *died* Oct. 9, 1954
- **John Marshall Harlan II** (Eisenhower appointee) *oath* March 28, 1955

Warren Court 3 (Oct. 16, 1956 to March 24, 1957 **0.44 years**)

- **Sherman Minton** *retired* Oct. 15, 1956
- **William J. Brennan, Jr.** (Eisenhower appointee) *oath* Oct. 16, 1956

Warren Court 4 (March 25, 1957 to Oct. 13, 1958 **1.55 years**)

- **Stanley F. Reed** *retired* Feb. 25, 1957
- **Charles E. Whittaker** (Eisenhower appointee) *oath* March 25, 1957

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Warren Court 5 (Oct. 14, 1958 to April 15, 1962 **3.50 years**)

Black | Frankfurter | Douglas | Clark | Warren | Harlan II | Brennan | Whittaker | Stewart

- **Harold Burton**
  retired Oct. 13, 1958
- **Potter Stewart**
  (Eisenhower appointee)
  oath Oct. 14, 1958

Warren Court 6 (April 16, 1962 to Sept. 30, 1962 **0.46 years**)

Black | Frankfurter | Douglas | Clark | Warren | Harlan II | Brennan | Stewart | White

- **Charles E. Whittaker**
  retired March 31, 1962
- **Byron R. White**
  (Kennedy appointee)
  oath April 16, 1962

Warren Court 7 (Oct. 1, 1962 to Oct. 3, 1965 **3.01 years**)

Black | Douglas | Clark | Warren | Harlan II | Brennan | Stewart | White | Goldberg

- **Felix Frankfurter**
  retired Aug. 28, 1962
- **Arthur J. Goldberg**
  (Kennedy appointee)
  oath Oct. 1, 1962

Warren Court 8 (Oct. 4, 1965 to Oct. 1, 1967 **1.99 years**)

Black | Douglas | Clark | Warren | Harlan II | Brennan | Stewart | White | Fortas

- **Arthur J. Goldberg**
  retired July 25, 1965
- **Abe Fortas**
  (Johnson appointee)
  oath Oct. 4, 1965

Warren Court 9 (Oct. 2, 1967 to June 22, 1969 **1.72 years**)

Black | Douglas | Warren | Harlan II | Brennan | Stewart | White | Fortas | Marshall

- **Tom C. Clark**
  retired June 12, 1967
- **Thurgood Marshall**
  (Johnson appointee)
  oath Oct. 2, 1967
- **Abe Fortas**
  retired May 14, 1969

Burger Court 1 (June 23, 1969 to June 8, 1970 **0.96 years**)

Black | Douglas | Harlan II | Brennan | Stewart | White | Marshall | Burger

- Chief Justice **Earl Warren**
  retired June 23, 1969
- Chief Justice **Warren E. Burger**
  (Nixon appointee)
  oath June 23, 1969

Burger Court 2 (June 9, 1970 to Jan. 6, 1972 **2.58 years**)

Black | Douglas | Harlan II | Brennan | Stewart | White | Marshall | Burger | Blackmun

- **Harry Andrew Blackmun**
  (Nixon appointee)
  oath June 9, 1970

Burger Court 3 (Jan. 7, 1972 to Dec. 18, 1975 **3.95 years**)

Douglas | Brennan | Stewart | White | Marshall | Burger | Blackmun | Powell | Rehnquist

- **Hugo L. Black**
  retired Sept. 17, 1971
- **John Marshall Harlan II**
  retired Sept. 23, 1971
- **Lewis Franklin Powell Jr.**
  (Nixon appointee)
  oath Jan. 7, 1972
- **William Hubbs Rehnquist**
  (Nixon appointee)
  oath Jan. 7, 1972

Burger Court 4 (Dec. 19, 1975 to Sept. 24, 1981 **5.77 years**)

Brennan | Stewart | White | Marshall | Burger | Blackmun | Powell | Rehnquist | Stevens

- **William Orville Douglas**
  retired Nov. 12, 1975
- **John Paul Stevens**
  (Ford appointee)
  oath Dec. 19, 1975

Burger Court 5 (Sept. 25, 1981 to Sept. 25, 1986 **5 years**)

Brennan | White | Marshall | Burger | Blackmun | Powell | Rehnquist | Stevens | O'Connor

- **Potter Stewart**
  retired July 3, 1981
- **Sandra Day O'Connor**
  (Reagan appointee)
  oath Sept. 25, 1981

Rehnquist Court 1 (Sept. 26, 1986 to Feb. 17, 1988 **1.39 years**)

Brennan | White | Marshall | Blackmun | Powell | Rehnquist | Stevens | O'Connor | Scalia

- Chief Justice **Warren E. Burger**
  retired Sept. 26, 1986
- Chief Justice **William Hubbs Rehnquist**
  (Reagan appointee)
  oath Sept. 26, 1981
- **Antonin Scalia**
  (Reagan appointee)
  oath Sept. 26., 1986

Rehnquist Court 2 (Feb. 18, 1988 to Oct. 8, 1990 **2.64 years**)

Brennan | White | Marshall | Blackmun | Rehnquist | Stevens | O'Connor | Scalia | Kennedy

- **Lewis Franklin Powell Jr.**
  retired June 26, 1987
- **Anthony Kennedy**
  (Reagan appointee)
  oath Feb. 18., 1988

Rehnquist Court 3 (Oct. 9, 1990 to Oct. 22, 1991 **1.03 years**)

White | Marshall | Blackmun | Rehnquist | Stevens | O'Connor | Scalia | Kennedy | Souter

- **William Joseph Brennan Jr.**
  retired July 20, 1990
- **David Hackett Souter**
  (G.H.W. Bush appointee)
  oath Oct. 9, 1990

Rehnquist Court 4 (Oct. 23, 1991 to Aug. 9, 1993 **1.80 years**)

White | Blackmun | Rehnquist | Stevens | O'Connor | Scalia | Kennedy | Souter | Thomas

- **Thurgood Marshall**
  retired Oct. 1, 1991
- **Clarence Thomas**
  (G.H.W. Bush appointee)
  oath Oct. 23, 1991

Rehnquist Court 5 (Aug. 10, 1993 to Aug. 2, 1994 **0.98 years**)

Blackmun | Rehnquist | Stevens | O'Connor | Scalia | Kennedy | Souter | Thomas | Ginsburg

- **Byron R. White**
  retired July 1, 1993
- **Ruth Bader Ginsburg**
  (Clinton appointee)
  oath Aug. 10, 1993

Rehnquist Court 6 (Aug. 3, 1994 to Sept. 28, 2005 **11.15 years**)

Rehnquist | Stevens | O'Connor | Scalia | Kennedy | Souter | Thomas | Ginsburg | Breyer

- **Harry Andrew Blackmun**
  retired Aug. 3, 1994
- **Stephen Gerald Breyer**
  (Clinton appointee)
  oath Aug. 3, 1994

Roberts Court 1 (Sept. 29, 2005 to Jan. 30, 2006 **0.34 years**)

Stevens · O'Connor · Scalia · Kennedy · Souter · Thomas · Ginsburg · Breyer · Roberts
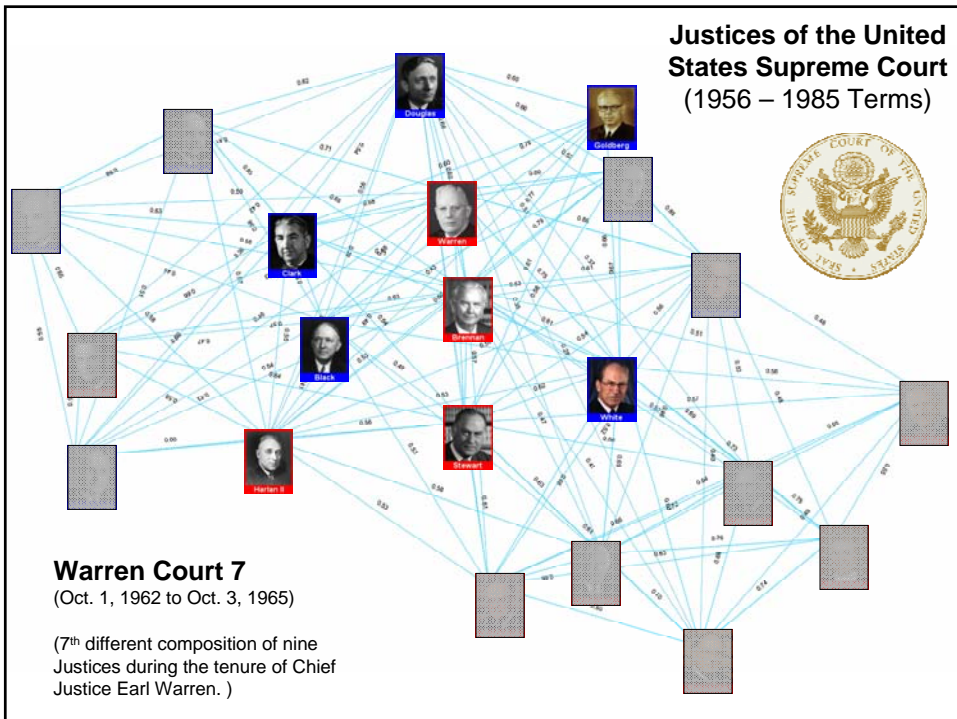
- Chief Justice **William H. Rehnquist**
  died Sept. 3, 2005
- Chief Justice **John G. Roberts, Jr.**
  (G.W. Bush appointee)
  oath Sept. 29, 2005

Roberts Court 2 (Jan. 31, 2006 to present)

Stevens · Scalia · Kennedy · Souter · Thomas · Ginsburg · Breyer · Roberts · Alito

- **Sandra Day O'Connor**
  retired Jan. 31, 2006
- **Samuel Anthony Alito Jr.**
  (G.W. Bush appointee)
  oath Jan. 31, 2006

Justices of the United States Supreme Court
(1956 – 1985 Terms)

Warren Court 7
(Oct. 1, 1962 to Oct. 3, 1965)

(7th different composition of nine Justices during the tenure of Chief Justice Earl Warren.)

MDS (R) Compared with
Spring Force Algorithm (Pajek)

1956 Term
(Monday, October 1, 1956 to Sunday, October 6, 1957)

Warren Court 2 (March 28, 1955 – October 15, 1956 **1.55 years**)

- **Robert H. Jackson**
  died Oct. 9, 1954
- **John Marshall Harlan II**
  (Eisenhower appointee)
  oath March 28, 1955

Warren Court 3 (October 16, 1956 to March 24, 1957 **.44 years**)

- **Sherman Minton**
  retired Oct. 15, 1956
- **William J. Brennan, Jr.**
  (Eisenhower appointee)
  oath Oct. 16, 1956

Warren Court 4 (March 25, 1957 to October 13, 1958 **1.55 years**)

- **Stanley F. Reed**
  retired Feb. 25, 1957
- **Charles E. Whittaker**
  (Eisenhower appointee)
  oath March 25, 1957

1956 Term With Reed (O)
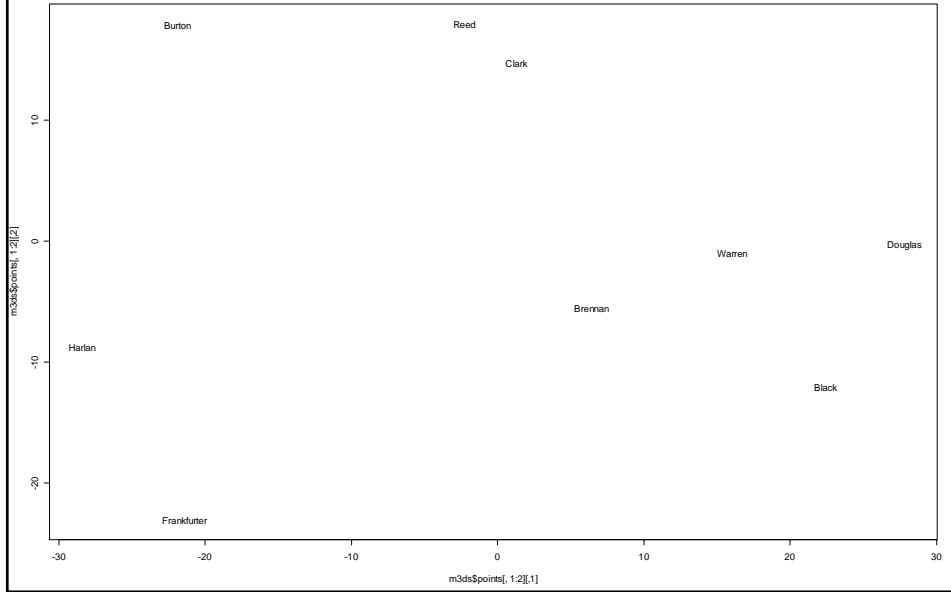
1956 Term With Reed (O)
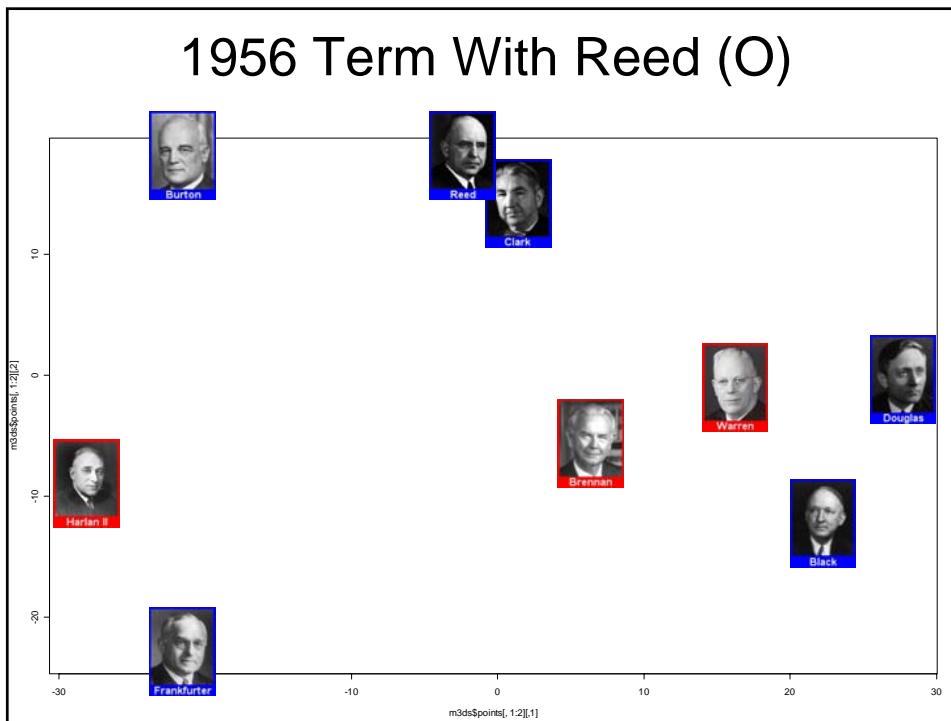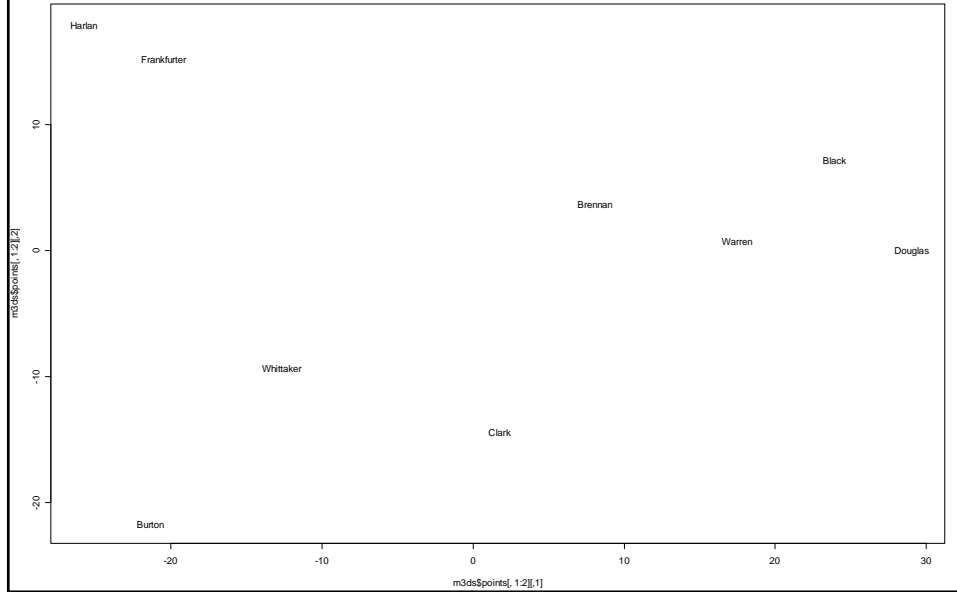
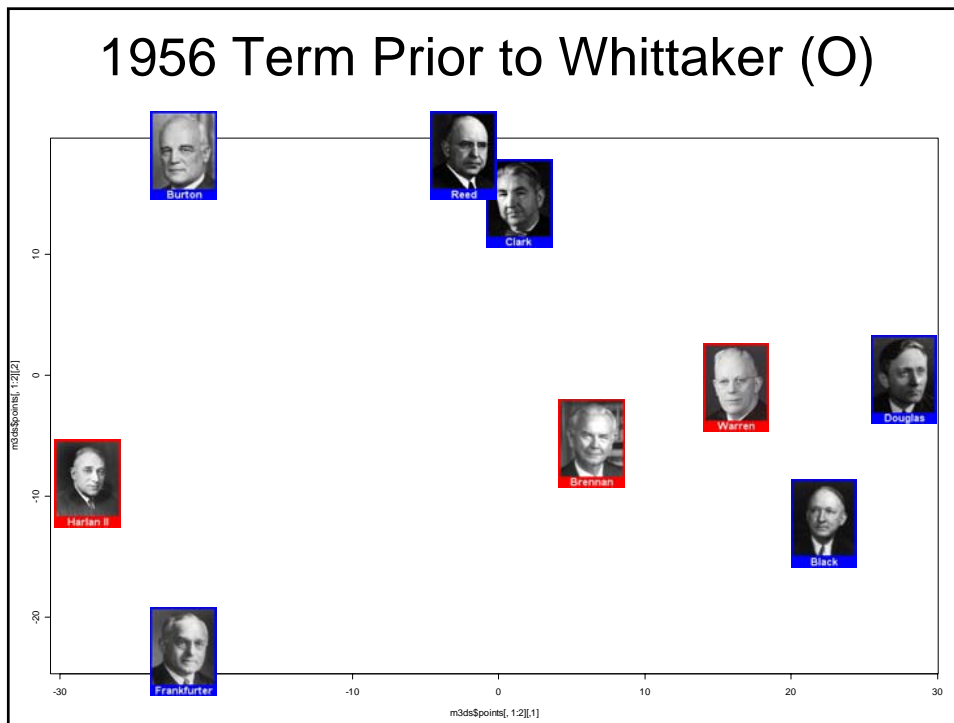# 1956 Term With Whittaker (O)

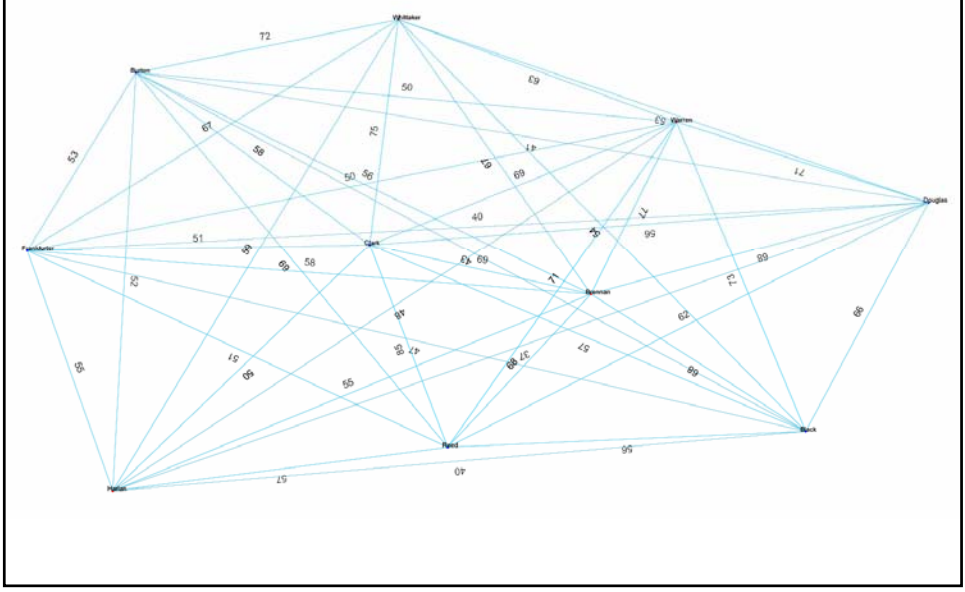# 1956 Term With Whittaker (O)

13
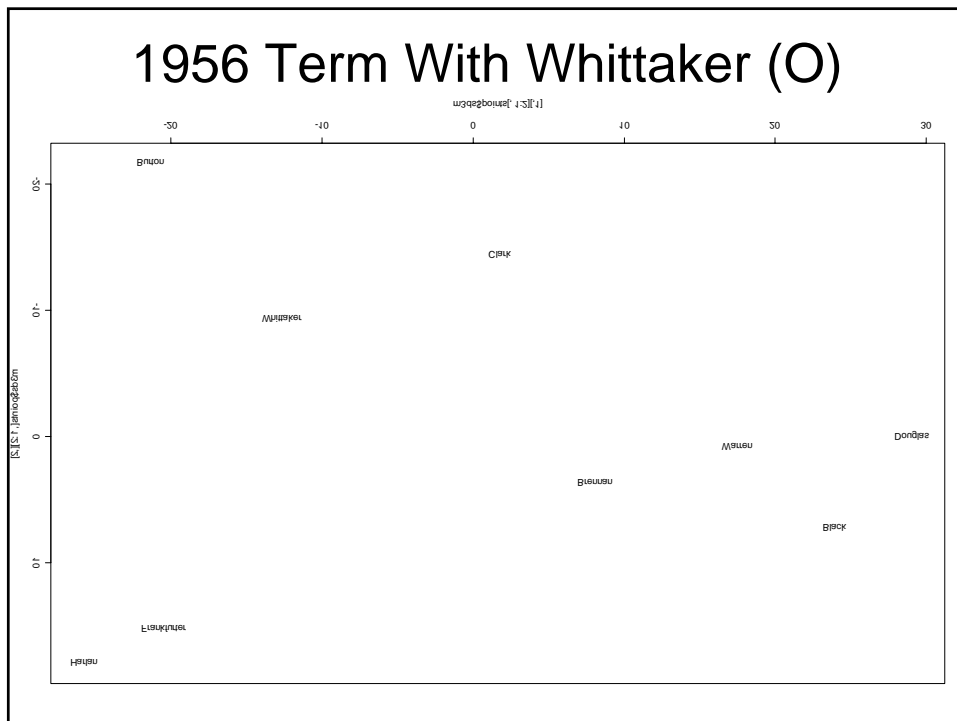
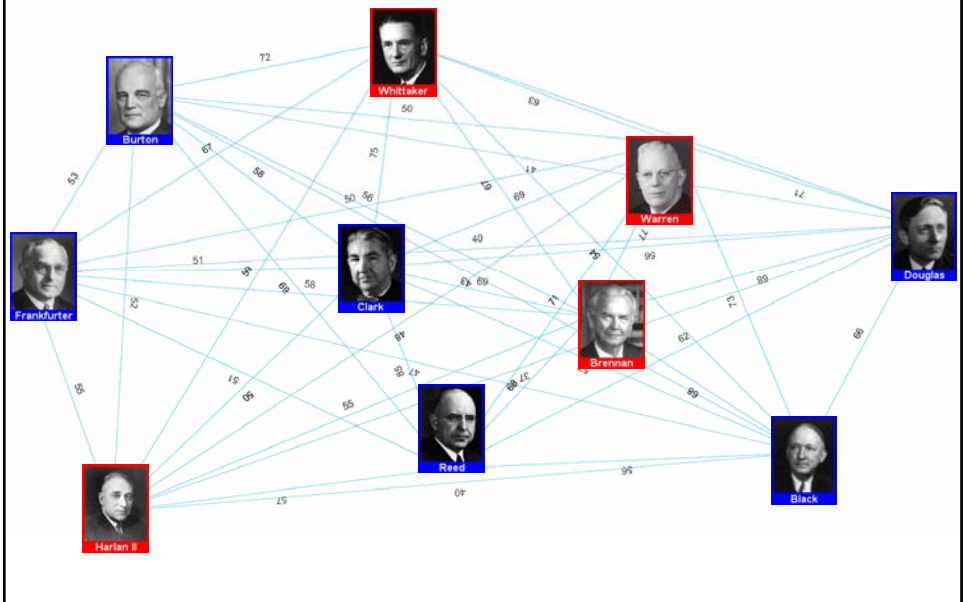# 1956 Term With Whittaker (O)
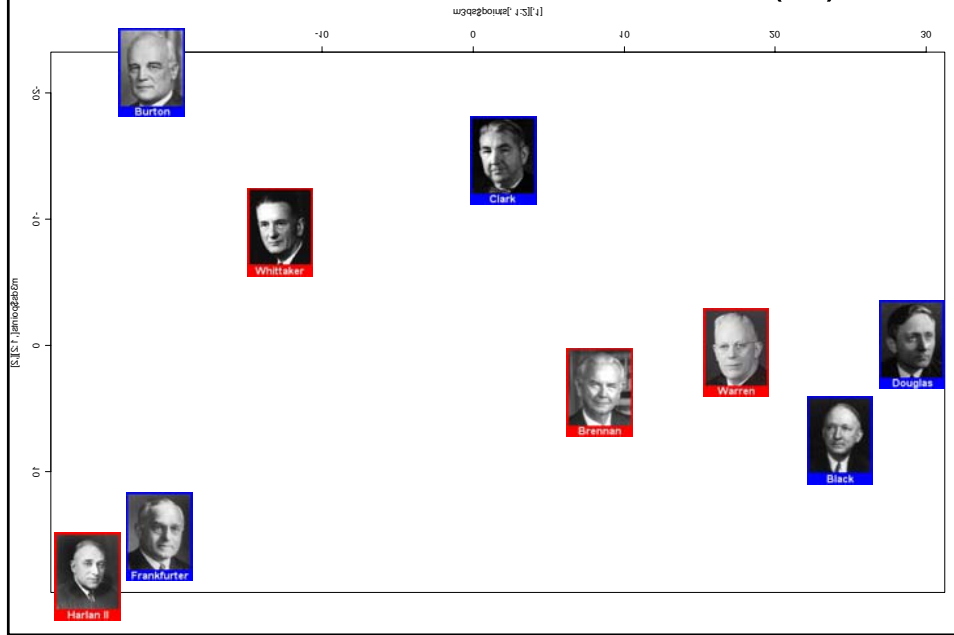
1956 Term Prior to Whittaker (O)
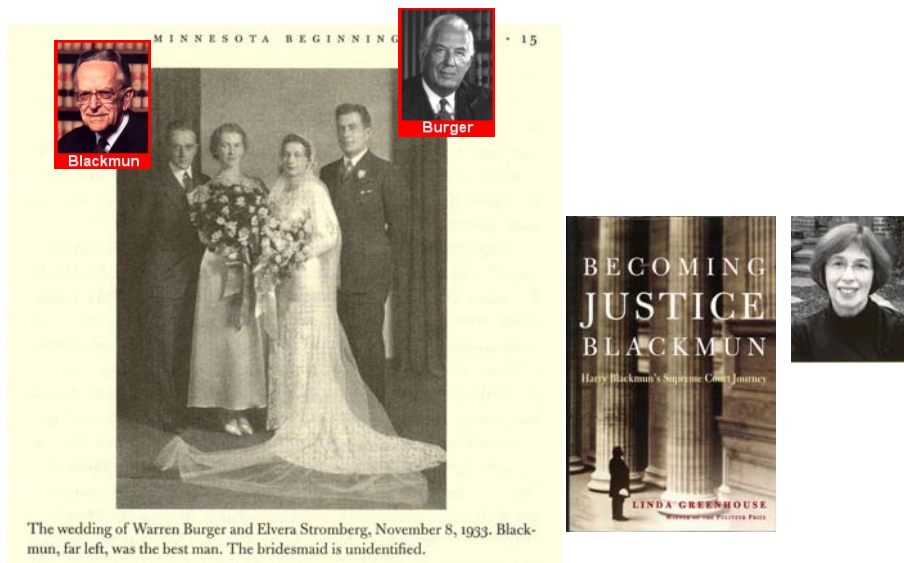
1956 Term Rendered in Pajek

1956 Term Rendered in Pajek

The Minnesota Twins Story
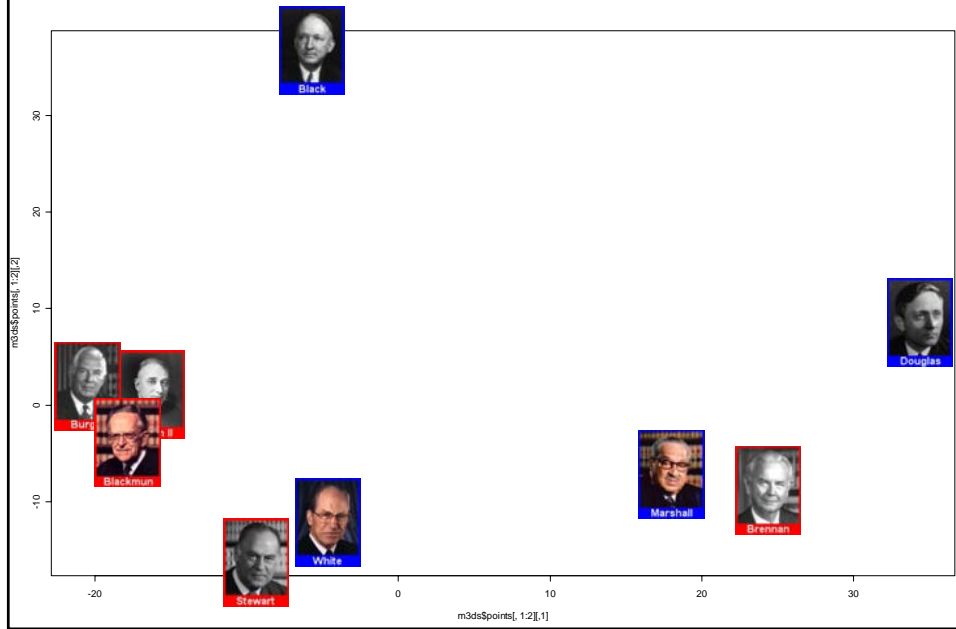
Two Friends End Up on the Supreme Court

The wedding of Warren Burger and Elvera Stromberg, November 8, 1933. Blackmun, far left, was the best man. The bridesmaid is unidentified.
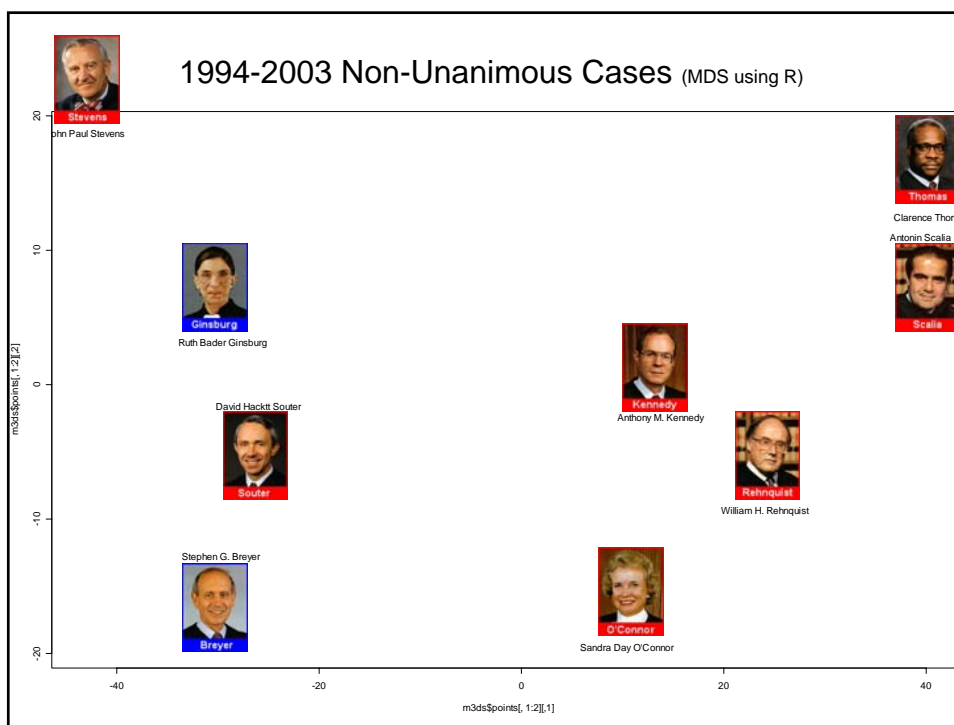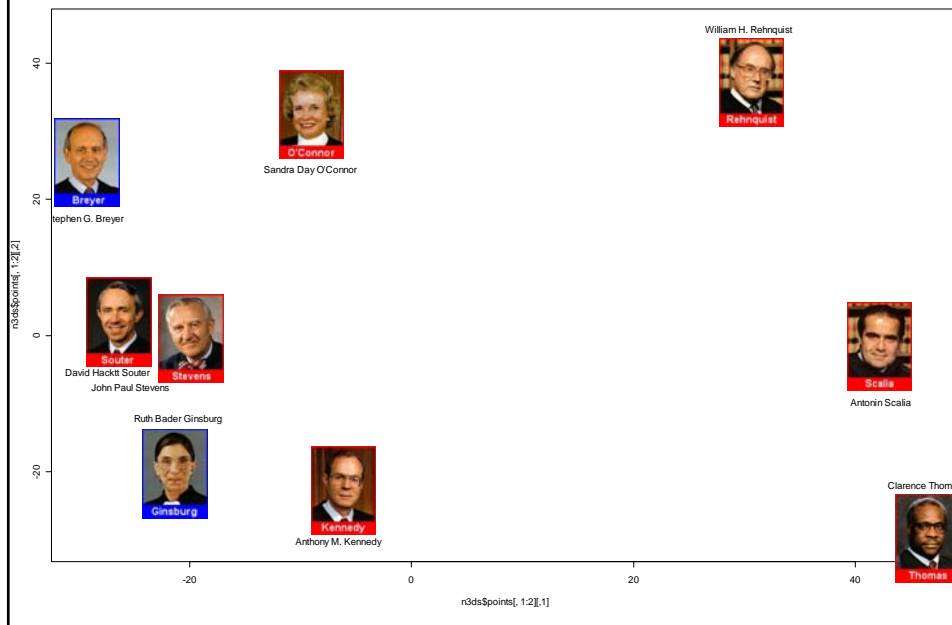
1970 Term – Their First Together

1985 Term – Their Last Together
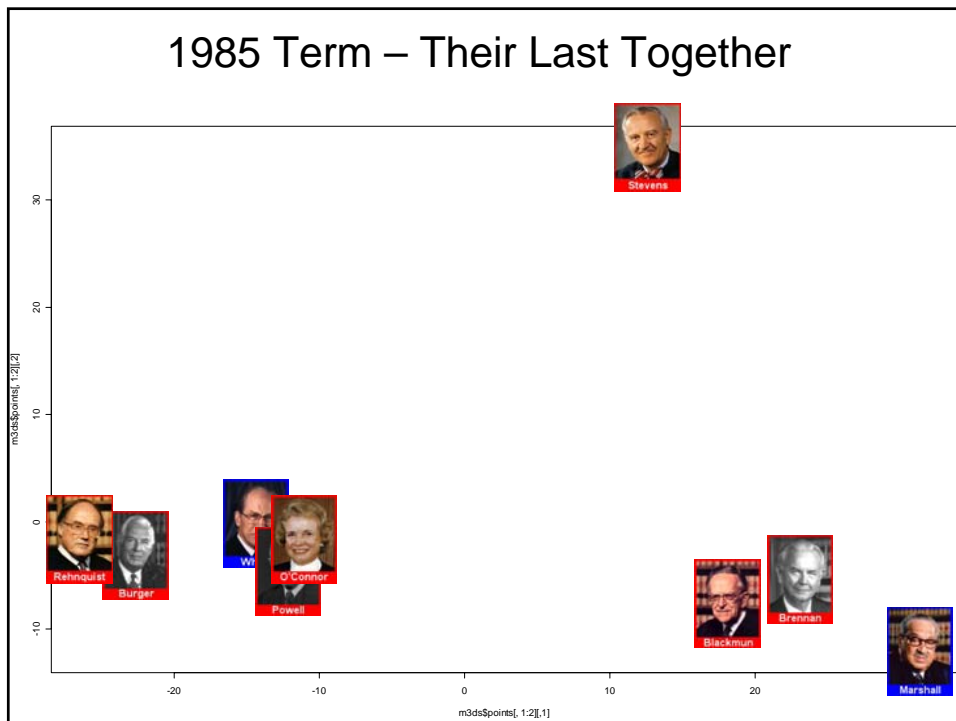
Aggregate vs. Specific Topics
(Potential for different spatial distributions)

1994-2003 Non-Unanimous Cases (MDS using R)

1994-2003 Freedom of Speech Cases (MDS using R, O method)

THE END