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Judicial Epochs in Supreme Court History: Sifting Through the Fossil Record for Stitches in Time and Switches in Nine

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**JUDICIAL EPOCHS IN SUPREME COURT HISTORY:
SIFTING THROUGH THE FOSSIL RECORD FOR STITCHES IN
TIME AND SWITCHES IN NINE**

JIM CHEN*

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I. MERRILL'S METEOR: THE DETERMINANTS OF JUDICIAL COOPERATION

Human attitudes toward nature are notoriously biased in favor of things that humans can perceive, admire, and exploit.¹ Biodiversity preservation, for example, proceeds primarily on the assumption that conservation promises vast commercial benefits,² even though “[t]he vast majority of endangered species probably will not cure cancer.”³ What human beings arrogantly call the “Age of Mammals” is more appropriately designated the “Age of Insects.”⁴ To overcome this bias, effective environmental protection demands that “[t]hose of us who love nature . . . think about saving ordinary places and ordinary things.”⁵

As with nature, so with law. In the 2002 Childress Lecture, Thomas W. Merrill makes a powerful case that judicial epochs in Supreme Court history should be measured according to criteria other than the tenure of individual Chief Justices.⁶ Professor Merrill is irrefutably correct in distinguishing the first eight Terms of the Rehnquist Court from that Court’s record since 1994. As Professor Merrill demonstrates, the first eight Terms of the Rehnquist Court were characterized by fierce battles over high-profile social issues such as abortion, affirmative action, and public displays of religion.⁷ Many of these clashes ended in frustration for the Court’s conservative Justices. The record of futility extends beyond the conservative catastrophe of *Planned Parenthood of Southeastern Pennsylvania v. Casey*.⁸ Thanks to the Rehnquist Court’s failure to realign Establishment Clause jurisprudence in *Lee v. Weisman*,⁹ *Lemon v. Kurtzman*’s entanglement test¹⁰ survives like “[a] ghoul in a late-night horror movie that repeatedly sits up in its grave and shuffles abroad, after being repeatedly killed

1. See, e.g., EDWARD O. WILSON, *THE DIVERSITY OF LIFE* 253 (1992) (“‘Human hunters help no species.’ That is a general truth and the key to the whole melancholy situation.”).

2. See generally Jim Chen, *Diversity and Deadlock: Transcending Conventional Wisdom on the Relationship Between Biological Diversity and Intellectual Property*, 31 ENVTL. L. REP. 10,625 (2001).

3. Zygmunt J.B. Plater, *The Embattled Social Utilities of the Endangered Species Act—A Noah Presumption and Caution Against Putting Gasmasks on the Canaries in the Coalmine*, 27 ENVTL. L. 845, 853 (1997).

4. See generally CHRISTOPHER D. STONE, *THE GNAT IS OLDER THAN MAN: GLOBAL ENVIRONMENT AND HUMAN AGENDA* (1993).

5. Holly Doremus, *The Special Importance of Ordinary Places*, ENVIRONS ENVTL. L. & POL’Y J., Spring 2000, at 3, 4.

6. See generally Thomas W. Merrill, *The Making of the Second Rehnquist Court: A Preliminary Analysis*, 47 ST. LOUIS U. L.J. 569 (2002).

7. See *id.* at 581-84.

8. 505 U.S. 833 (1992).

9. 505 U.S. 577 (1992).

10. 403 U.S. 602, 613 (1971).

and buried.”¹¹ Justice Scalia’s arrival on the Court, far from heralding a return to formalist approaches to the separation of powers, yielded solo dissents in *Morrison v. Olson*¹² and *Mistretta v. United States*.¹³ Even in affirmative action cases, the conservative Justices have proved surprisingly ineffective. *Metro Broadcasting, Inc. v. FCC*,¹⁴ rather than the earlier decision in *Croson*¹⁵ or the later decision in *Adarand*,¹⁶ retains the distinction of being the only case in the Supreme Court’s body of constitutional decisions on affirmative action that commanded five votes for every word of its principal opinion. Perhaps the most impressive feat of the early Rehnquist Court consisted of its consistently narrow interpretations of federal civil rights statutes.¹⁷ Congress erased that achievement when it overrode no fewer than eight Rehnquist Court decisions in the Civil Rights Act of 1991.¹⁸

Since 1994, however, the Rehnquist Court has assembled a string of decisions that have considerably narrowed the scope of congressional authority and granted new legal immunities to the states. Cases such as *United States v. Lopez*,¹⁹ *City of Boerne v. Flores*,²⁰ *Seminole Tribe of Florida v. Florida*,²¹ *Printz v. United States*,²² and *United States v. Morrison*²³ have “put a [multiple] whammy on

11. *Lamb’s Chapel v. Ctr. Moriches Union Free Sch. Dist.*, 508 U.S. 384, 398 (1993) (Scalia, J., concurring); see also *Tangipahoa Parish Bd. of Educ. v. Freiler*, 530 U.S. 1251, 1253 (2000) (Scalia, J., dissenting from denial of cert.) (“I would grant certiorari in this case if only to take the opportunity to inter the *Lemon* test once for [sic] all.”). See generally Russell L. Weaver, *Like a Ghoul in a Late Night Horror Movie*, 41 BRANDEIS L.J. (forthcoming Spring 2003).

12. 487 U.S. 654 (1988).

13. 488 U.S. 361 (1989).

14. 497 U.S. 547 (1990).

15. See *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989).

16. *Adarand Constructors, Inc. v. Peña*, 515 U.S. 200 (1995).

17. See *EEOC v. Arabian Am. Oil Co.*, 499 U.S. 244 (1991); *W. Va. Univ. Hosps., Inc. v. Casey*, 499 U.S. 83 (1991); *Indep. Fed’n of Flight Attendants, v. Zipes*, 491 U.S. 754 (1989); *Patterson v. McClean Credit Union*, 491 U.S. 164 (1989); *Lorance v. AT&T Techs., Inc.*, 490 U.S. 900 (1989); *Martin v. Wilks*, 490 U.S. 755 (1989); *Wards Cove Packing Co., Inc. v. Atonio*, 490 U.S. 642 (1989); *Price Waterhouse v. Hopkins*, 490 U.S. 228 (1989); see also *Library of Cong. v. Shaw*, 478 U.S. 310 (1986); *Evans v. Jeff D.*, 475 U.S. 717 (1986); *Marek v. Chesny*, 473 U.S. 1 (1985). But cf. *Johnson v. Transp. Agency*, 480 U.S. 616 (1987) (extending the use of voluntary affirmative action plans, upheld as applied to workers of a minority race in *United Steelworkers of Am. v. Weber*, 443 U.S. 193 (1979), to women).

18. Civil Rights Act of 1991, Pub. L. No. 102-166, 105 Stat. 1071; see *Landgraf v. USI Film Prods.*, 511 U.S. 244, 249-51 (1994). For a list of the eight Rehnquist Court decisions and four Burger Court decisions (all cited *supra* in note 17) overridden by the Civil Rights Act of 1991, see William N. Eskridge, Jr., *Overriding Supreme Court Statutory Interpretation Decisions*, 101 YALE L.J. 331, 333 n.4 (1991).

19. 514 U.S. 549 (1995).

20. 521 U.S. 507 (1997).

21. 517 U.S. 44 (1996).

22. 521 U.S. 898 (1997).

23. 529 U.S. 598 (2000).

congressional authority.”²⁴ Thanks to the Rehnquist Court’s foray into the penumbras and emanations of the Eleventh Amendment,²⁵ states now enjoy sovereign immunity against federal claims brought in their own courts²⁶ and against federal administrative proceedings.²⁷ Thurgood Marshall’s plaintive farewell to a Court he accused of adopting “[p]ower, not reason” as its currency came three Terms too early.²⁸

The Rehnquist Court’s jurisprudential record provides ample fodder for spirited discussion, and Professor Merrill’s commentators have done their best to engage the debate. For his part, Professor Merrill is refreshingly resourceful in eschewing “ideational” analysis of the Court’s jurisprudence in favor of a relentlessly empirical approach.²⁹ Three of the techniques he employs are prevalent throughout political scientists’ writings on the Supreme Court. Sophisticated political analysis of the Supreme Court begins with the attitudinal model³⁰ and eventually embraces multiple hypotheses about strategic voting by the Justices in response to internal and external politics.³¹

To this rich scholarly literature, Professor Merrill has made a unique contribution. He argues that the Justices’ propensity to engage in cooperative behavior may stem from the stability or volatility of the Court’s personnel. When the Court’s membership is in flux, the Justices tend to behave like players in a one-shot or short-term game. Multiple coalitions flourish, but none dominates and all tend to hedge their doctrinal bets against imminent changes in the Court’s personnel. By contrast, when the same nine Justices convene across multiple Terms, the Court tends to reflect the strategy of a repeat game. Dominant coalitions—few in number and stable in their

24. Philip P. Frickey & Steven S. Smith, *Judicial Review, the Congressional Process, and the Federalism Cases: An Interdisciplinary Critique*, 111 YALE L.J. 1707, 1722 (2002).

25. See generally Jed Rubenfeld, *The New Unwritten Constitution*, 51 DUKE L.J. 289 (2001).

26. See *Alden v. Maine*, 527 U.S. 706 (1999).

27. See *Fed. Mar. Comm’n v. S.C. State Ports Auth.*, 535 U.S. 743 (2002).

28. *Payne v. Tennessee*, 501 U.S. 808, 844 (1991) (Marshall, J., dissenting).

29. Merrill, *supra* note 6, at 571.

30. See, e.g., JEFFREY A. SEGAL & HAROLD J. SPAETH, *THE SUPREME COURT AND THE ATTITUDINAL MODEL* (1993); Saul Brenner & Robert H. Dorff, *The Attitudinal Model and Fluidity Voting on the United States Supreme Court: A Theoretical Perspective*, 4 J. THEORETICAL POL. 195 (1992); Robert H. Dorff & Saul Brenner, *Conformity Voting on the United States Supreme Court*, 54 J. POL. 762 (1992); Tracey E. George & Lee Epstein, *On the Nature of Supreme Court Decision Making*, 86 AM. POL. SCI. REV. 323 (1992); Timothy M. Hagle & Harold J. Spaeth, *Voting Fluidity and the Attitudinal Model of Supreme Court Decision Making*, 44 W. POL. Q. 119 (1991).

31. See, e.g., LEE EPSTEIN & JACK KNIGHT, *THE CHOICES JUSTICES MAKE* (1998); LAWRENCE BAUM, *THE PUZZLE OF JUDICIAL BEHAVIOR* (1997); Gregory A. Caldeira, John R. Wright & Christopher J.W. Zorn, *Sophisticated Voting and Gate-Keeping in the Supreme Court*, 15 J.L. ECON. & ORG. 549 (1999); Frank B. Cross, *The Justices of Strategy*, 48 DUKE L.J. 511 (1998) (reviewing EPSTEIN & KNIGHT, *supra*); Frank B. Cross & Emerson H. Tiller, *The Three Faces of Federalism: An Empirical Assessment of Supreme Court Federalism Jurisprudence*, 73 S. CAL. L. REV. 741 (2000).

composition—feel much freer to fashion doctrinal innovations. “[S]omething as simple as . . . judicial longevity,” he concludes, “may have fateful consequences.”³²

What Professor Merrill calls the “second Rehnquist Court” boasts one of the most stable collections of Justices in history: since the beginning of the 1994 Term, the same nine Justices have served eight consecutive Terms. In our most recent study of voting behavior on the Supreme Court, Paul H. Edelman and I took note of the current Court’s almost unprecedented stability.³³ We relied on this stability in using the voting record of the Court since 1994 to develop our model of voting power among the Justices. It never occurred to Professor Edelman or to me that the very stability we touted as validating our model might provide an independent explanation for voting behavior on the Supreme Court.

I beg the reader’s indulgence as I draw another analogy to nature and natural history. Professor Merrill’s insight is reminiscent of the recent controversy over the causes of the Cretaceous-Tertiary (K-T) extinction, more popularly known as the twilight of the age of dinosaurs. The father-and-son team of Luis and Walter Alvarez found a rich layer of iridium in numerous sites that marked the boundary between the Cretaceous and Tertiary periods of geological history. The substantial accumulation of iridium, a platinum group metal that is scarce on earth but abundant in extraterrestrial objects, suggested that a meteor strike triggered the spectacular loss of species 65 million years ago at the close of the Cretaceous.³⁴ Though hotly disputed when it was first propounded in 1980, the Alvarazes’s “impact theory” of K-T extinctions has won widespread acceptance.³⁵

An even more dramatic extension of the impact theory remains the subject of fierce debate. If extraterrestrial phenomena precipitated one mass extinction event, might they have caused others? These events might even lend themselves to prediction, for asteroids, meteors, and comets, like planets, follow cyclical timetables. One line of statistical analysis suggests that peaks

32. Merrill, *supra* note 6, at 651.

33. See Paul H. Edelman & Jim Chen, *The Most Dangerous Justice Rides Again: Revisiting the Power Pageant of the Justices*, 86 MINN. L. REV. 131, 134-35 (2001).

34. See WALTER ALVAREZ, T. REX AND THE CRATER OF DOOM (1997); Luis W. Alvarez et al., *Extraterrestrial Cause for the Cretaceous-Tertiary Extinction*, 208 SCI. 1095 (1980); see also GEOLOGICAL IMPLICATIONS OF IMPACTS OF LARGE ASTEROIDS AND COMETS ON THE EARTH (Leon T. Silver & Peter H. Schultz eds., 1982).

35. See, e.g., JAMES LAWRENCE POWELL, NIGHT COMES TO THE CRETACEOUS: DINOSAUR EXTINCTION AND THE TRANSFORMATION OF MODERN GEOLOGY 221 (1998) (“As even its bitterest opponents have to admit, the Alvarez theory has brought geology not only a new set of questions, but also a greatly improved set of sampling techniques and analytical methods for answering them. . . . These are the hallmarks of a fertile theory.”); Michael E. Williams, *Catastrophic Versus Noncatastrophic Extinction of the Dinosaurs: Testing, Falsifiability, and the Burden of Proof*, 68 J. PALEONTOLOGY 183 (1994).

in the extinction rate of marine invertebrates recur in 26- to 30-million-year intervals.³⁶ The most aggressive proponents of periodicity have argued that the 26-million-year clock depends on Nemesis, our sun's as yet undetected companion star, whose eccentric orbit through the Oort cloud periodically hurls comets toward earth.³⁷ A competing school of thought dismisses the apparent periodicity of extinction events as a mere statistical anomaly.³⁸

My purpose in describing the periodicity controversy is not to take sides in a debate in which I claim no expertise and possess even less. Rather, I wish merely to suggest that experts in law and in political science might emulate those natural scientists who have methodically explored possible extraterrestrial causes for mass extinctions besides the K-T event. Recent research, for instance, has sought an extraterrestrial explanation for the decimation of species at the close of the Permian period,³⁹ the great-grandmother of all extinction spasms.⁴⁰ Legal scholars and political scientists have no less an obligation to pursue promising pathways toward new knowledge. When a highly regarded scholar propounds a novel, attractive hypothesis about judicial behavior, his peers have only one duty—to lay that hypothesis beside all available evidence and to decide whether the latter supports the former.⁴¹ Or to put it in livelier, Pulitzer Prize-winning language,

36. See David M. Raup & J. John Sepkoski, Jr., *Periodicity of Extinctions in the Geologic Past*, 81 PROC. NAT'L ACAD. SCI. 801 (1984); David M. Raup & J. John Sepkoski, Jr., *Periodic Extinction of Families and Genera*, 231 SCI. 833 (1986).

37. See Marc Davis, Piet Hut & Richard A. Muller, *Extinction of Species by Periodic Comet Showers*, 308 NATURE 715 (1984).

38. See Antoni Hoffman, *Patterns of Family Extinction Depend on Definition and Geological Timescale*, 315 NATURE 659 (1985); Richard A. Kerr, *Periodic Extinctions and Impacts Challenged*, 227 SCI. 1451 (1985). For entertaining accounts of the scientific fury over the impact theory and the periodicity debate, see RICHARD FORTEY, *LIFE: A NATURAL HISTORY OF THE FIRST FOUR BILLION YEARS OF LIFE ON EARTH 257-58* (1997); CHARLES OFFICER & JAKE PAGE, *THE GREAT DINOSAUR EXTINCTION CONTROVERSY* (1996); DAVID M. RAUP, *THE NEMESIS AFFAIR: A STORY OF THE DEATH OF DINOSAURS AND THE WAYS OF SCIENCE* (1986).

39. See Luann Becker et al., *Impact Event at the Permian-Triassic Boundary: Evidence from Extraterrestrial Noble Gases in Fullerenes*, 291 SCI. 1530 (2001).

40. See, e.g., STEPHEN JAY GOULD, *EVER SINCE DARWIN: REFLECTIONS IN NATURAL HISTORY* 134 (1977) (describing the "great dying" of marine organisms "[a]bout 225 million years ago, at the end of the Permian period," as "the most profound of several mass extinctions that have punctuated the evolution of life"); David M. Raup, *Diversity Crises in the Geological Past*, in BIODIVERSITY 51, 52 (E.O. Wilson ed., 1988) (noting how the world of higher organisms at the end of the Permian period had "an extremely close brush with total destruction"). See generally D.H. Erwin, *The End-Permian Mass Extinction*, 21 ANN. REV. ECOLOGY & SYSTEMATICS 69 (1990).

41. Cf. *United States v. Butler*, 297 U.S. 1, 62 (1936) ("When an act of Congress is appropriately challenged in the courts as not conforming to the constitutional mandate, the judicial branch of the government has only one duty; to lay the article of the Constitution which is invoked beside the statute which is challenged and to decide whether the latter squares with the former.").

“it pisses God off if you walk by the color purple in a field somewhere and don’t notice it.”⁴²

If the stable membership of the Rehnquist Court since 1994 at least partially explains the prevalence of a dominant coalition making bold legal innovations, we should expect comparable doctrinal foment during other periods of stability among the Justices.⁴³ Series of Terms characterized by rapid turnover in the Supreme Court’s membership should similarly reflect the sort of behavior that typifies participants in a short-term game: the emergence of a wider range of coalitions who are more tentative and more open to institutional change than their counterparts on a stable Court.⁴⁴ Indeed, the validity of Professor Merrill’s hypothesis practically depends on its verifiability in periods besides the “second” Rehnquist Court. Without historical validation, the Court’s recent record provides little basis for drawing generalizations about Supreme Court behavior. When the appropriate time horizon stretches beyond two centuries, “a question posed on a scale of a mere [eight] years is likely to produce aberrant answers.”⁴⁵

Like the detection of mass extinctions in geological history, testing “Merrill’s Meteor” is a straightforward exercise in statistics. We need only to decide what to count and what to compare. I assume that most legal scholars are more familiar with shifts in the Court’s case law than with changes in the Court’s membership. Most constitutional law scholars presumably know the “fossil record” of the Supreme Court’s decisions, as preserved in *United States Reports*, better than the fossil record of the Court’s institutional history, as reflected in turnover among the Justices. Except those scholars with deep historical or biographical expertise, few know the precise progression of the Justices who have served on the highest court in the land.

The first step in testing Professor Merrill’s cooperative behavior hypothesis, therefore, lies in determining the precise degree of relative stability and volatility in personnel over the course of the Supreme Court’s history. Part II of this article develops an initial, rudimentary measure of volatility. I take the simple expedient of measuring gaps between Supreme Court appointments. The longer the gap (all other things being equal), the more

42. ALICE WALKER, *THE COLOR PURPLE* 191 (1982).

43. If Professor Merrill’s hypothesis is correct, it should also be verifiable through a study of other multimember, deliberative institutions. I leave for another time, and in all likelihood another scholar, the task of applying Professor Merrill’s ideas to institutions such as the federal courts of appeals, state courts of last resort, or even legislatures.

44. See Merrill, *supra* note 6, at 649 (“A Court in flux is less likely to achieve [a cooperative] equilibrium because the introduction of new players disrupts the expectations and strategies of the other players, requiring in effect that the game start over.”). See generally ROBERT AXELROD, *THE EVOLUTION OF COOPERATION* (1984); DOUGLAS G. BAIRD, ROBERT H. GERTNER & RANDAL C. PICKER, *GAME THEORY AND THE LAW* (1994).

45. David Christian, *The Case for “Big History,”* 2 J. WORLD HIST. 223, 229 (1991).

stable the population of Justices.

Part III develops a more complex measure of stability and volatility. Although I retain the turnover rate among the Justices as my primary measure of volatility, I also incorporate a four-year running average of Supreme Court appointments and make modest adjustments for all appointments of Chief Justices. Both measures of volatility demonstrate that the current Court is one of the most stable collections of Justices in history. Only the last decade of the Burger Court and, perhaps, the end of the Fuller Court come close. At the other extreme, global depression and world war during the twentieth century corresponded with extreme volatility on the Supreme Court. An initial glance, utterly uninformed by empirical measures of doctrinal volatility, suggests that Professor Merrill's cooperative behavior hypothesis provides, at best, a partial explanation for the Court's decisional record. On one hand, the late Fuller Court (which, like the second Rehnquist Court, was a Court of relatively stable composition) is known for bold doctrinal developments in response to economic regulation. On the other hand, the New Deal Court that unraveled much of the *Lochnerian* legal tradition exhibited a similar facility for crafting novel constitutional doctrines (albeit in service of different political ends), even though the membership of that Court was one of the most volatile in history.

To determine whether long periods of stability in Supreme Court personnel correspond with bold doctrinal development, Part IV applies three separate tests of doctrinal innovation: (1) the propensity of a Court to render "influential" decisions during particular Terms, (2) the influence of a Term's work as a whole based on subsequent citations, and (3) the number of overruling decisions rendered during any given Term. These admittedly imperfect tests provide little support for Professor Merrill's hypothesis. If anything, both citations and "overrulings" suggest that the arrival of new Justices tends to spur rather than retard doctrinal movement. To the extent that stable membership does enhance the Supreme Court's marginal propensity to cut new doctrinal ground, that tendency apparently imparts less influence than other factors. As I conclude in Part V, this preliminary look at the historical record suggests that judicial behavior, like all other complex phenomena, depends on numerous variables whose interdependence eludes easy detection.

II. THE TIME LINE OF THE JUSTICES

I begin with a straightforward table of Supreme Court appointments, adding only those enhancements needed to highlight temporal gaps between appointments:

TABLE 1

Supreme Court Appointments over Time

Justice	Appointing President	Type	Date of appointment	Interval in days	Multiples of average interval
Jay	Washington	CJ	19-Oct-1789	n/a	n/a
Rutledge	Washington	A	15-Feb-1790	119	.
Cushing	Washington	A	02-Feb-1790	-13	.
Wilson	Washington	A	05-Oct-1789	-120	.
Blair	Washington	A	02-Feb-1790	120	.
Iredell	Washington	A	12-May-1790	99	.
Johnson	Washington	A	06-Aug-1792	817	+
Paterson	Washington	A	11-Mar-1793	217	.
Rutledge	Washington	CJ	12-Aug-1795	884	+
Chase	Washington	A	04-Feb-1796	176	.
Washington	Adams	A	04-Feb-1799	1096	+
Moore	Adams	A	21-Apr-1800	441	.
Marshall	Adams	CJ	04-Feb-1801	289	.
Johnson	Jefferson	A	07-May-1804	1188	+
Livingston	Jefferson	A	20-Jan-1807	988	+
Todd	Jefferson	A	04-May-1807	104	.
Duvall	Madison	A	23-Nov-1811	1664	++
Story	Madison	A	03-Feb-1812	72	.
Thompson	Monroe	A	01-Sep-1823	4228	++++++
Trimble	J.Q. Adams	A	16-Jun-1826	1019	+
McLean	Jackson	A	16-Jun-1826	0	.
Baldwin	Jackson	A	18-Jan-1830	1312	+
Wayne	Jackson	A	14-Jan-1835	1822	++
Taney	Jackson	CJ	28-Mar-1836	439	.
Barbour	Jackson	A	12-May-1836	45	.
Catron	Van Buren	A	01-May-1837	354	.
McKinley	Van Buren	A	09-Jan-1838	253	.
Daniel	Van Buren	A	10-Jan-1842	1462	++
Nelson	Tyler	A	27-Feb-1845	1144	+
Woodbury	Polk	A	23-Sep-1845	208	.
Grier	Polk	A	10-Aug-1846	321	.
Curtis	Fillmore	A	10-Oct-1851	1887	++
Campbell	Pierce	A	11-Apr-1853	549	.
Clifford	Buchanan	A	21-Jan-1858	1746	++
Swayne	Lincoln	A	27-Jan-1862	1467	++

Miller	Lincoln	A	21-Jul-1862	175	.
Davis	Lincoln	A	10-Dec-1862	142	.
Field	Lincoln	A	20-May-1863	161	.
Chase	Lincoln	CJ	15-Dec-1864	575	.
Strong	Grant	A	14-Mar-1870	1915	++
Bradley	Grant	A	23-Mar-1870	9	.
Hunt	Grant	A	09-Jan-1873	1023	+
Waite	Grant	CJ	04-Mar-1874	419	.
Harlan	Hayes	A	10-Dec-1877	1377	+
Woods	Hayes	A	05-Jan-1881	1122	+
Matthews	Garfield	A	17-May-1881	132	.
Gray	Arthur	A	09-Jan-1882	237	.
Blatchford	Arthur	A	03-Apr-1882	84	.
Lamar	Cleveland	A	18-Jan-1888	2116	+++
Fuller	Cleveland	CJ	08-Oct-1888	264	.
Brewer	Harrison	A	06-Jan-1890	455	.
Brown	Harrison	A	05-Jan-1891	364	.
Shiras	Harrison	A	10-Oct-1892	644	.
Jackson	Harrison	A	04-Mar-1893	145	.
White	Cleveland	A	12-Mar-1894	373	.
Peckham	Cleveland	A	06-Jan-1896	665	.
McKenna	McKinley	A	26-Jan-1898	751	+
Holmes	Roosevelt	A	08-Dec-1902	1776	++
Day	Roosevelt	A	02-Mar-1903	84	.
Moody	Roosevelt	A	17-Dec-1906	1386	+
Lurton	Taft	A	03-Jan-1910	1113	+
Hughes	Taft	A	10-Oct-1910	280	.
White	Taft	CJ	19-Dec-1910	70	.
VanDevanter	Taft	A	03-Jan-1911	15	.
Lamar	Taft	A	03-Jan-1911	0	.
Pitney	Taft	A	18-Mar-1912	440	.
McReynolds	Wilson	A	12-Oct-1914	938	+
Brandeis	Wilson	A	05-Jun-1916	602	.
Clarke	Wilson	A	09-Oct-1916	126	.
Taft	Harding	CJ	11-Jul-1921	1736	++
Sutherland	Harding	A	02-Oct-1922	448	.
Butler	Harding	A	02-Jan-1923	92	.
Sanford	Harding	A	19-Feb-1923	48	.
Stone	Coolidge	A	02-Mar-1925	742	+
Hughes	Hoover	CJ	24-Feb-1930	1820	++
Roberts	Hoover	A	02-Jun-1930	98	.
Cardozo	Hoover	A	14-Mar-1932	651	.
Black	Roosevelt	A	19-Aug-1937	1984	++

Reed	Roosevelt	A	31-Jan-1938	165	.
Frankfurter	Roosevelt	A	30-Jan-1939	364	.
Douglas	Roosevelt	A	17-Apr-1939	77	.
Murphy	Roosevelt	A	05-Feb-1940	294	.
Stone	Roosevelt	CJ	03-Jul-1941	514	.
Byrnes	Roosevelt	A	08-Jul-1941	5	.
Jackson	Roosevelt	A	11-Jul-1941	3	.
Rutledge	Roosevelt	A	5-Feb-1943	584	.
Burton	Truman	A	01-Oct-1945	959	+
Vinson	Truman	CJ	24-Jun-1946	266	.
Clark	Truman	A	24-Aug-1949	1157	+
Minton	Truman	A	12-Oct-1949	49	.
Warren	Eisenhower	CJ	05-Oct-1953	1454	++
Harlan	Eisenhower	A	28-Mar-1955	539	.
Brennan	Eisenhower	A	16-Oct-1956	568	.
Whittaker	Eisenhower	A	25-Mar-1957	160	.
Stewart	Eisenhower	A	14-Oct-1958	568	.
White	Kennedy	A	16-Apr-1962	1280	+
Goldberg	Kennedy	A	01-Oct-1962	168	.
Fortas	Johnson	A	04-Oct-1965	1099	+
Marshall	Johnson	A	02-Oct-1967	728	+
Burger	Nixon	CJ	23-Jun-1969	630	.
Blackmun	Nixon	A	09-Jun-1970	351	.
Powell	Nixon	A	07-Jan-1972	577	.
Rehnquist	Nixon	A	07-Jan-1972	0	.
Stevens	Ford	A	19-Dec-1975	1442	++
O'Connor	Reagan	A	25-Sep-1981	2107	+++
Rehnquist	Reagan	CJ	26-Sep-1986	1827	++
Scalia	Reagan	A	26-Sep-1986	0	.
Kennedy	Reagan	A	18-Feb-1988	510	.
Souter	Bush	A	09-Oct-1990	964	+
Thomas	Bush	A	23-Oct-1991	379	.
Ginsburg	Clinton	A	10-Aug-1993	657	.
Breyer	Clinton	A	03-Aug-1994	358	.
Now			24-Jul-2002	2912	++++
Average				694	
Standard deviation				709	
Congressional session				730	
Presidential term				1461	
Senatorial term				2191	

There have been 112 Supreme Court appointments in United States history. Sixteen of those involved Chief Justices; the other ninety-six appointees served as Associate Justices. The average interval between appointments is 694 days. This interval is practically equivalent to two years—95% of 730 days, to be almost exact. In other words, the Supreme Court welcomes a new Justice on a schedule comparable to the arrival of new Representatives in the United States Congress. Indeed, the two measures are identical once we eliminate the double-counting of the five Chief Justices who also served as Associate Justices. The sitting Congress is America's 107th; Justice Breyer is the 107th individual to sit on the Supreme Court.

The first five columns of Table 1 should be self-explanatory. The sixth column provides a primitive bar chart. It reports the gap between Supreme Court appointments in multiples of the average 694-day interval. A mathematical purist might prefer multiples of the standard deviation beyond the mean, but the standard deviation of 709 is so close to the mean that I opted to omit this extra element of complexity. Only thirty-seven intervals between Supreme Court appointments have matched or exceeded the 694-day benchmark. The sixth column of Table 1 reports these intervals. I have used plus signs to indicate the number of multiples so that larger numbers have a greater visual impact. The greater the number of plus signs, the more noteworthy the gap between Supreme Court appointments.

It should come as no surprise that Jimmy Carter was the only President to serve a full four-year term without appointing a Supreme Court Justice. Only sixteen times have a full four years intervened between Supreme Court appointments. Of those instances, only four have exceeded the average wait between new Justices by a factor equal to or greater than three:

- The thirteen-year gap between Justices Joseph Story and Smith Thompson (1812-23).
- The six-year gap between Justices Samuel Blatchford and Lucius Q.C. Lamar (1882-88).
- The six-year gap between Justices John Paul Stevens and Sandra Day O'Connor (1975-81).
- The ongoing eight-year interval since the appointment of Justice Stephen Breyer.

The sixth and final column in Table 1 indicates these gaps with three or more concatenated plus signs. Though no greater (so far) in their temporal magnitude than their nineteenth century precedents, the two modern gaps have had arguably greater political impact. Neither the Story-Thompson gap nor the Blatchford-Lamar gap traversed an entire presidency. Although the Story-Thompson gap was the longest ever, President Monroe was able to make a Supreme Court appointment toward the end of his second term. In any event, the Monroe

administration—so tranquil as to be remembered as “The Era of Good Feelings” in American history⁴⁶—did not represent a significant political change from the preceding presidency of James Madison. Lucius Q.C. Lamar joined the Supreme Court as a Democrat and a Southerner when neither trait had enjoyed great political currency on the national scene for a generation,⁴⁷ but his appointment (especially when coupled with that of Chief Justice Melville Fuller) enabled Grover Cleveland, the first Democratic President in twenty-four years, to leave his imprint on the Court. By contrast, the six-year wait for Sandra Day O’Connor skipped the only Democratic presidential administration from 1969 through 1993 and ultimately enabled Republican Presidents, from Richard Nixon and Gerald Ford through Ronald Reagan and the elder George Bush, to make eleven consecutive Supreme Court appointments from 1969 to 1991. The intense politicization of the high court in modern times, culminating in the Supreme Court’s dramatic intervention in presidential politics through *Bush v. Gore*,⁴⁸ has magnified the significance of the continuing wait for the next Justice after Stephen Breyer.

Of the twelve other gaps approaching, matching, or exceeding four years, several merit honorable mention. Five years and three months passed between President Lincoln’s appointment of Chief Justice Salmon Chase in 1864 and President Grant’s appointment of Justice William Strong in 1870. The Reconstruction Congress so despised President Andrew Johnson that it contracted the Supreme Court in 1866 from ten to six Justices. Three of the most prominent Supreme Court appointments during the early twentieth century—those of Justice Oliver Wendell Holmes, Chief Justice William Howard Taft, and Chief Justice Charles Evans Hughes—occurred after intervals of almost exactly five years after the preceding appointment. Before he could appoint Hugo Black, President Franklin D. Roosevelt marked the excruciating 1,984 days that had passed since President Hoover’s preceding appointment of Benjamin Cardozo. Finally, the gap between Sherman Minton and Earl Warren—exactly one week shy of four years—is noteworthy if only because of the impact of Warren’s momentous arrival on *Brown v. Board of Education*,⁴⁹ which is immodestly, but justifiably, described as “the most important decision in the history of the Court.”⁵⁰

46. See generally HENRY AMMON, JAMES MONROE: THE QUEST FOR NATIONAL IDENTITY (1971).

47. See generally JAMES B. MURPHY, L.Q.C. LAMAR: PRAGMATIC PATRIOT (1973).

48. 531 U.S. 98 (2000).

49. 347 U.S. 483 (1954).

50. BERNARD SCHWARTZ, A HISTORY OF THE SUPREME COURT 286 (1993) (quoting Justice Stanley Reed). See generally DENNIS J. HUTCHINSON, *Unanimity and Desegregation: Decisionmaking in the Supreme Court, 1948-1958*, 68 GEO. L.J. 1, 34-44 (1979) (describing Warren’s role in securing unanimity in *Brown*); S. SIDNEY ULMER, *Earl Warren and the Brown Decision*, 33 J. POL. 689 (1971).

The current Court's stability is nothing short of extraordinary. Even if we confine ourselves to strictly quantitative criteria and omit (at least momentarily) any political or other subjective considerations, it is hard to overstate the magnitude of the post-Breyer gap. Between September 26, 1986, when Chief Justice Rehnquist and Justice Scalia were appointed, and August 3, 1994, when Justice Breyer took his seat, 2,868 days elapsed. During that span, seven seats on the Court changed hands (or six, if one disregards Rehnquist's promotion and treats Antonin Scalia as a *de facto* replacement for the retiring Warren Burger). On June 10, 2002, 2,868 days passed since Justice Breyer's appointment. On October 20, 2002, soon after the beginning of October Term 2002, that interval reached a round 3,000 days. To put 3,000 days in perspective, consider that two presidential terms total 2,922 days. Lou Gehrig played 2,130 consecutive games to earn his place in sports history as baseball's Iron Horse; to displace Gehrig, Cal Ripken, Jr., played 2,632 games in a row. For those who disdain baseball as "a game with increasingly heightened anticipation of increasingly limited action,"⁵¹ other historical analogues abound. For example, from the German invasion of Poland on September 1, 1939, to unconditional Japanese surrender on August 14, 1945, World War II totaled 2,174 days.

Table 1, nevertheless, falls short in two significant respects. First, although the primitive bar chart in the final column identifies gaps noteworthy for their length, it provides little to no assistance in highlighting periods of rapid turnover. Professor Merrill's description of "repeat game" conditions on the Rehnquist Court since 1994 has an important corollary. When new Justices flood the Court, coalitions should become more fluid, and doctrinal innovations should become scarcer and more cautious. Perceptions of stability or volatility fluctuate over time. Recent turnover surely affects the Justices' perceptions and expectations, even during a Term experiencing no change in personnel. In treating Supreme Court appointments as a "Bayesian process," Professor Merrill agrees as much.⁵² The failure to account for change over any time frame besides a single Term constitutes Table 1's second significant shortcoming.

I, therefore, turn to the development of a quantitative measure that addresses these concerns.

III. SUBJECTING THE FOSSIL RECORD TO GREATER MATHEMATICAL RIGOR

A. *Chaotic Justice*

Despite its shortcomings, Table 1 provides all the information needed to measure volatility as well as stasis in Supreme Court membership and to gauge its fluctuation over periods greater than a single Term. We can accomplish this

51. JOHN IRVING, *A PRAYER FOR OWEN MEANY* 38 (1989).

52. Merrill, *supra* note 6, at 645 & n.286.

transformation with minimal mathematics.⁵³ Table 2 reorganizes the record of appointments according to Supreme Court Terms. For the sake of convenience, I have redefined all Supreme Court Terms as beginning on October 1 and ending on September 30. Column 2, labeled “Turnover,” records the number of new appointments taking place in each Term. Tracking turnover among Justices in this fashion assigns a single measure for both volatility and stability in the Court’s membership.

Column 3 measures the lingering effect of recent appointments. It reports the rolling average of appointments during the four Terms preceding the current Term. (Terms from 1789 through 1792 necessarily reflect a shorter period, or none at all.) Table 2 relies upon a four-year time horizon merely because the length of a presidential term is the closest thing to a temporal gold standard in the nation’s capital.⁵⁴ The rolling average discounts the impact of appointments on a straight-line basis; an appointment two Terms removed has three-quarters the impact of an appointment in the Term immediately before the Term in question. Appointments from three Terms before the test year receive half weight; appointments at the edge of the four-year time horizon are given only one-quarter the weight of a recent appointment.

Column 4 adds a single point for the appointment of a Chief Justice in any given Term. As Professor Merrill acknowledges in identifying the arrival of a new Chief Justice as a leading impetus for “norm change” within the Court,⁵⁵ the appointment of a new Chief Justice is likelier than the appointment of an Associate Justice to destabilize coalitions and other working relationships on the Court. Because directly adjusting the measure of turnover in column 2 would affect the four-year rolling average reported in column 3, column 4 employs a separate variable to account for the introduction of a Chief Justice without overstating the impact of that phenomenon.

Finally, column 5 combines the results reported in columns 2, 3, and 4 through simple addition into a single figure labeled “Chaos.” The greater this number, the more volatile the state of personnel on the Supreme Court during a particular Term. For ease of viewing, column 6 reports the value of 2 raised to the power of the volatility measure, “Chaos.” The graph following Table 2 projects the values reported in column 6 from 1790 through the present. Its resemblance to the readout of a mass spectrometer is quite satisfying in light of

53. And in so doing we can avoid performing “elaborate mathematics” that might be “both unnecessary . . . and explicitly based on assumptions that are inappropriate to the question” before us. Lynn A. Baker, *Interdisciplinary Due Diligence: The Case for Common Sense in the Search for the Swing Justice*, 70 S. CAL. L. REV. 187, 190 (1996).

54. At least since the Supreme Court decided the so-called “Gold Clause Cases.” See *Perry v. United States*, 294 U.S. 330 (1935); *Nortz v. United States*, 294 U.S. 317 (1935); *Norman v. Balt. & Ohio R.R. Co.*, 294 U.S. 240 (1935).

55. See Merrill, *supra* note 6, at 639.

the centrality of a single chemical element, iridium, in the impact theory of mass extinctions.

TABLE 2

Stability and Volatility in Supreme Court Membership

Term	Turnover	4-yr avg	Chief?	Chaos	2^Chaos
1789	6	0.00	1	7.00	128.00
1790	0	6.00	0	6.00	64.00
1791	1	2.57	0	3.57	11.89
1792	1	1.78	0	2.78	6.86
1793	0	1.30	0	1.30	2.46
1794	1	0.50	1	2.50	5.66
1795	1	0.70	0	1.70	3.25
1796	0	0.80	0	0.80	1.74
1797	0	0.50	0	0.50	1.41
1798	1	0.30	0	1.30	2.46
1799	1	0.50	0	1.50	2.83
1800	1	0.70	1	2.70	6.50
1801	0	0.90	0	0.90	1.87
1802	0	0.60	0	0.60	1.52
1803	1	0.30	0	1.50	2.83
1804	0	0.50	0	0.50	1.41
1805	0	0.30	0	0.30	1.23
1806	2	0.20	0	2.20	4.59
1807	0	0.90	0	0.90	1.87
1808	0	0.60	0	0.60	1.52
1809	0	0.40	0	0.40	1.32
1810	0	0.20	0	0.20	1.15
1811	2	0.00	0	2.00	4.00
1812	0	0.80	0	0.80	1.74
1813	0	0.60	0	0.60	1.52
1814	0	0.40	0	0.40	1.32
1815	0	0.20	0	0.20	1.15
1816	0	0.00	0	0.00	1.00
1817	0	0.00	0	0.00	1.00
1818	0	0.00	0	0.00	1.00
1819	0	0.00	0	0.00	1.00
1820	0	0.00	0	0.00	1.00
1821	0	0.00	0	0.00	1.00
1822	1	0.00	0	1.00	2.00
1823	0	0.40	0	0.40	1.32

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1824	0	0.30	0	0.30	1.23
1825	1	0.20	0	1.20	2.30
1826	0	0.50	0	0.50	1.41
1827	0	0.30	0	0.30	1.23
1828	0	0.20	0	0.20	1.15
1829	2	0.10	0	2.10	4.29
1830	0	0.80	0	0.80	1.74
1831	0	0.60	0	0.60	1.52
1832	0	0.40	0	0.40	1.32
1833	0	0.20	0	0.20	1.15
1834	1	0.00	0	1.00	2.00
1835	2	0.40	1	3.40	10.56
1836	1	1.10	0	2.10	4.29
1837	1	1.20	0	2.20	4.59
1838	0	1.20	0	1.20	2.30
1839	0	0.70	0	0.70	1.62
1840	0	0.30	0	0.30	1.23
1841	1	0.10	0	1.10	2.14
1842	0	0.40	0	0.40	1.32
1843	0	0.30	0	0.30	1.23
1844	2	0.20	0	2.20	4.59
1845	1	0.90	0	1.90	3.73
1846	0	1.00	0	1.00	2.00
1847	0	0.70	0	0.70	1.62
1848	0	0.40	0	0.40	1.32
1849	0	0.10	0	0.10	1.07
1850	0	0.00	0	0.00	1.00
1851	1	0.00	0	1.00	2.00
1852	1	0.40	0	1.40	2.64
1853	0	0.70	0	0.70	1.62
1854	0	0.50	0	0.50	1.41
1855	0	0.30	0	0.30	1.23
1856	0	0.10	0	0.10	1.07
1857	1	0.00	0	1.00	2.00
1858	0	0.40	0	0.40	1.32
1859	0	0.30	0	0.30	1.23
1860	0	0.20	0	0.20	1.15
1861	2	0.10	0	2.10	4.29
1862	2	0.80	0	2.80	6.96
1863	0	1.40	0	1.40	2.64
1864	1	1.00	1	3.00	8.00
1865	0	1.00	0	1.00	2.00
1866	0	0.50	0	0.50	1.41

1867	0	0.20	0	0.20	1.15
1868	0	0.10	0	0.10	1.07
1869	2	0.00	0	2.00	4.00
1870	0	0.80	0	0.80	1.74
1871	0	0.60	0	0.60	1.52
1872	1	0.40	0	1.40	2.64
1873	1	0.60	1	2.60	6.06
1874	0	0.70	0	0.70	1.62
1875	0	0.50	0	0.50	1.41
1876	0	0.30	0	0.30	1.23
1877	1	0.10	0	1.10	2.14
1878	0	0.40	0	0.40	1.32
1879	0	0.30	0	0.30	1.23
1880	2	0.20	0	2.20	4.59
1881	2	0.90	0	2.90	7.46
1882	0	1.40	0	1.40	2.64
1883	0	1.00	0	1.00	2.00
1884	0	0.60	0	0.60	1.52
1885	0	0.20	0	0.20	1.15
1886	0	0.00	0	0.00	1.00
1887	1	0.00	0	1.00	2.00
1888	1	0.40	1	2.40	5.28
1889	1	0.70	0	1.70	3.25
1890	1	0.90	0	1.90	3.73
1891	0	1.00	0	1.00	2.00
1892	2	0.60	0	2.60	6.06
1893	1	1.10	0	2.10	4.29
1894	0	1.10	0	1.10	2.14
1895	1	0.70	0	1.70	3.25
1896	0	0.80	0	0.80	1.74
1897	1	0.40	0	1.40	2.64
1898	0	0.60	0	0.60	1.52
1899	0	0.40	0	0.40	1.32
1900	0	0.20	0	0.20	1.15
1901	1	0.10	0	1.10	2.14
1902	1	0.40	0	1.40	2.64
1903	0	0.70	0	0.70	1.62
1904	0	0.50	0	0.50	1.41
1905	0	0.30	0	0.30	1.23
1906	1	0.10	0	1.10	2.14
1907	0	0.40	0	0.40	1.32
1908	0	0.30	0	0.30	1.23
1909	1	0.20	0	1.20	2.30

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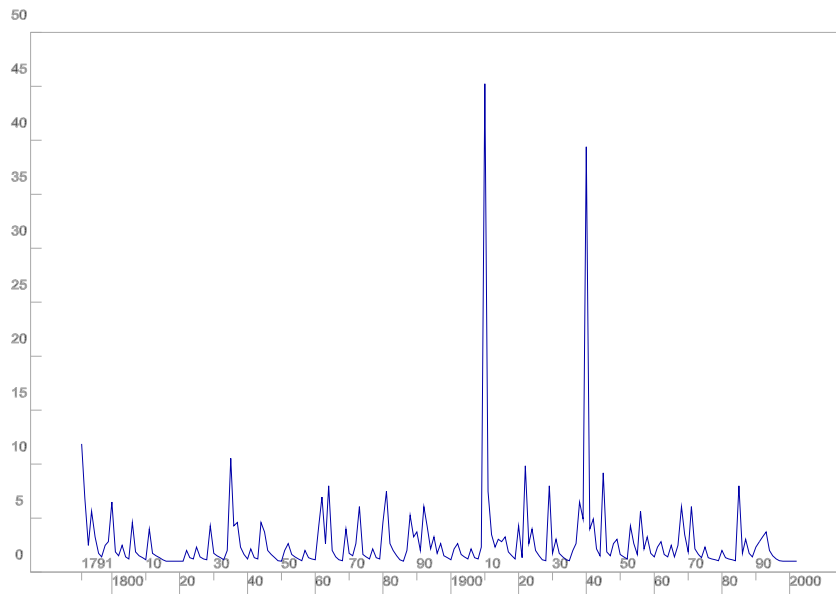
1910	4	0.50	1	5.50	45.25
1911	1	1.90	0	2.90	7.46
1912	0	1.80	0	1.80	3.48
1913	0	1.20	0	1.20	2.30
1914	1	0.60	0	1.60	3.03
1915	1	0.50	0	1.50	2.83
1916	1	0.70	0	1.70	3.25
1917	0	0.90	0	0.90	1.87
1918	0	0.60	0	0.60	1.52
1919	0	0.30	0	0.30	1.23
1920	1	0.10	1	2.10	4.29
1921	0	0.40	0	0.40	1.32
1922	3	0.30	0	3.30	9.85
1923	0	1.40	0	1.40	2.64
1924	1	1.00	0	2.00	4.00
1925	0	1.00	0	1.00	2.00
1926	0	0.60	0	0.60	1.52
1927	0	0.20	0	0.20	1.15
1928	0	0.10	0	0.10	1.07
1929	2	0.00	1	3.00	8.00
1930	0	0.80	0	0.80	1.74
1931	1	0.60	0	1.60	3.03
1932	0	0.80	0	0.80	1.74
1933	0	0.50	0	0.50	1.41
1934	0	0.20	0	0.20	1.15
1935	0	0.10	0	0.10	1.07
1936	1	0.00	0	1.00	2.00
1937	1	0.40	0	1.40	2.64
1938	2	0.70	0	2.70	6.50
1939	1	1.30	0	2.30	4.92
1940	3	1.30	1	5.30	39.40
1941	0	2.00	0	2.00	4.00
1942	1	1.30	0	2.30	4.92
1943	0	1.10	0	1.10	2.14
1944	0	0.60	0	0.60	1.52
1945	2	0.20	1	3.20	9.19
1946	0	0.90	0	0.90	1.87
1947	0	0.60	0	0.60	1.52
1948	1	0.40	0	1.40	2.64
1949	1	0.60	0	1.60	3.03
1950	0	0.70	0	0.70	1.62
1951	0	0.50	0	0.50	1.41
1952	0	0.30	0	0.30	1.23

1953	1	0.10	1	2.10	4.29
1954	1	0.40	0	1.40	2.64
1955	0	0.70	0	0.70	1.62
1956	2	0.50	0	2.50	5.66
1957	0	1.10	0	1.10	2.14
1958	1	0.70	0	1.70	3.25
1959	0	0.80	0	0.80	1.74
1960	0	0.50	0	0.50	1.41
1961	1	0.20	0	1.20	2.30
1962	1	0.50	0	1.50	2.83
1963	0	0.70	0	0.70	1.62
1964	0	0.50	0	0.50	1.41
1965	1	0.30	0	1.30	2.46
1966	0	0.50	0	0.50	1.41
1967	1	0.30	0	1.30	2.46
1968	1	0.60	1	2.60	6.06
1969	1	0.80	0	1.80	3.48
1970	0	0.90	0	0.90	1.87
1971	2	0.60	0	2.60	6.06
1972	0	1.10	0	1.10	2.14
1973	0	0.70	0	0.70	1.62
1974	0	0.40	0	0.40	1.32
1975	1	0.20	0	1.20	2.30
1976	0	0.40	0	0.40	1.32
1977	0	0.30	0	0.30	1.23
1978	0	0.20	0	0.20	1.15
1979	0	0.10	0	0.10	1.07
1980	1	0.00	0	1.00	2.00
1981	0	0.40	0	0.40	1.32
1982	0	0.30	0	0.30	1.23
1983	0	0.20	0	0.20	1.15
1984	0	0.10	0	0.10	1.07
1985	2	0.00	1	3.00	8.00
1986	0	0.80	0	0.80	1.74
1987	1	0.60	0	1.60	3.03
1988	0	0.80	0	0.80	1.74
1989	0	0.50	0	0.50	1.41
1990	1	0.20	0	1.20	2.30
1991	1	0.50	0	1.50	2.83
1992	1	0.70	0	1.70	3.25
1993	1	0.90	0	1.90	3.73
1994	0	1.00	0	1.00	2.00
1995	0	0.60	0	0.60	1.52

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1996	0	0.30	0	0.30	1.23	
1997	0	0.10	0	0.10	1.07	
1998	0	0.00	0	0.00	1.00	
1999	0	0.00	0	0.00	1.00	
2000	0	0.00	0	0.00	1.00	
2001	0	0.00	0	0.00	1.00	
2002	0	0.00	0	0.00	1.00	
Average	0.52	0.54	0.07	1.14	3.18	
Total	112					

GRAPH 1

Stability and Volatility in Supreme Court Membership



In Graph 1, which accompanies Table 2, volatile phases in Supreme Court history—defined by rapid turnover among the Justices—appear as peaks. Valleys represent relatively tranquil periods. The use of an exponential vertical scale enhances the graph’s readability, albeit at the price of exaggerating the apparent magnitude of volatile periods. Moreover, I freely admit what one of my expert mathematical advisors observed—that my resort to an exponential scale “has no mathematical justification in the context of modeling” this problem.

The most volatile epoch in Supreme Court history (aside from George Washington’s initial round of appointments) occurred during the Taft administration. President Taft, himself a future Chief Justice, managed to make

six appointments during his single term in the White House. Five of those appointments, including that of Chief Justice Edward White, took place within the span of a year and a day, from January 3, 1910, to January 3, 1911.

Taft's own judicial career also marked an important milestone in Supreme Court history. Within twenty months of appointing Taft as Chief Justice, President Harding added three Associate Justices to the membership of the Court. The first half of the Taft Court, therefore, experienced a relatively high degree of turnover among the Justices. The later portions of the Taft Court coincided with the Judiciary Act of 1925,⁵⁶ which replaced much of the mandatory appellate jurisdiction of the Supreme Court with discretionary review by writs of certiorari. Robert Post's study of the later Taft Court, as magisterial in its scope as it is empirically rigorous, demonstrates how the Judiciary Act transformed the Court from "primarily a tribunal of ultimate resort" and a "source of appellate review, whose chief function was correctly to discern and to protect the federal rights of litigants," into a nationwide forum for the declaration of the law of the land.⁵⁷

The last half-century has witnessed, on the whole, some of the most stable judicial epochs in American history. Graph 1 reports three distinct troughs since 1950. First, after a flurry of appointments by President Eisenhower, the Warren Court settled into a period when new Justices joined the Court with relative infrequency. Second, soon after the appointments of Lewis Powell and William Rehnquist, the Burger Court stabilized until President Reagan promoted then-Justice Rehnquist to the center seat. Finally, Graph 1 confirms, in visually vivid form, what has been obvious to any astute observer of the Supreme Court: the Court's stability since 1994 has been extraordinary by any measure. Perhaps not coincidentally, Chief Justice Rehnquist has overseen the halving of the Supreme Court's docket.⁵⁸

The New Deal era merits special mention. The years from 1910 through 1932 were ones of rapid judicial turnover. Seventeen new Justices joined the Court in less than a quarter-century; by comparison, a mere eight Supreme Court appointments have taken place in the nearly identical time span since Ronald Reagan's first inaugural. At the time of the New Deal, judicial turnover was not

56. Judiciary Act of 1925, ch. 229, 43 Stat. 936. See generally ALPHEUS THOMAS MASON, WILLIAM HOWARD TAFT: CHIEF JUSTICE 107-14 (1965) (documenting Taft's instrumental role in the passage of the Act).

57. Robert Post, *The Supreme Court Opinion as Institutional Practice: Dissent, Legal Scholarship, and Decisionmaking in the Taft Court*, 85 MINN. L. REV. 1267, 1272 (2001); cf., e.g., *L.A. Gas & Elec. Corp. v. R.R. Comm'n*, 289 U.S. 287, 304 (1933) ("We have emphasized the distinctive function of the court. We do not sit as a board of revision, but to enforce constitutional rights.").

58. Compare Peter L. Strauss, *One Hundred Fifty Cases Per Year: Some Implications of the Supreme Court's Limited Resources for Judicial Review of Agency Action*, 87 COLUM. L. REV. 1093 (1987), with Arthur D. Hellman, *The Shrunken Docket of the Rehnquist Court*, 1996 SUP. CT. REV. 403.

an altogether politically neutral phenomenon. Of the seventeen appointments from 1910 through 1932, all but three came courtesy of Republican Presidents. The later portions of Franklin Roosevelt's administration were also characterized by rapid turnover among the Justices. The two decades of Democratic control of the White House after the 1932 election yielded nearly as many Supreme Court appointments as Presidents Taft, Harding, Coolidge, and Hoover had made in the preceding generation. Indeed, from Horace Lurton in 1910 to Potter Stewart in 1958, the Supreme Court welcomed thirty-five new Justices in less than half a century. It has taken forty-four years—roughly twice the length of the 1910-32 span—for the next seventeen Justices to reach the Court.

The longest gap between Justices during the twentieth century, however, at least before the post-Stephen Breyer drought, took place at the beginning of Franklin Roosevelt's presidency. Whatever the duration of the Justices' memory of new appointments, President Roosevelt surely chafed at what he must have perceived as a historical anomaly and a political indignity. If nothing else, the sixty-five-month span between Justices Cardozo and Black helped inspire President Roosevelt's Court-packing plan.

B. *The Unavoidable Randomness of Justice*

A final series of statistical observations is in order. Reorganizing the record of Supreme Court appointments by Term, as exhibited in Table 2, provides strong evidence that the arrival of new Justices is an essentially random phenomenon. If Supreme Court membership were truly responsive to shifts in national politics, changes in Court personnel would track political cycles at the White House and on Capitol Hill. At a minimum, each new presidential administration might bring with it a new infusion of judicial blood at the Supreme Court. The federal judiciary's guarantee of life tenure, however, gets in the way. Alternatively, one might guess that the timing of Justices' retirements might depend partly on the degree of doctrinal upheaval on the Court. All other things being equal, a boring stretch might persuade an elderly Justice to favor retirement and leisure over continued service on the Court. Ultimately, neither of these hypotheses has any merit. A simple statistical test demonstrates that Supreme Court appointments are in fact both infrequent and random.

I shall cast this statistical test in formal terms. My null hypothesis (H_0) is that the actual record of Supreme Court appointments fits a Poisson distribution. As I will show imminently, a Poisson distribution describes events that may be characterized, in colloquial terms, as random and rare. I shall test the null hypothesis against a pair of alternative hypotheses. Let the first alternative hypothesis (H_1) represent the *political* explanation of judicial turnover—that is, that Supreme Court appointments track changes in presidential administrations. Let the second alternative hypothesis (H_2) represent the *legal* explanation of judicial turnover—that is, that Supreme Court Justices retire when the job no longer poses sufficient doctrinal

challenges to outweigh the allure of leisure or alternate employment. Unless statistical analysis of the data gives us reason to reject H_0 , the null hypothesis, we should prefer it over either of the alternative hypotheses, H_1 or H_2 .

The Poisson distribution describes the probability that a random event will occur in an interval, either temporal or spatial, where the probability of the event is small, but the number of trials is large enough so that the event actually occurs.⁵⁹ Typically deployed to model such phenomena as radioactive decay, manufacturing defects, or even the number of goals scored in the National Hockey League,⁶⁰ the Poisson distribution accurately models the expectation that a particular number of Justices (zero, one, two, or more) will be appointed during any Supreme Court Term. More formally, the Poisson distribution represents the limiting form of the binomial distribution as the probability (p) of a success approaches 0 and the number of trials (N) approaches ∞ , while the mean ($\mu = Np$) remains fixed. The probability of observing exactly r successes in this model is expressed by the following formula:

$$P(X = r) = \frac{\mu^r e^{-\mu}}{r!}, \quad r = 0, 1, 2, \dots$$

where μ is the average number of Supreme Court appointments per Term. According to Tables 1 and 2, μ is 0.498 if we omit the six appointments made from October 1789 through September 1790. Inserting this value for μ for the 213 imputed Supreme Court Terms from 1790 through 2001 yields the following table:

59. See generally J. LEROY FOLKS, IDEAS OF STATISTICS 118-19 (1981) (deriving the Poisson formula from the binomial distribution formula); FREDERICK MOSTELLER ET AL., JOINT COMM. ON THE CURRICULUM IN STATISTICS & PROBABILITY OF THE AM. STATISTICAL ASSOCIATION & THE NAT'L COUNCIL OF TEACHERS OF MATHEMATICS, STATISTICS BY EXAMPLE: FINDING MODELS 71-73 (1973) (same). For other descriptions of the Poisson function, see MORRIS H. DEGROOT, OPTIMAL STATISTICAL DECISIONS 35 (1970); WILLIAM FELLER, AN INTRODUCTION TO PROBABILITY THEORY AND ITS APPLICATION 156-57 (3d ed. 1968).

60. See Gary M. Mullet, *Siméon Poisson and the National Hockey League*, AM. STATISTICIAN, Feb. 1977, at 8 (demonstrating how the Poisson distribution describes the number of goals scored for and against each of the teams in the National Hockey League during the 1973-1974 season).

TABLE 3

Poisson Distribution—Expected Supreme Court Appointments per Term

Appointments	Probability	Number of Terms
0	0.6080	129.49
1	0.3026	64.44
2	0.0753	16.04
3	0.0125	2.66
4	0.0016	0.33
5	0.0002	0.03
6	0.0000	0.00
7	0.0000	0.00
8	0.0000	0.00
9	0.0000	0.00
Total	1.0000	213.00

The actual record of appointments tracks the Poisson distribution almost exactly:

TABLE 4

Actual Distribution of Supreme Court Appointments per Term

Appointments	Proportion	Number of Terms
0	0.6150	131
1	0.2911	62
2	0.0798	17
3	0.0094	2
4	0.0047	1
5	0.0000	0
6	0.0000	0
7	0.0000	0
8	0.0000	0
9	0.0000	0
Total	1.0000	213

This mathematical exercise reconfirms what one statistical analysis demonstrated in 1936,⁶¹ another confirmed in 1971,⁶² and yet another study

61. See W. Allen Wallis, *The Poisson Distribution and the Supreme Court*, 31 J. AM. STAT. ASS'N 376 (1936).

confirmed in 1982:⁶³ the Poisson distribution describes turnover on the Supreme Court of the United States. Notably, the standard deviation in the actual distribution of Supreme Court appointments per Term is 0.723. The standard deviation of the Poisson distribution is the square root of the second moment of probability distribution (that is, the variance). Quite happily, there is a simple way to express this daunting definition of the standard deviation in a Poisson distribution: it coincides with the square root of μ ($\sigma = \sqrt{\mu}$). If $\mu = 0.498$, then $\sigma = 0.705$. The equivalence of σ^2 with μ provides a “check on the conformity of [actual] observations to the Poisson distribution.”⁶⁴

That $\sigma^2 = \mu$ in a Poisson distribution also simplifies the computation for chi-square between expected and observed frequencies. The standard formula for X^2 is as follows:

$$X^2 = \sum_{i=0}^k \frac{(x_i - \mu)^2}{\sigma^2}$$

where x_i represents a distinct set of observations. Substituting the values for σ^2 and μ in the standard X^2 equation provides a goodness-of-fit test of the actual record of Supreme Court appointments with the pattern of appointments expected in a Poisson distribution:

$$X^2 = \sum_{i=0}^k \frac{(x_i - E_i)^2}{E_i}$$

where x_i represents the number of actual Terms in which i Justices were appointed and E_i represents the number of Terms out of 213 for which the Poisson distribution predicts the appointment of i Justices.

Applying the X^2 formula to the data reported in Tables 3 and 4 is a straightforward matter. I have computed X^2 after compressing into a single bin (“3+”) all Terms in which three or more Supreme Court appointments took place. The resulting four-bin computation yields a X^2 of 0.1684, with two degrees of freedom.⁶⁵ Inserting these values into the formula for the goodness-of-fit statistic derived from the cumulative distribution function, $1 - \text{cdf}(\text{df}, X^2)$, reports a value

62. See Earl Callen & Henning Leidecker, Jr., *A Mean Life on the Supreme Court*, 57 A.B.A. J. 1188 (1971).

63. See S. Sidney Ulmer, *Supreme Court Appointments as a Poisson Distribution*, 26 AM. J. POL. SCI. 113 (1982).

64. Wallis, *supra* note 61, at 379.

65. According to the 1936 study that pioneered the application of the Poisson distribution to the record of Supreme Court appointments, “[t]wo degrees of freedom are lost from the maximum of four because (1) the mean and (2) the total frequency of the theoretical distribution are determined by the observations whose conformity is to be tested.” *Id.* at 379 n.5.

of 0.919. In ordinary language, this value means that a random distribution of appointments has more than a 90% chance of matching or exceeding the actual distribution's divergence from the expected Poisson distribution.

A four-bin computation, however, violates the statistician's rule of thumb that an X^2 calculation should be avoided if any E_i is less than 5. The "3+" bin, which represents the sum of the fourth through tenth rows in Table 3, contains approximately 3 observations. In more formal terms, $E_{3+} \approx 3 < 5$. Compressing the "2" and "3+" bins into a single "2+" bin yields approximately 19 observations and thereby overcomes the problem of small numbers. The resulting three-bin computation generates a X^2 of 0.1563. Combining that X^2 value with one degree of freedom into the goodness-of-fit formula derived from the cumulative distribution function yields a P of 0.693. Colloquially speaking, even the less precise three-bin test shows nearly a 70% chance that Supreme Court appointments do not follow some politically or legally mediated process, but rather occur randomly.

With the benefit of all 213 years of Supreme Court history, my four-bin calculation fits the null hypothesis— H_0 in this instance being conformity with the Poisson distribution—somewhat better than a five-bin calculation performed on 1790-1980 data⁶⁶ and a four-bin calculation performed on the basis of the Court's record from 1837-1932.⁶⁷ As the number of Terms increases, the Poisson distribution improves its ability to describe the pattern of Supreme Court appointments. That the Court has varied in size from seven to ten Justices throughout its history is apparently "not a significant factor in the relationship."⁶⁸ What is significant is that Supreme Court vacancies fit the random null hypothesis better than either the political or legal variant of my two alternative hypotheses.

Finally, treating the arrival of new Supreme Court Justices as a phenomenon that conforms with the Poisson function enables us to compute the probability (" q ") that r Justices would be appointed within t Terms. Because the arithmetic mean is a "sufficient" statistic for the Poisson distribution,⁶⁹ and because probabilities scale over time in exact accordance with the Poisson distribution overall, a modest modification of the basic Poisson formula enables us to compute q for any r equal to or greater than 0:

66. See Ulmer, *supra* note 63, at 114. Ulmer reported $X^2 = 1.36$ with three degrees of freedom, which yielded a P of .72.

67. See Wallis, *supra* note 61, at 379. Wallis reported $X^2 = 0.6771$ with two degrees of freedom, which yielded a P of 0.713. Callen and Leidecker's 1971 study, which used 1837-1970 data, performed no X^2 analysis, simply reporting instead that the expected Poisson distribution was "in remarkable agreement with historical fact." Callen & Leidecker, *supra* note 62, at 1190.

68. Ulmer, *supra* note 63, at 114.

69. See Wallis, *supra* note 61, at 379 n.4 (defining a sufficient statistic as one that "alone includes all of the information relevant to fitting the function which can be obtained from the observations").

$$q = P_t(X = r) = \frac{(\mu t)^r e^{-\mu t}}{r!}, \quad r = 0, 1, K$$

Using this formula enables us to compute the probability of specific appointment “events” relating to the Supreme Court during one or two presidential Terms. Mathematics can, thus, inform us of the historic likelihood of events such as President Carter’s Supreme Court shutout, the post-Breyer drought, and that Holy Grail of the judicially inclined President—appointing a Supreme Court majority during two Terms in the White House.

Presidential shutouts involve the special case of $r = 0$. This simplifies the Poisson formula considerably: if $r = 0$, the first factor in the numerator and the denominator both equal 1. Therefore, the probability that no Justice will be appointed during a stretch of t Terms equals $e^{-\mu t}$, and the probability that a single-term President would appoint at least one Justice equals $1 - e^{-\mu t}$. Retaining the assumption that $\mu = 0.498$ tells us that the probability that a one-term President would appoint at least one Justice is 86.3%. A study conducted in 1982, soon after the end of the Carter presidency, similarly calculated a 13% probability that a one-term President would suffer a Supreme Court shutout.⁷⁰

The probability of a Supreme Court drought as long as the one that has prevailed since Justice Breyer’s appointment equals the probability that a two-term President would appoint no Justices. Inserting 8 for t in our formula, $e^{-\mu t}$, yields a probability of 1.9 percent.

The third prospect is the one that requires the most complex—and, in real-world terms, the least accurate—mathematical formula. Presumably any number of appointments from five to nine would enable a President to appoint a majority of Justices. The critical (and arguably unsound) assumption is that each of those appointments would replace an incumbent Justice whose own appointment would predate the tenure of the President in question. As Franklin Roosevelt discovered, it is, indeed, possible for a President to burn a Supreme Court appointment replacing one of his or her earlier appointees. His ninth appointment, Wiley Rutledge, replaced James Byrnes rather than Owen Roberts, a holdover from the Hoover administration who would eventually yield to Harold Hitz Burton. Nevertheless, a modest modification of the Poisson formula enables us to compute q for a series defined by $r \geq 5$:

70. Ulmer, *supra* note 63, at 115-16 (assuming $\mu = 0.513$).

$$q = P_t(X \geq 5) = \sum_{r=5}^{\infty} \frac{(\mu t)^r e^{-\mu t}}{r!} = 1 - \sum_{r=0}^4 \frac{(\mu t)^r e^{-\mu t}}{r!}$$

If $t = 8$, this formula reports a result of 0.367. The relatively low probability that a single President can appoint a majority of the Justices has enhanced scholarly confidence in the Court's institutional ability to survive even a motivated and popular President's ambition of reshaping the Court in his or her own image.⁷¹ Curiously enough, of the five Presidents after Washington who made at least five Supreme Court appointments—Jackson (five), Lincoln (five), Taft (six), Franklin Roosevelt (nine), and Eisenhower (five)—only Franklin Roosevelt and Dwight Eisenhower served two full terms or more.

IV. FINDING DOCTRINAL INNOVATION WITHIN THE FOSSIL RECORD

A. *Academic Instinct and Citation Science*

All that remains is a jurisprudential assessment of this historical evidence. Entire academic careers can be and have been devoted to close examination of one period or another of Supreme Court history, but I shall content myself here with the crudest of preliminary assessments. If Professor Merrill's hypothesis is correct, then the following stable judicial epochs should be associated with bold doctrinal innovation, produced by a single dominant coalition of Justices:

- The late Marshall Court, 1812-35 (except perhaps 1826);
- The Taney Court in the decade and a half before the Civil War;
- The Fuller Court, especially as it matured;
- The Warren Court after 1958;
- The Burger Court after 1973; and
- The "second" Rehnquist Court, from 1994 to the present.

At least at first blush, all of these periods have some plausible claim to heightened doctrinal creativity. The mystery and majesty of *Marbury v. Madison*⁷² aside, Chief Justice Marshall delivered his most enduring opinions after the 1812 arrival of fellow nationalist Joseph Story: *McCulloch v. Maryland*,⁷³ *Cohens v. Virginia*,⁷⁴ *Gibbons v. Ogden*,⁷⁵ and *Johnson v. McIntosh*,⁷⁶ among others.

71. See Michael Comiskey, *Can a President Pack—or Draft—the Supreme Court? FDR and the Court in the Great Depression and World War II*, 57 ALB. L. REV. 1043, 1057 & n.92 (1994); Michael Comiskey, *The Real and Imagined Consequences of Senatorial Consent to Silent Supreme Court Nominees*, 11 J.L. & POL. 41, 58 & n.88 (1995).

72. 5 U.S. (1 Cranch) 137 (1803).

73. 17 U.S. (4 Wheat.) 316 (1819).

74. 19 U.S. (6 Wheat.) 264 (1821).

The legacies of Chief Justices Taney and Fuller will forever be associated with the singularly regrettable constitutional frolic and detour of each Court: *Dred Scott v. Sandford*⁷⁷ and *Lochner v. New York*.⁷⁸ The Warren Court, of course, was legendary for its doctrinal ingenuity and its willingness to “cast overboard numerous settled decisions, and indeed even whole areas of law, with an unceremonious ‘heave-ho.’”⁷⁹ The Warren Court overruled forty-five decisions, including thirty-three from 1963 through 1969, thereby increasing by more than a third what had been the Court’s record to date of eighty-eight overrulings.⁸⁰ For its part, “[t]he Burger Court, far from reversing or otherwise undoing its predecessor Warren Court, was marked by a generally surprising penchant for judicial activism, even in such unexpected areas as civil rights and civil liberties.”⁸¹ The very existence of a “second” Rehnquist Court, of course, is the premise of Professor Merrill’s Childress Lecture.

By the same token, however, we should expect to find more flexible coalition-building and less doctrinal innovation during periods of greater turnover among Supreme Court Justices. Almost by definition, the accession of a new Chief Justice represents this sort of disturbance. During the twentieth century, two series of rapid appointments stand out above all others: President Taft’s infusion of six Justices from January 1910 through March 1912 and the appointment of nine Justices during President Franklin Roosevelt’s second and third terms. A third episode warrants honorable mention: President Harding managed to appoint four Justices, including former President Taft as Chief Justice, before death truncated his administration.

The presence of the New Deal Court, especially after 1937, in the category of highly volatile periods in Supreme Court history deals a serious blow to Professor Merrill’s hypothesis. The Supreme Court during the late New Deal was able to combine serious doctrinal consensus with radical rearrangement of precedent. The primary difference between that Court and today’s Court is political, not methodological. But unlike the second Rehnquist Court, the Court during the transition from Charles Evans Hughes to Harlan Fiske Stone was extraordinarily active in shedding old Justices and acquiring new ones. If anything, the Hughes Court had been very stable in the years; Hugo Black’s arrival in 1937 triggered a judicial revolution—in personnel and in doctrine—not thitherto seen in American history. In the crucial span of Terms from 1938 through 1940, Table 2’s “chaos” index registered an eye-popping sequence: 2.70, 2.30, and 5.30. This tumult

75. 22 U.S. (9 Wheat.) 1 (1824).

76. 21 U.S. (8 Wheat.) 543 (1823).

77. 60 U.S. (19 How.) 393 (1856).

78. 198 U.S. 45 (1905).

79. *Harper v. Va. Dep’t of Taxation*, 509 U.S. 86, 109 (1993) (Scalia, J., concurring).

80. See LUCAS A. POWE, JR., *THE WARREN COURT AND AMERICAN POLITICS* 486 (2000).

81. HENRY J. ABRAHAM, *JUSTICES AND PRESIDENTS: A POLITICAL HISTORY OF APPOINTMENTS TO THE SUPREME COURT* 349 (3d ed. 1992).

coincided with cases such as *West Coast Hotel Co. v. Parrish*,⁸² *United States v. Carolene Products Co.*,⁸³ *NLRB v. Jones & Laughlin Steel Corp.*,⁸⁴ *United States v. Darby*,⁸⁵ and *Wickard v. Filburn*.⁸⁶ These were hardly diffident decisions. Indeed, *Erie Railroad Co. v. Tompkins*,⁸⁷ decided during the 1937 Term, was perhaps the most celebrated overruling at that point in Supreme Court history. The chaos index remained at or above 2.00 until the 1943 Term. These numbers have never been matched throughout William Rehnquist's tenure as Chief Justice. Something gave rise to the constitutional creativity of the New Deal Court, but stability in personnel evidently played no role.

What I have provided so far, however, indulges in the very sort of "ideational" critique that Professor Merrill has shunned. As expiation for that lapse, I shall apply three more or less empirical measures of doctrinal foment. First, I shall glance quickly at an empirically derived list of the Court's most influential decisions (as determined by the number of citations per case by the Supreme Court itself and by the federal courts of appeals). If Professor Merrill's hypothesis is correct, these decisions should accumulate during periods of relative stability in the Court's membership. Second, I shall conduct my own crude count of citations of decisions from individual Supreme Court Terms. Again, higher counts should correlate to more tranquil periods of the Court's history. Finally, a simple survey of overrulings by the Court over time helps to confirm whether periods of doctrinal upheaval correspond with periods of low turnover.

One last methodological note is in order. Two of the measures I will use are based on citation frequency, which is admittedly "at best a crude and rough proxy for measuring influence."⁸⁸ Citation studies, often deployed to determine scholarly impact,⁸⁹ run riot as measures of judicial influence⁹⁰ (or its absence).⁹¹

82. 300 U.S. 379 (1937).

83. 304 U.S. 144 (1938).

84. 301 U.S. 1 (1937).

85. 312 U.S. 100 (1941).

86. 317 U.S. 111 (1942).

87. 304 U.S. 64 (1938) (overruling *Swift v. Tyson*, 41 U.S. (16 Pet.) 1 (1842)).

88. William M. Landes, Lawrence Lessig & Michael E. Solimine, *Judicial Influence: A Citation Analysis of Federal Courts of Appeals Judges*, 27 J. LEGAL STUD. 271, 271 (1998).

89. See, e.g., Jonathan Cole & Stephen Cole, *Measuring the Quality of Sociological Research: Problems in the Use of the Science Citation Index*, 6 AM. SOCIOLOGIST 23 (1971); Fred R. Shapiro, *The Most-Cited Law Review Articles*, 73 CAL. L. REV. 1540 (1985).

90. See generally, e.g., RICHARD A. POSNER, *CARDOZO: A STUDY IN REPUTATION* (1990); John Henry Merryman, *The Authority of Authority: What the California Supreme Court Cited in 1950*, 6 STAN. L. REV. 613 (1954); John Henry Merryman, *Toward a Theory of Citations: An Empirical Study of the Citation Practice of the California Supreme Court in 1950, 1960 and 1970*, 50 S. CAL. L. REV. 381 (1977); William M. Landes & Richard A. Posner, *Legal Precedent: A Theoretical and Empirical Analysis*, 19 J.L. & ECON. 249 (1976).

91. See David P. Currie, *The Most Insignificant Justice: A Preliminary Inquiry*, 50 U. CHI. L. REV. 460 (1983); Frank H. Easterbrook, *The Most Insignificant Justice: Further Evidence*, 50 U. CHI. L. REV. 481 (1983).

The primary reason for their allure turns out to be their biggest shortcoming: scholars count citations to their own work and to judicial decisions because they represent one of the most easily acquired pools of empirical data.⁹² Other limitations on this mode of analysis will become evident as we apply it.

B. *Most Influential Decisions*

The abundance of citation studies measuring judicial reputations obscures an embarrassing shortcoming in the literature: “relatively little empirical work is available on the reputation of [individual] case[s].”⁹³ Fortunately, one leading survey of judicial influence has bridged this gap. In his study of differences in influence among the Justices, Montgomery Kosma derived a list of the twenty-five most influential decisions in Supreme Court history.⁹⁴ I list these decisions here, along with the Terms in which they were decided:

TABLE 5

The 25 Most Influential Decisions in Supreme Court History
(as reported in Montgomery Kosma’s 1998 survey)

1. *McCulloch v. Maryland*⁹⁵ (February Term 1819)
2. *Gibbons v. Ogden*⁹⁶ (February 1824)
3. *Boyd v. United States*⁹⁷ (October 1885)
4. *Martin v. Hunter’s Lessee*⁹⁸ (February 1816)
5. *Osborn v. President of the Bank of the United States*⁹⁹ (February 1824)
6. *Missouri v. Illinois*¹⁰⁰ (October 1905)
7. *Cooley v. Board of Wardens*¹⁰¹ (December 1851)
8. *Brown v. Maryland*¹⁰² (January 1827)
9. *Yick Wo v. Hopkins*¹⁰³ (October 1885)

92. See Daniel A. Farber, *Earthquakes and Tremors in Statutory Interpretation: An Empirical Study of the Dynamics of Interpretation*, ISSUES IN LEGAL SCHOLARSHIP, Nov. 2002, at 1, 2, at <http://www.bepress.com/ils>.

93. Michael E. Solimine, *The Impact of Babcock v. Jackson: An Empirical Note*, 56 ALB. L. REV. 773, 775 (1993) (assessing the impact of *Babcock v. Jackson*, 191 N.E.2d 279 (N.Y. 1963)).

94. See Montgomery N. Kosma, *Measuring the Influence of Supreme Court Justices*, 27 J. LEGAL STUD. 333, 359 (1998).

95. 17 U.S. (4 Wheat.) 316 (1819).

96. 22 U.S. (9 Wheat.) 1 (1824).

97. 116 U.S. 616 (1886).

98. 14 (1 Wheat.) 304 (1816).

99. 22 U.S. (9 Wheat.) 738 (1824).

100. 200 U.S. 496 (1906).

101. 53 U.S. (12 How.) 299 (1851).

102. 25 U.S. (12 Wheat.) 419 (1827).

103. 118 U.S. 356 (1886).

10. *Ex parte Young*¹⁰⁴ (October 1908)
11. *The Minnesota Rate Cases*¹⁰⁵ (October 1912)
12. *Pennoyer v. Neff*¹⁰⁶ (October 1877)
13. *Weeks v. United States*¹⁰⁷ (October 1913)
14. *Marbury v. Madison*¹⁰⁸ (February 1803)
15. *Standard Oil Co. of N.J. v. United States*¹⁰⁹ (October 1910)
16. *Union Refrigeration Transit Co. v. Kentucky*¹¹⁰ (October 1905)
17. *The Slaughter-House Cases*¹¹¹ (December 1872)
18. *Cohens v. Virginia*¹¹² (February 1821)
19. *Mugler v. Kansas*¹¹³ (October 1887)
20. *Swift & Co. v. United States*¹¹⁴ (October 1904)
21. *Fletcher v. Peck*¹¹⁵ (February 1810)
22. *Cantwell v. Connecticut*¹¹⁶ (October 1939)
23. *The Second Employers' Liability Cases*¹¹⁷ (October 1911)
24. *Carroll v. United States* (October 1924)¹¹⁸
25. *Paul v. Virginia* (December 1868)¹¹⁹

The most striking characteristic of these twenty-five cases is their vintage. Exactly one case among these twenty-five (*Cantwell*) postdates the New Deal revolution in constitutional thought, and it involves First Amendment questions one step removed from the issues of congressional power and judicial review most often associated with the Hughes and Stone Courts. This quirk arises, I suspect, from Kosma's heroic efforts to overcome the tendency of judicial precedent to decline in value over time. Citation rates decay over time; judicial decisions have, as it were, relatively short half-lives.¹²⁰ Kosma developed not one but two techniques for offsetting temporal distortions of efforts to gauge the

104. 209 U.S. 123 (1908).

105. 230 U.S. 352 (1913).

106. 95 U.S. 714 (1877).

107. 232 U.S. 383 (1914).

108. 5 U.S. (1 Cranch) 137 (1803).

109. 221 U.S. 1 (1911).

110. 199 U.S. 194 (1905).

111. 83 U.S. (16 Wall.) 36 (1872).

112. 19 U.S. (6 Wheat.) 264 (1821).

113. 123 U.S. 623 (1887).

114. 196 U.S. 375 (1905).

115. 10 U.S. (6 Cranch) 87 (1810).

116. 310 U.S. 296 (1940).

117. 223 U.S. 1 (1912).

118. 267 U.S. 132 (1925).

119. 75 U.S. (8 Wall.) 168 (1868).

120. See Landes & Posner, *supra* note 90; William M. Landes & Richard A. Posner, *Citations, Age, Fame, and the Web*, 29 J. LEGAL STUD. 319 (2000).

influence of different cases and Justices. In addition to a “citation price index” to counteract inflation in the number of opinions (especially at the circuit court level) and in the number of citations per opinions,¹²¹ Kosma also discounted precedent to reflect the “time value of an opinion.”¹²² The latter adjustment yielded a discount rate of 6.5%,¹²³ while the former had the effect, for instance, of treating “a 1900 opinion that has been cited 10 times” as the equivalent of “a 1960 opinion that has been cited 18 times.”¹²⁴

In Kosma’s defense, his reliance on judicial citations to the exclusion of citations in the secondary legal literature provides a critical counterweight to whatever academic bias I might bring to the table. “Ideational” critiques by law professors often bear little resemblance to the legal issues that concern courts the most.¹²⁵ One example drawn from Justice Rufus Peckham’s *œuvre juridique* illustrates the point. *Lochner v. New York*,¹²⁶ “a favorite of law professors” (if only as a stalking horse), turns out to be less influential than *Ex parte Young* by a factor of three.¹²⁷ Evidently many law professors forget that law, until further notice, remains “what the courts . . . do in fact, and nothing more pretentious.”¹²⁸ Mindful of that trap, I endorse Kosma’s exclusive reliance on judicial citations.

Quibbles over Kosma’s methodology, therefore, are just that. Comparisons *within* his list of the twenty-five most influential decisions prove quite illuminating. Rearranging the decisions on his list in chronological order enables us to see whether a disproportionate number of those decisions arose during volatile or tranquil periods of Supreme Court membership:

121. Kosma, *supra* note 94, at 341-47.

122. *Id.* at 347. For more elaborate discussions of the difference between inflation and discount rates, see Jones & Laughlin Steel Corp. v. Pfeifer, 462 U.S. 523 (1983); Jim Chen, *The Price of Macroeconomic Imprecision: How Should the Law Measure Inflation?*, 54 HASTINGS L.J. (forthcoming July 2003).

123. Kosma, *supra* note 94, at 348.

124. *Id.* at 347.

125. See, e.g., Harry T. Edwards, *The Growing Disjunction Between Legal Education and the Legal Profession*, 91 MICH. L. REV. 34, 42 (1992) (“The growing disjunction between legal education and legal practice is most salient with respect to scholarship. There has been a clear decline in the volume of ‘practical’ scholarship . . .”); Ellen A. Peters, *Reality and the Language of the Law*, 90 YALE L.J. 1193, 1193 (1981) (lamenting the “increasing divergence between the theoretical interests of the aspiring academic lawyer and the pragmatic interests of the successful practitioner”). See generally Deborah J. Merritt & Melanie Putnam, *Judges and Scholars: Do Courts and Scholarly Journals Cite the Same Law Review Articles?*, 71 CHI.-KENT L. REV. 871 (1996).

126. 198 U.S. 45 (1905).

127. Kosma, *supra* note 94, at 354 n.43.

128. Oliver Wendell Holmes, Jr., *The Path of the Law*, 10 HARV. L. REV. 457, 461 (1897), reprinted in 110 HARV. L. REV. 991, 994 (1997).

TABLE 6

Incidence of “Influential” Decisions During Different Courts
and in Individual Terms

Marshall Court (9): 1801, 1810, 1812, 1816, 1819, 1821, 1824 (twice), and 1827 Terms.
 Taney (1): 1851.
 Chase (2): 1868 and 1872.
 Waite (4): 1877, 1885 (twice), 1887.
 Fuller (4): 1904 (twice), 1905, 1908.
 White (4): 1910, 1911, 1912, 1913.
 Taft (1): 1924.
 Hughes (1): 1939.

Perhaps half of these decisions stem from two of the calmer periods in Supreme Court membership: the seven Marshall Court decisions from the 1812 through the 1824 Terms, plus the four decisions from the last half-decade of Melville Fuller’s tenure as Chief Justice. On the other hand, the four decisions from the opening years of the White Court and the lone decision from the New Deal era (*Cantwell*) coincided with some of the most dramatic episodes of turnover among the Justices.

Admittedly, a list of greatest judicial hits derived from citation counts is liable to undercount “category-killer” precedents whose overwhelming effectiveness actually suppresses the number of subsequent citations.¹²⁹ *Erie Railroad Co. v. Tompkins*,¹³⁰ for instance, controls the choice of law in every case arising under the federal courts’ diversity jurisdiction and in every claim those courts address through their supplemental jurisdiction. Yet it fails to make the top twenty-five in Kosma’s study, although it does join other blockbusters such as *Munn v. Illinois*,¹³¹ *Ex parte Virginia*,¹³² *Pierce v. Society of Sisters of the Holy Names of Jesus and Mary*,¹³³ *Powell v. Alabama*,¹³⁴ *Brown v. Board of Education*,¹³⁵ and *NAACP v. Alabama*,¹³⁶ in a cluster of cases whose influence falls just shy of the top twenty-five.¹³⁷ Adding these cases relieves the problem of small sample size

129. Landes, Lessig & Solimine, *supra* note 88, at 274.

130. 304 U.S. 64 (1938) (overruling *Swift v. Tyson*, 41 U.S. (16 Pet.) 1 (1842)).

131. 94 U.S. 113 (1877).

132. 100 U.S. 339 (1880).

133. 268 U.S. 510 (1925).

134. 287 U.S. 45 (1932).

135. 347 U.S. 483 (1954).

136. 357 U.S. 449 (1958).

137. Kosma, *supra* note 94, at 357-58 (including these cases in a list of the most influential opinions of each Supreme Court Justice).

somewhat, but adds no greater clarity to our analysis. Of these additional cases, only three (*Munn*, *Ex parte Virginia*, and perhaps *Powell*) can be fairly described as the product of the Court during tranquil times. *Erie* and *Brown* came on the heels of politically significant changes in the Court's personnel.

The simplest test of correspondence between doctrinal foment and stability in Supreme Court personnel, therefore, fails to deliver conclusive answers. Consequently, I turn to a tool that ignores individual decisions altogether: overall citation counts.

C. Overall Citation Counts

1. The overall ALLFEDS measure

The simple expedient of counting citations, used often to measure judicial reputations and less frequently to measure the impact of individual cases, can reflect the influence of an entire Supreme Court Term. Citations to decisions from a particular Term may reflect that Term's impact on the federal judiciary. In compiling citation counts per Term, I performed the simplest of searches in Westlaw's ALLFEDS database, which collects decisions since 1945 rendered by the Supreme Court, the federal courts of appeals, the federal district courts, and an assortment of other federal courts. All searches took place on August 6, 2002, and, therefore, reflect the state of Westlaw's database as of that date. Westlaw's timely updating of this database poses a small methodological problem for duplication of my technique, but also supplies the cure. To exclude decisions added after my visit to Westlaw, add the phrase «ad(<8/7/2002) &» at the beginning of any of my searches.¹³⁸

I collected citations in four steps. First, I designed a basic search to retrieve citations to specific volumes of *United States Reports*:

“[volume] U.S.” % “cert. denied, [volume] U.S.”

where [volume] represents the appropriate volume of *United States Reports*.

Second, I modified the basic search for citations to the earliest Supreme Court decisions. Citations to those decisions have used the name of the Reporter of Decisions in addition to—or sometimes in the place of—the *United States Reports* citation. *Marbury v. Madison*, for example, has been cited variously as 5

138. Some, but not all, decisions are posted to Westlaw on the date they are released. The added-date restriction (AD) searches documents based on the date the document was added to Westlaw. This will provide consistency with my results. Thus, a decision dated August 1 that was added to Westlaw on August 15 would not appear in the added-date restricted search, matching the results received on August 8. The more familiar date restriction (DA) selects cases based on the date of the decision—not the date they were added to Westlaw databases. Consequently, this restriction cannot guarantee the same results I obtained.

U.S. (1 Cranch) 137 (1803) or as 1 Cranch 137 (1803), but almost never simply as 5 U.S. 137 (1803). To account for this citation practice, I substituted the following search for volumes 1 through 90 of *United States Reports*:

“[volume] [Reporter]” % “cert. denied, [volume] [Reporter]”

where [Reporter] represents the name or abbreviation by which one of these older volumes of *United States Reports* is typically cited.

Avoidance of citations such as “5 U.S.” also avoids a significant source of false positives. Because spacing after periods is irregular on Westlaw, the database sometimes reports citations to the *United States Code* as citations to the corresponding volume of *United States Reports*. Thus, a search for “5 U.S.,” though intended to retrieve citations to *Marbury*, yields many citations to the Administrative Procedure Act.

Third, I made an extremely small and discrete adjustment for one case cited almost exclusively by the Supreme Court and almost exclusively for the proposition that the syllabus prepared by the Court’s Reporter of Decisions does not constitute part of the opinion of the Court.¹³⁹ I refer, of course, to *United States v. Detroit Timber & Lumber Co.*,¹⁴⁰ which was reported in volume 200 of *United States Reports*. To compound the misery, the Supreme Court has been inconsistent in citing its favorite case. Of late, the Court has cited the case by its full name,¹⁴¹ but as recently as 1996 it has called this case *United States v. Detroit Lumber Co.*¹⁴² However it is cited, *Detroit Timber & Lumber Co.* comprises nearly seven-eighths of all references in ALLFEDS to volume 200 of *United States Reports*.¹⁴³ The unadjusted number of hits for volume 200 exceeded the number of hits for volume 199 by a factor of eight and the number of hits for 201 by a factor of four.¹⁴⁴ I, therefore, eliminated references to *Detroit Timber & Lumber Co.* from my volume 200 data by performing the following search:

“200 U.S.” % “cert. denied, 200 U.S.” % (Detroit +1 Timber Lumber)

139. See generally Gil Grantmore, *The Headnote*, 5 GREEN BAG 2D 157 (2002).

140. 200 U.S. 321 (1906).

141. See, e.g., *City of Indianapolis v. Edmond*, 531 U.S. 32, 32 (2000).

142. See, e.g., *United States v. Winstar Corp.*, 518 U.S. 839, 839 (1996). The disparity apparently arose from an inadvertent omission of the words “Timber &” from the citation in May 1979. See Michael S. Fried, *The Evolution of Legal Concepts: The Memetic Perspective*, 39 JURIMETRICS J. 291, 302 (1999); Grantmore, *supra* note 139, at 158 n.5 (observing in addition that the mistake has been corrected).

143. To be precise, it accounted for all but 520 hits out of 4255 hits registered by an ALLFEDS search on Aug. 6, 2002, for “200 U.S.” % “cert. denied, 200 U.S.”.

144. Again to be precise, the unadjusted basic search yielded 4255 hits for “200 U.S.,” but only 552 for “199 U.S.” and 998 for “201 U.S.”

Finally, I converted citations to individual volumes of *United States Reports* into citations to corresponding Supreme Court Terms. I relied on a table compiled by Donald J. Kochan, which links volumes of *United States Reports* to the Term in which the Supreme Court decided the cases reported in those pages.¹⁴⁵ For example, volumes 434 through 438 contain the decisions rendered by the Court during October Term 1977. I therefore combined all citations to those volumes into a single figure for the 1977 Term. Not all volumes of *United States Reports*, however, correspond so neatly to a Term beginning in October. In 1873, the Court adopted its modern convention of beginning its Term in October. For Terms before 1873, I defined the relevant annual unit as any Term beginning in any month that year. Since 1873, however, the Supreme Court's calendar has adopted a October-to-September rhythm. For those years, therefore, I have assigned occasional summer Terms to the regular Term that began the preceding October. For instance, I have treated August Term 1958 as an extension of October Term 1957 rather than a prologue to October Term 1958.

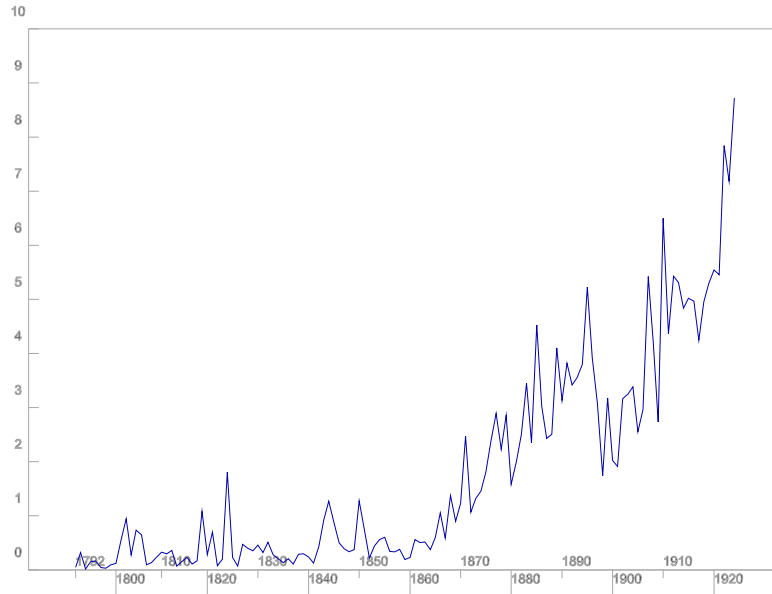
Special problems arise from the Supreme Court's occasional practice of using a single volume of *United States Reports* to publish decisions from the end of one Term and decisions from the beginning of the next. For instance, pages 1 through 202 of volume 326 report decisions from the end of October Term 1944, while pages 203 through 678 report decisions from the beginning of the 1945 Term. Achieving convenience at some cost in accuracy, I assigned citation counts for all such volumes according to number of pages used to report each Term's decisions. Thus, I credited just under 30% (202 divided by 678) of citations to volume 326 to the 1944 Term and credited the balance to the 1945 Term.

These results require so much horizontal space that I divided them into two tables. Graphs 2 and 3, in combination, report ALLFEDS citations by Supreme Court Term from August Term 1791 through the present. Graph 2 covers all Terms through October Term 1924; Graph 3 covers all Terms since. I chose the Judiciary Act of 1925 as my dividing point.

145. Donald J. Kochan, *Pages Per Term in the United States Reports and Converting Supreme Court Citations to Term Announced: A Statistical Research Tool*, 1998 DET. C.L. MICH. ST. U. L. REV. 1091, 1098-1110.

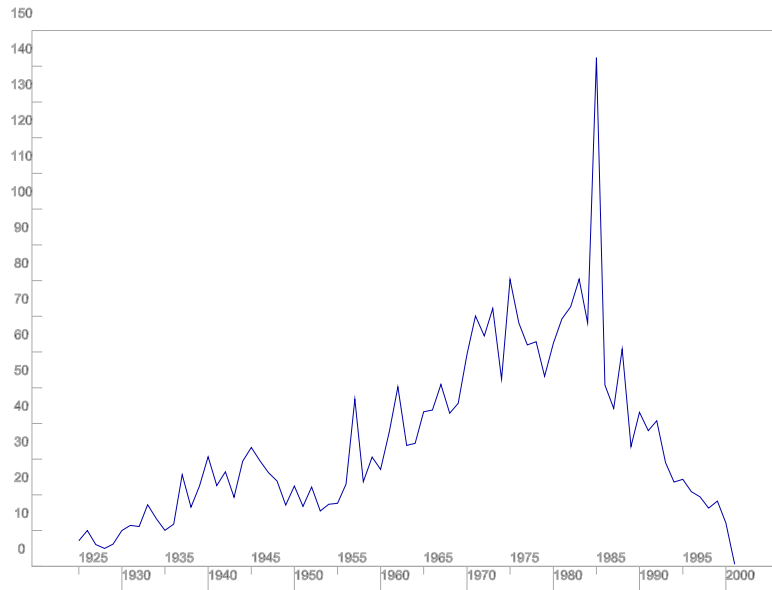
GRAPH 2

Citations by Supreme Court Term, August Term 1791 through October Term 1924



GRAPH 3

Citations by Supreme Court Term, October Term 1925 through October Term 2001



These graphs display two obvious shortcomings of the data. First, the sheer number of citations to each Term increases over time. This sort of “inflation” results partly from the fact that legal precedent has a half-life. It also reflects the recent growth in the number of decisions in the federal courts at large (except the Supreme Court). “Citation creep,” or the tendency of federal judges and their law clerks to cite an ever greater number of sources in each opinion, accounts for the rest of the growth. Over time these phenomena, acting in concert, have a very dramatic effect. The number of citations to cases decided during the 1985 Term, by far the largest in my survey, exceeds the highest numbers for Terms from the early nineteenth century by two orders of magnitude.

A second flaw in the data can be detected toward the end of Graph 3. More recent decisions simply have not had an equivalent opportunity to register citations; much of their “citation flow” lies in the future. This suppression of hits is especially visible for the entire Rehnquist Court. As of this writing, courts have almost never cited volumes 534 through 536 of *United States Reports*, which will eventually cover the 2001 Term. Searching for citations to the corresponding volume of the speedier *Supreme Court Reporter* (“122 S. Ct.”) would ameliorate, but not cure, the problem. In all likelihood, therefore, Graph 3 provides no useful information on the Rehnquist Court (which, alas, is the occasion for this Childress Lecture and these responses to it).

Although Graphs 2 and 3 supply no reliable information on a *global* basis—that is, across all two centuries plus of Supreme Court history—they do provide interesting glimpses at doctrinal impact on a *local*, temporally bounded basis. In light of the citation count’s steady tendency to climb over time, sustained dips in citation counts are especially noteworthy. So are pronounced increases. Reduced citation counts suggest periods of doctrinal stasis or even failure, whereas heightened counts suggest the opposite. Methodologically speaking, the search for doctrinal shifts should begin with a search for local minima and maxima in these graphs.

A casual glance at Graph 2 suggests that the following periods in early Supreme Court history were unusually quiet in doctrinal terms:

- 1806 through 1818;
- 1825 through 1843;
- 1851 through 1865. The next five Terms suggested a doctrinal revival that did not resume in earnest until 1877;
- 1895 through 1907, with an argument that this trough continued until 1910; and
- 1912 or 1913 through 1921.

Recall that Professor Merrill’s hypothesis would suggest that the three likeliest periods of doctrinal *volatility* before 1925 would have occurred from 1812 through 1835 (the late Marshall Court), the final years of the Taney Court

(from 1846 or 1847 until President Lincoln's first inaugural), and the Fuller Court after 1898. If anything, these periods actually correspond with pronounced *troughs* in the record of subsequent citations. In other words, during the first thirteen decades of Supreme Court history, overall citation counts affirmatively contradict Professor Merrill's hypothesis.

The pronounced increase of citations to decisions from the 1925 Term to the 1985 Term makes Graph 3 more difficult to interpret, but several local maxima figure prominently in that record:

- 1937
- 1940
- 1945
- 1957
- 1962
- 1971
- 1973
- 1975
- 1985

The total number of hits for 1985, which exceeded 140,000, is the largest number in my survey. By contrast, 1935, 1953, and 1979 mark noteworthy minima in the post-1925 record.

There is a striking correlation between peaks in Graph 3 and peaks in Graph 1, which reports appointment activity on the Court. To make the connection clear in narrative if not mathematically precise terms, I shall repeat Graph 3's peak Terms with the Justice or Justices appointed in those Terms or in the immediately preceding Terms:

- 1937: Black, Reed
- 1940: Stone, Byrnes, Jackson; Murphy (1939)
- 1945: Burton
- 1957: Brennan (1956), Whittaker (1956)
- 1962: Goldberg; White (1961)
- 1971: Powell, Rehnquist
- 1973: none
- 1975: Stevens
- 1985: none

Several of those names—especially Black, Brennan, Goldberg, Powell, and Rehnquist—correspond to the most politically significant Supreme Court appointments of the twentieth century, at least among Associate Justices. The exceptional Term in this sequence is 1985. A trilogy of cases that Term—

Anderson v. Liberty Lobby, Inc.,¹⁴⁶ *Celotex Corp. v. Catrett*,¹⁴⁷ and *Matsushita Electric Industrial Co., Ltd. v. Zenith Radio Corp.*¹⁴⁸—simply happened to prescribe the resolution of summary judgment motions, perhaps the most significant development in the law of federal civil procedure since the adoption of the Federal Rules of Civil Procedure in 1937. October Term 1985, on the other hand, was the last Term over which Warren Burger presided as Chief Justice. The stunning fecundity of its civil procedure decisions may be credited to the exceptionally stable final years of the Burger regime.

The low-tide Terms in Graph 3 provide a vivid contrast. The 1935 and 1979 Terms all marked periods of low turnover on the Court. As of October 1935, the Court had remained stable since Justice Cardozo's appointment in March 1932. The 1979 Term occurred in the midst of the quiet stretch from 1975 through 1981 that eliminated President Carter's opportunity to make a Supreme Court appointment. The 1953 Term, of course, is an aberration in that Chief Justice Warren arrived in time to preside over the Court that October. Then again, any Term in which the Court handed down *Brown v. Board of Education*¹⁴⁹ cannot be considered a period of doctrinal stagnation, no matter what the citation data report.

Suffice it to say that the raw citation data, far from validating Professor Merrill's hypothesis, comes close to squarely contradicting the notion that the dynamics of repeat games among known players might encourage the Justices to take bolder doctrinal steps. If anything, the record of citations suggest that rapid turnover, rather than stability in personnel, is the real catalyst of doctrinal innovation.

2. A modified, time-delimited measure

Out of concern that the negative implications of Graphs 2 and 3 might have resulted from my reliance on the entire ALLFEDS database, I decided to repeat my search for citations by Supreme Court Term with a much more temporally circumscribed base of cases. Using the same techniques to harvest citations, I searched a four-year sample: cases in ALLFEDS decided from January 1, 1996 through December 31, 1999. Because citations to cases decided before 1900 were so few, I omitted those Terms. I used the following Westlaw search:

```
da(>12/31/1995) & da(<1/1/2000) & "[volume] U.S." % "cert. denied,  
[volume] U.S."
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146. 477 U.S. 242 (1986).

147. 477 U.S. 317 (1986).

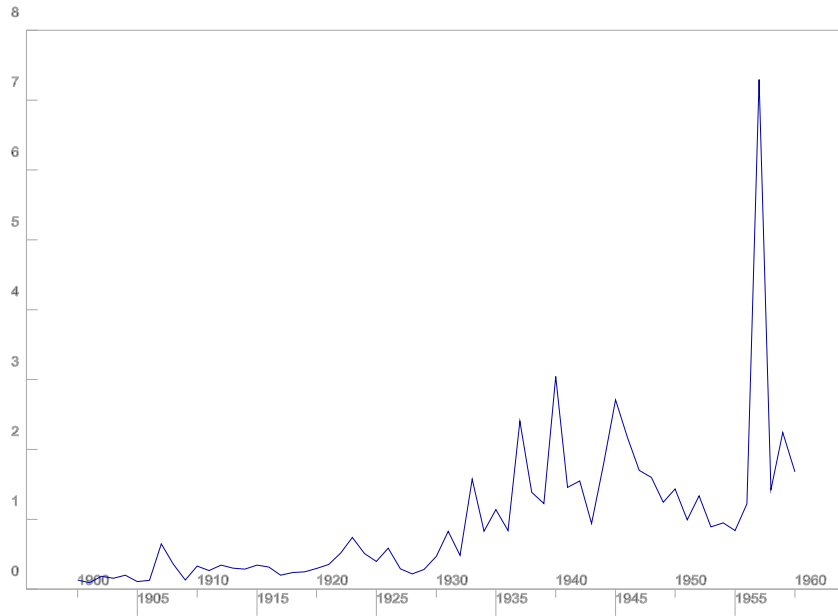
148. 475 U.S. 574 (1986).

149. 347 U.S. 483 (1954).

where [volume] represents the relevant volume of *United States Reports*. Again, I made an adjustment to exclude the Supreme Court's ritual recitation of *Detroit Timber & Lumber Co.* Graphs 4 and 5 report my results, respectively, for Terms from 1900 through 1960 and for Terms from 1950 through 2001:

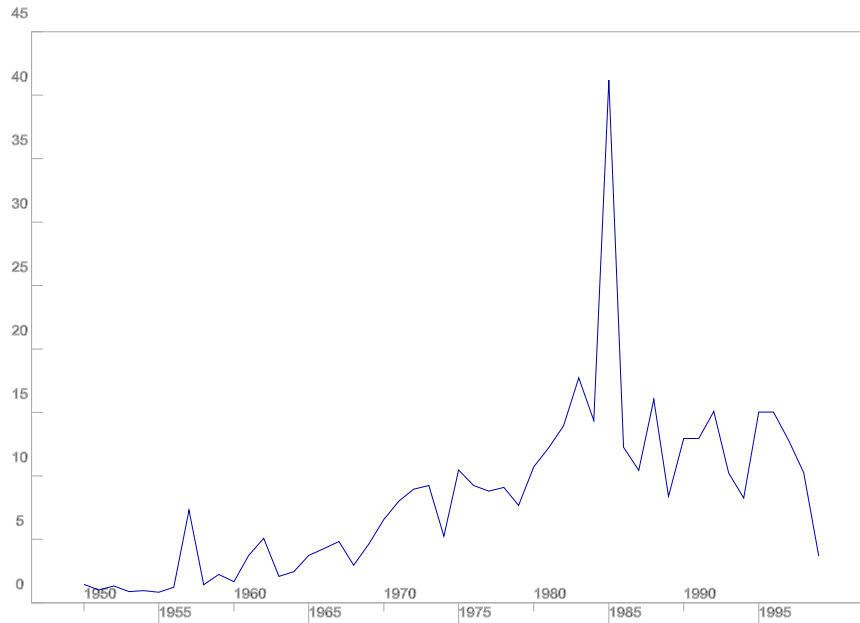
GRAPH 4

Citations by Supreme Court Term, October Term 1900 through October Term 1960—A Modified, Time-Delimited Measure



GRAPH 5

Citations by Supreme Court Term, October Term 1950 through October Term 2001—A Modified, Time-Delimited Measure



The peaks and valleys in Graphs 4 and 5 correspond almost exactly with those of Graph 3. Peaks occur in the 1933, 1937, 1940, 1945, 1957, 1962, 1967, 1973, 1975, and 1985 Terms. With two exceptions, those years correspond almost exactly with the peaks reported in Graph 3. As for 1933 and 1967, adding the Terms associated with the arrival of Justices Benjamin Cardozo and Thurgood Marshall strengthens the suggestion that new blood fosters rather than suppresses the judicial appetite for doctrinal innovation. Graph 3's 1935 trough is replaced in Graph 4 by a 1943 trough, while the 1979 dip, though extant, seems less significant than the decline experienced for cases from the 1974 Term. October Term 1955, however, remains a singularly impressive local minimum in Graph 4.

Though far from conclusive, Graph 5 also suggests that the Rehnquist Court is not moving, on the whole, from failed doctrine to a bolder set of decisions as it settles into a stable set of Justices. If we exclude cases from 1996 onward, which are coextensive with or postdate my 1996-1999 study period, each Term during the entire Rehnquist Court has yielded roughly a third of the citations realized by the phenomenal 1985 Term.

Neither of my citation counts provides meaningful support for Merrill's Meteor. If anything, they contradict Professor Merrill's point. I now move to a final measure of doctrinal activity: overrulings.

D. Overrulings

One of the simplest measures of doctrinal activity is to count the number of decisions per Term that overrule previous decisions of the Supreme Court. Willful departures from *stare decisis* drive what Justice William O. Douglas called “constitutional flux.”¹⁵⁰ Although this measure is warped over time in that the early Court had far fewer decisions it could overrule,¹⁵¹ counting overrulings should enable us to make meaningful comparisons between the Rehnquist Court and its twentieth-century predecessors. Moreover, unlike citation counts, which favor the lower federal courts by virtue of the sheer weight of *Federal Reporter* and *Federal Supplement*, a measure based on the overruling of Supreme Court decisions enables us to focus exclusively on the high court. The Supreme Court, after all, retains “the prerogative of overruling its own decisions.”¹⁵²

The *sine qua non* of this measure is a reliable count of Supreme Court decisions that overrule prior decisions. Fortunately, in compliance with its congressional mandate to provide a decennial annotation of the Constitution and to update that annotation on a biennial basis,¹⁵³ the Congressional Research Service has provided a list of 219 such decisions.¹⁵⁴ The CRS tabulation is comprehensive as of the end of October Term 1999. I have added another four decisions through the end of the 2001 Term, based on my own count of cases in which the Court has explicitly overruled precedent.¹⁵⁵ I omitted two cases in

150. William O. Douglas, *Stare Decisis*, 49 COLUM. L. REV. 735, 736-37 (1949); cf. Henry Paul Monaghan, *Our Perfect Constitution*, 56 N.Y.U. L. REV. 353, 388 (1981) (describing the “general decay of *stare decisis*” as “the manifestation in legal thought of the marked, accelerating, and apparently irreversible decline in the belief of permanent ordering”). *But see* Carolyn D. Richmond, Note, *The Rehnquist Court: What Is in Store for Constitutional Law Precedent?*, 39 N.Y.L. SCH. L. REV. 511, 512 (1994) (arguing that “*stare decisis* may no longer be relied upon as a consistent indicator of the direction of constitutional law jurisprudence in the Supreme Court”).

151. See Michael J. Gerhardt, *The Role of Precedent in Constitutional Decisionmaking and Theory*, 60 GEO. WASH. L. REV. 68, 78 (1991) (“It is practically impossible for the Court to decide any constitutional issue without first trying to determine the scope of prior decisions.”); Thomas R. Lee, *Stare Decisis in Historical Perspective: From the Founding Era to the Rehnquist Court*, 52 VAND. L. REV. 647, 649 (1999) (“Whereas the Court in Chief Justice Marshall’s day consistently wrote on a clean slate . . . , today’s Court routinely is faced with the task of reconciling or distinguishing prior decisions.”).

152. *Rodriguez de Quijas v. Shearson/Am. Express, Inc.*, 490 U.S. 477, 484 (1989); *Am. Trucking Ass’ns, Inc. v. Smith*, 496 U.S. 167, 180 (1990) (plurality opinion); *accord* *State Oil Co. v. Kahn*, 522 U.S. 3, 20 (1997) (“it is this Court’s prerogative alone to overrule one of its precedents”).

153. See 2 U.S.C. § 168 (2000).

154. See CONGRESSIONAL RESEARCH SERVICE, LIBRARY OF CONGRESS, THE CONSTITUTION OF THE UNITED STATES OF AMERICA: ANALYSIS AND INTERPRETATION 2245-56 (Johnny H. Killian & George A. Costello eds., 1996); *id.* at 171 (Supp. 2000) (Johnny H. Killian, George A. Costello & Kenneth R. Thomas eds.).

155. During October Term 2000, the Court decided one case that resulted in the overruling of at least one previous decision. See *United States v. Hatter*, 532 U.S. 557, 567 (2001) (overruling *Evans*

which the opinion of the Court has left un rebutted a dissenter's allegation that the majority opinion has effectively overruled precedent.¹⁵⁶ I also omitted two other cases in which such an allegation was lodged, but was denied by a majority of the Justices.¹⁵⁷

Table 7 reports, Term by Term, the record of "overrulings" in Supreme Court history:

TABLE 7

Overrulings by Term in Supreme Court History

Term	Overrulings
1789	0
1790	0
1791	0
1792	0
1793	0
1794	0
1795	0
1796	0
1797	0
1798	0
1799	0
1800	0
1801	0

v. Gore, 253 U.S. 245 (1920)). During the 2001 Term, the Court rendered three decisions of this nature. See *Ring v. Arizona*, 122 S. Ct. 2428, 2443 (2002) (overruling *Walton v. Arizona*, 497 U.S. 639 (1990)); *United States v. Cotton*, 122 S. Ct. 1781, 1785 (2002) (overruling *Ex parte Bain*, 121 U.S. 1 (1887)); *Lapides v. Bd. of Regents of the Univ. Sys. of Ga.*, 535 U.S. 613, 623 (2002) (overruling *Ford Motor Co. v. Dep't of Treasury*, 323 U.S. 459 (1945)).

156. See *Smith v. Robbins*, 528 U.S. 259, 289 (2000) (1999 Term) (Stevens, J., dissenting) (accusing the majority of effectively overruling *Anders v. California*, 386 U.S. 738 (1967), and *Penon v. Ohio*, 488 U.S. 75 (1988)); *Reno v. Bossier Parish Sch. Bd.*, 528 U.S. 320, 371 (2000) (1999 Term) (Souter, J., dissenting) (accusing the majority of effectively overruling *Pleasant Grove v. United States*, 479 U.S. 462 (1987)).

157. Compare *Apprendi v. New Jersey*, 530 U.S. 466, 487 n.13 (2000) (1999 Term) (declining to cast doubt on *McMillan v. Pennsylvania*, 477 U.S. 79 (1986)), with *id.* at 533 (O'Connor, J., dissenting) (arguing that the majority effectively overruled *McMillan*), and *Zadvydas v. Davis*, 533 U.S. 678, 694 (2001) (2000 Term) (declining to cast doubt on *Shaughnessy v. United States ex rel. Mezei*, 345 U.S. 206 (1953)), with *id.* at 703 (Scalia, J., dissenting) (arguing that the majority effectively overruled *Mezei*).

1803 ¹⁵⁸	0
1804	0
1805	0
1806	0
1807	0
1808	0
1809	0
1810	1
1811	0
1812	0
1813	0
1814	0
1815	0
1816	0
1817	0
1818	0
1819	0
1820	0
1821	0
1822	0
1823	0
1824	0
1825	0
1826	0
1827	0
1828	0
1829	0
1830	1
1831	0
1832	1
1833	0
1834	0
1835	0
1836	0
1837	0
1838	0
1839	0
1840	0
1841	0

158. There was, rather notoriously, no 1802 Term. *See* *Stuart v. Laird*, 5 U.S. (1 Cranch) 299 (1803); William W. Van Alstyne, *A Critical Guide to Marbury v. Madison*, 1969 DUKE L.J. 1, 5; James M. O'Fallon, *Marbury*, 44 STAN. L. REV. 219, 239 (1992).

1842	0
1843	0
1844	1
1845	0
1846	0
1847	0
1848	0
1849	0
1850	0
1851	1
1852	0
1853	0
1854	0
1855	0
1856	0
1857	1
1858	0
1859	0
1860	1
1861	0
1862	0
1863	0
1864	0
1865	0
1866	0
1867	1
1868	1
1869	0
1870	2
1871	0
1872	0
1873	1
1874	1
1875	0
1876	0
1877	1
1878	0
1879	1
1880	2
1881	0
1882	2
1883	0
1884	1

2003]

JUDICIAL EPOCHS IN SUPREME COURT HISTORY

725

1885	0
1886	2
1887	2
1888	0
1889	1
1890	0
1891	1
1892	0
1893	1
1894	1
1895	0
1896	0
1897	0
1898	0
1899	0
1900	0
1901	0
1902	0
1903	0
1904	0
1905	0
1906	0
1907	0
1908	0
1909	0
1910	0
1911	0
1912	0
1913	1
1914	0
1915	1
1916	0
1917	3
1918	0
1919	0
1920	0
1921	1
1922	1
1923	0
1924	1
1925	0
1926	0
1927	1

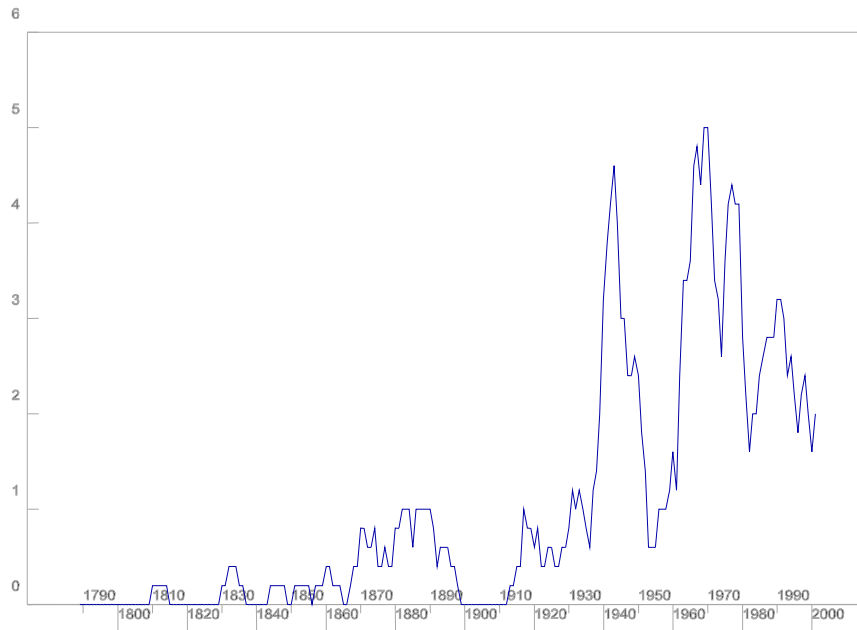
1928	1
1929	1
1930	1
1931	2
1932	0
1933	2
1934	0
1935	0
1936	1
1937	3
1938	3
1939	3
1940	6
1941	4
1942	5
1943	5
1944	0
1945	1
1946	4
1947	2
1948	5
1949	1
1950	0
1951	1
1952	0
1953	1
1954	1
1955	0
1956	3
1957	0
1958	1
1959	2
1960	2
1961	1
1962	6
1963	6
1964	2
1965	3
1966	6
1967	7
1968	4
1969	5
1970	3

1971	2
1972	3
1973	3
1974	2
1975	8
1976	5
1977	4
1978	2
1979	2
1980	1
1981	2
1982	1
1983	4
1984	2
1985	3
1986	3
1987	2
1988	4
1989	2
1990	5
1991	3
1992	1
1993	1
1994	3
1995	3
1996	1
1997	3
1998	2
1999	1
2000	1
2001	3
Total	223
Average	1.04

Graph 6 reports the same information in five-year rolling averages, which I computed as much for their ameliorative impact on the information's visual presentation as for an approximation of each overruling decision's ongoing impact on decisional dynamics within the Court:

GRAPH 6

Overrulings by Term in Supreme Court History



The 223 overrulings in Supreme Court history are far from evenly distributed. Over the course of 212 Terms, a Poisson distribution would predict seventy-five Terms in which the Supreme Court overrules no cases and seventy-eight in which the Court delivers a single opinion overruling precedent. The actual numbers are 116 and 42, respectively. The Poisson distribution would predict a total of nineteen Terms in which the Court hands down three or more overrulings. The actual record reveals thirty-four such Terms, including one in which the Court delivered seven overrulings and another in which the Court produced eight. In other words, Justices die in more or less random fashion, but legal precedents do not. Doctrinal change in law does not follow a linear path. Like its biological analogue,¹⁵⁹ legal evolution occurs in violent spurts punctuated by long periods of relative inactivity.¹⁶⁰ As Gil Grantmore so eloquently writes:

159. Cf. STEPHEN JAY GOULD, *THE PANDA'S THUMB: MORE REFLECTIONS IN NATURAL HISTORY 179-85* (1980) (describing "the episodic nature of evolutionary change" as exhibiting a sort of "punctuated equilibrium").

160. See generally Oona A. Hathaway, *Path Dependence in the Law: The Course and Pattern of Legal Change in a Common Law System*, 86 IOWA L. REV. 601 (2001). For the somewhat contrary argument that institutional rivalry keeps the law from reaching ideological extremes, see William N.

Chrysanthemums die
in winter—but precedents,
near the end of June.¹⁶¹

The very fact that overrulings are not random strengthens their validity as a measure of the impact of other phenomena, such as turnover among the Justices, on Supreme Court behavior. Indeed, the interplay between the frequency of Supreme Court appointments (a phenomenon whose essential randomness is demonstrated by its adherence to the Poisson function) and overrulings (which are perhaps the most visible manifestation of the attitudinal model of Supreme Court behavior) has a close parallel in evolutionary biology. That field's growing appreciation of "extinction through bad luck" as a crucial "element [of] the evolutionary process" adds a key analytical tool beyond Darwinian natural selection.¹⁶²

Supreme Court analysts can learn from baseball as well as biology. In evaluating the record of overrulings in Supreme Court history, we would do well to borrow a technique from sabermetrics.¹⁶³ Like baseball statistics, overrulings

Eskridge, Jr. & Philip P. Frickey, *The Supreme Court, 1993 Term—Foreword: Law as Equilibrium*, 108 HARV. L. REV. 26 (1994).

161. Gil Grantmore, *Constitutional Law Haiku*, 18 CONST. COMMENT. 481, 481 (2001).

162. DAVID M. RAUP, EXTINCTION: BAD GENES OR BAD LUCK? 192 (1991).

163. Sabermetrics is "[t]he search for objective knowledge about baseball." BILL JAMES, THE BILL JAMES BASEBALL ABSTRACT 1987, at 297 (1987). The word sabermetrics is derived from the acronym of the Society for American Baseball Research (SABR). See <http://www.sabr.org> (last visited Feb. 4, 2003). For those who have noticed the baseball leitmotif in this Article but cannot quite understand its spiritual significance, I offer the following apology:

[B]aseball . . . brings together on one bright pastoral greensward those twin nineteenth-century American deliriums: industrialization and individualism. Baseball turns into fun the oppressions of industry—management, productivity, accounting, specialization, even stealing—and yet the pageant of winners and losers in this proto-corporate world also allows for goodness to be measured, made immutable, and, thanks to the eternal vigilance of statistics, kept alive. Baseball is a game—some would say a ritual—of hope. Part of that hope lies in the clarity of the sport—a kind of mathematical absoluteness that spills over into moral absoluteness, and explains why the fantasy of all-American wholesomeness goes with the game like sauerkraut with hot dogs.

John Lahr, *Play at the Plate*, NEW YORKER, July 22, 2002, at 80. Nor should one overlook Justice Blackmun's immortal ode to baseball in the pages of *United States Reports* or the greatest law review article on the sport. Compare *Flood v. Kuhn*, 407 U.S. 258, 260-64 (1972), with *Aside, The Common Law Origins of the Infield Fly Rule*, 123 U. PA. L. REV. 1474 (1975). See generally Paul Finkelman, *Baseball and the Rule of Law*, 46 CLEV. ST. L. REV. 239, 239 (1998) (attributing American "legal culture" and perhaps even "the very rule of law itself in the United States . . . to our national past time [sic]"). The sheer amount of statistical information on baseball makes it impossible for that sport to suffer from the mathematical malaise of Supreme Court analysts. Cf., e.g., LEE EPSTEIN ET AL., *THE SUPREME COURT COMPENDIUM: DATA, DECISIONS AND DEVELOPMENTS* 1 (2d ed. 1996) (lamenting how "the absence of reliable data makes it hard to

fall on either side of a line dividing all things before the year 1900 from all things after. The first overruling in Supreme Court history took place during the 1830 Term, and the Court did not overrule decisions in consecutive Terms until 1867 and 1868. The 1867 Term, in fact, may be regarded as the beginning of the only significant string of Supreme Court overrulings before 1900. From the 1867 Term through the 1894 Term, the Court decided twenty-one cases that overruled prior decisions; only twice during that stretch did the Court fail to overrule precedent in two consecutive Terms. Quite curiously, the Court then proceeded to overrule no decisions in the stretch from the 1895 Term through the 1912 Term.

The overruling impulse returned to the Court during the 1913 Term. Because much of the White Court and the pivotal Judiciary Act of 1925 lay ahead, this point may be regarded as the beginning of the Supreme Court's modern approach to overrulings. The Court began to overrule precedent in earnest, though, with three overrulings during the 1937 Term. By the end of the 1943 Term, the Court handed down twenty-nine overrulings. Another comparably intense stretch, from the 1962 Term through the 1979 Term bridged the later years of the Warren Court with the first years of the Burger Court. Three of the most active Terms in this stretch—the 1962, 1967, and 1975 Terms—coincided with the arrivals of Justices Arthur Goldberg, Thurgood Marshall, and John Paul Stevens. In all, overruling is primarily a phenomenon of the twentieth century.¹⁶⁴

William Rehnquist's tenure as Chief Justice has been one of the less active Courts in modern times. The Stone, Warren, and Burger Courts finished with very similar overruling rates: fifteen in five Terms for the Stone Court (3.00 average), forty-five in sixteen Terms for the Warren Court (2.81) and fifty-two in seventeen Terms for the Burger Court (3.05). The Hughes Court delivered only twenty-one overrulings in eleven Terms, but fifteen of those episodes came in its final four Terms. The Vinson Court registered the lowest rate of any post-Judiciary Act Court, with a mere thirteen overrulings in seven Terms (1.86).

The Rehnquist Court's record of overrulings provides little support for Professor Merrill's hypothesis. By a generous count, it has compiled forty overrulings during its first sixteen Terms for an overall average of 2.50 overrulings per Term. Twenty-one took place during the "first" Rehnquist Court (from October Term 1986 through the end of the 1993 Term); nineteen have occurred during the putatively more aggressive Terms since 1994. Eliminating three decisions from the 1998 and 1999 Terms in which the Court did not explicitly overrule precedent would reduce the post-1994 tally even further.

understand the Court, the justices, and case decisions"). Finally, for a compendium linking baseball and natural history, the other non-legal leitmotif in this article, see STEPHEN JAY GOULD, TRIUMPH AND TRAGEDY IN MUDVILLE: A LIFELONG PASSION FOR BASEBALL (2003).

164. See Earl M. Maltz, *Some Thoughts on the Death of Stare Decisis in Constitutional Law*, 1980 WIS. L. REV. 467, 467.

The most thorough study of the relationship between changes in Supreme Court membership and the Court's propensity to overrule precedent reached this conclusion in 1992: "Simply put, when the Supreme Court overturns past rulings, it frequently does so precisely because the Court's composition has changed, often dramatically, in a short period."¹⁶⁵ The Hughes, Stone, Vinson, Warren and Burger Courts constituted fifty-nine "natural courts" bounded by changes in personnel due to retirement or death. The five most active natural Courts in this span—one from each Chief Justice's administration—accounted for 61 of 146 overrulings during the fifty-six Terms at issue. "With the exception of the Vinson Court, each . . . of the[se] natural Courts . . . w[as] the product of multiple membership changes, sometimes occurring in bunches, that reconstituted the preexisting majority on the bench."¹⁶⁶ For its part, the most active natural Court during the Vinson period arose from Fred Vinson's own appointment.¹⁶⁷ It appears to be the creation of new majorities, not the stabilization of old ones, that triggers "a period of constitutional flux and an increasing [willingness to question] . . . past constitutional principles."¹⁶⁸

Like citation counts, the Supreme Court's record of overrulings affirmatively contradicts Professor Merrill's hypothesis. Turnover in judicial personnel, far from stunting productive cooperation among the Justices, seems to spur doctrinal innovation. The truly tumultuous periods during which the Court produced multiple overrulings have all taken place during periods of high, even severe, turnover: the late Hughes Court, the early Stone Court, the late Warren Court, and the early Burger Court. Even the relatively reticent Vinson Court delivered eleven overrulings during its first three Terms (a time of relative instability) before settling for merely two overrulings during its final four Terms (a comparatively stable interval). The second Rehnquist Court has been more aggressive than other stable collections of Justices, but even with the deepest body of Supreme Court case law in American history as a target, it has not approached the propensity of its relatively unstable counterparts to overrule precedent.

V. WONDERFUL LAW

Why does stability in judicial personnel correlate so poorly with empirical measures of doctrinal dynamism? Turnover may inspire more productive doctrinal change, both in frequency and in intensity, than stability. At a

165. Christopher P. Banks, *The Supreme Court and Precedent: An Analysis of Natural Courts and Reversal Trends*, 75 JUDICATURE 262, 263 (1992); see also *id.* ("[W]hen the Court's composition changes dramatically in relatively short time spans, periods of increased reversals of prior rulings are likely to result.")

166. *Id.* at 265 (footnote omitted).

167. See *id.* at 265 n.15.

168. *Id.* at 265-66.

minimum, new Justices tend to be younger than their senior counterparts and by definition wield less institutional clout. It is a commonplace in the history of science that truly revolutionary discoveries are the province of the young, the disaffected, and the excluded.¹⁶⁹ There is no reason to imagine that law is immune from the inter- and intrapersonal forces that motivate young newcomers to shatter old paradigms and forge new ones. Professor Merrill admits as much when the Court's institutional norms are at stake; he describes the infusion of new Justices as the primary engine of "norm change" on the Court.¹⁷⁰ Nothing in my review of the fossil record suggests that changes in judicial personnel would spur institutional evolution but inhibit its doctrinal counterpart. Judicial instability inspires change all the way down.

Simply put, upheaval spurs creativity. Even the great defender of monopoly power as an engine of invention understood that "creative destruction" spurs technological innovation and concomitant economic growth.¹⁷¹ To restate it in earthier language: "In Italy, for thirty years under the Borgias, they had warfare, terror, murder, bloodshed, but they produced Michelangelo, Leonardo da Vinci and the Renaissance. In Switzerland, they had brotherly love; they had 500 years of democracy and peace—and what did that produce? The cuckoo clock."¹⁷²

Whatever creative value lurks in stability stems from the relative ease with which a fixed set of Justices, over time, can learn strategic behavior. But the types of behavior at issue include the formation of coalitions to block changes. Moreover, strategic aptitude may closely track the propensity to hold strong ideological convictions. A robust commitment to one ideology or another may be the greatest inhibitor of judicial cooperation.¹⁷³

169. See THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* 90, 144 (2d ed. 1970); MAX PLANCK, *SCIENTIFIC AUTOBIOGRAPHY AND OTHER PAPERS* 33-34 (Frank Gaynor trans., 1949) ("A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it."); see also ROBERT K. MERTON, *ON THEORETICAL SOCIOLOGY* 1 (1967); cf. FRANK J. SULLOWAY, *BORN TO REBEL: BIRTH ORDER, FAMILY DYNAMICS, AND CREATIVE LIVES* (1996) (arguing that latecomers rebel rather than conform as a matter of survival and success). See generally HARVEY C. LEHMAN, *AGE AND ACHIEVEMENT* (1953).

170. See Merrill, *supra* note 6, at 639.

171. See generally JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM, AND DEMOCRACY* 81-86 (1942); *CREATIVE DESTRUCTION: BUSINESS SURVIVAL STRATEGIES IN THE GLOBAL INTERNET ECONOMY* (Lee W. McKnight, Paul M. Vaaler & Raul L. Katz eds., 2001).

172. *THE THIRD MAN* (Lion Int'l Films 1949) (starring Orson Welles as Harry Lime); see also Thomas L. Friedman, *Cuckoo in Carolina*, N.Y. TIMES, Aug. 28, 2002, at A19 (quoting Welles in support of the proposition that social instability spurs creativity).

173. Paul H. Edelman and I have discussed this phenomenon at great length. See generally Edelman & Chen, *supra* note 33; Paul H. Edelman & Jim Chen, "Duel" *Diligence: Second Thoughts About the Supremes as the Sultans of Swing*, 70 S. CAL. L. REV. 219 (1996); Paul H. Edelman & Jim Chen, *The Most Dangerous Justice: The Supreme Court at the Bar of Mathematics*, 70 S. CAL. L. REV. 63 (1996).

Finally, we ignore seemingly personal factors at our peril. Few, if any, Justices would prefer to leave the Court during a period of doctrinal transition. The marginal preference for work over leisure must surely be greater under those circumstances, no matter whether a Justice contemplating retirement favors or opposes the doctrinal shift that is underway. To the extent this factor has any impact, it lends some support for Professor Merrill's hypothesis. Old age itself, however, points in the opposite direction. An aging Justice's time horizon on the Court becomes increasingly narrow. In the quasi-economic jargon of political science, each Justice's discount rate increases with age. Every repeat-game model of the prisoner's dilemma predicts that cooperation will decrease under those circumstances. As a player's discount rate rises, he or she derives greater benefit from voting personal preferences, relative both to the gains from sustaining a past pattern of cooperation and to the costs of potential retaliation for defecting.

I shall name merely one vivid example. Only in his final Term did Justice Blackmun irrevocably repudiate his earliest views on capital punishment¹⁷⁴ and declare that he would "no longer tinker with the machinery of death."¹⁷⁵ It is entirely plausible that Justice Blackmun needed more than two decades to grow into this view of the Eighth Amendment, but throughout most of his tenure on the Court, he could have created a larger (albeit chronically shorthanded) coalition of three Justices who would have declared the death penalty unconstitutional under all circumstances.¹⁷⁶ That Justice Blackmun nevertheless waited until the cusp of his retirement to cement his opposition to the death penalty suggests some hesitation during earlier portions of his career not wholly attributable to his lack of confidence in his own beliefs.

Despite finding much evidence contrary to Professor Merrill's hypothesis, I shall refrain from claiming to have discredited it. One intriguing possibility remains. Changes in judicial personnel may exert opposite, but asymmetrical, pressure on the development of legal doctrine. An "appointment effect" derived from the arrival of new Justices may drive doctrinal change, whereas a "stasis effect" may arise as each Justice ascertains his or her colleagues' preferences and particular coalitions stabilize. The evidence I have found suggests that the appointment effect is stronger than the stasis effect, but it does not foreclose the possibility that the stasis effect may magnify doctrinal change within a narrower range of issues on which a majority of Justices can form reliable, stable coalitions. The direction for further research on this hypothesis is clear: if Professor Merrill

174. See *Furman v. Georgia*, 408 U.S. 238, 411 (1972) (Blackmun, J., dissenting) ("We should not allow our personal preferences as to the wisdom of [the death penalty], or our distaste for [it], to guide our judicial decision in [capital] cases . . .").

175. *Callins v. Collins*, 510 U.S. 1141, 1145 (1994) (Blackmun, J., dissenting from denial of cert.).

176. Cf. *Gregg v. Georgia*, 428 U.S. 153, 227 (1976) (Brennan, J., dissenting); *id.* at 231 (Marshall, J., dissenting).

has indeed identified a stasis effect, and if I am correct in suggesting that any such effect can be overwhelmed by the greater impact of the appointment effect over the entire course of Supreme Court history, then evidence of a stasis effect must be extracted strictly within other long periods of stability in judicial personnel. There may well be other instances in Supreme Court history in which five- and six-Justice coalitions prevail across stretches exceeding four Terms, decide a greater number of decisions in absolute terms, and dominate an ever greater portion of the Court's docket as those coalitions mature. Evidence of that sort would support Professor Merrill's hypothesis that a stasis effect does exist and can change the jurisprudential course of the Supreme Court.

Natural history and jurisprudence are both highly complex phenomena; neither lends itself to simple explanations. To be sure, Supreme Court history is shorter by multiple orders of magnitude and vastly easier to trace. All of the Court's published opinions would fit on a DVD-ROM or some other similarly portable medium, and more extensive collections reflecting the Justices' private thoughts and deliberations are readily housed in small libraries. Although it may seem absurd to compare efforts to reconcile legal decisions with political forces operating upon and within the Court with the dynamics of mass extinctions, legal scholars and political scientists do enjoy a more complete, more easily managed "fossil record" than that available to their counterparts in the natural sciences. In perhaps one respect, however, we who toil in law and other social sciences may face greater difficulty in attributing causation. No one can seriously assert that the extent or diversity of terrestrial life can affect the astronomical clock that metes out such appointments as the earth has with comets, asteroids, or meteors. By contrast, intractable debates over whether presidential elections affect abortion doctrine at the Supreme Court or whether the Court's abortion decisions affect presidential elections are the stuff of heated cocktail party conversations among lawyers, law professors, and their counterparts in the social sciences.

It is, thus, appropriate that we cannot discern a clear causal connection, if any, between the stability of the Supreme Court's membership and the Justices' propensity to craft aggressive new doctrines. Professor Thomas Merrill has nevertheless formulated an intriguing hypothesis on the strategic behavior of the Justices. His intellectual astrophysics deserves to spark and, one can only hope, will spark highly insightful new research. Devastating events mark several celebrated turning points in the legal and political history of the United States.¹⁷⁷ Discrete events and the behavior of legal and political actors are susceptible to

177. See, e.g., DAVID W. BRADY, *CRITICAL ELECTIONS AND CONGRESSIONAL POLICY MAKING* 4 (1988) (documenting "critical elections," such as those of 1860, 1896, and 1932, that realign American politics for decades to come); cf. BRUCE ACKERMAN, *WE THE PEOPLE: FOUNDATIONS* (1991) (elaborating the notion of "constitutional moments" throughout American legal history).

rigorous statistical analysis, even if constitutional law as such is not.¹⁷⁸ We may eventually develop comprehensive empirical tests of the legal variation on the theme of periodicity—the notion that the legal and political history of the United States follows repeating cycles.¹⁷⁹ Before tackling that daunting task, however, we would do well to establish the exact relevance of the stability or volatility of the Court’s membership, a variable that hitherto has received little academic attention. Now that Professor Merrill has found a new crater in the Supreme Court’s political landscape and defined the second Rehnquist Court accordingly, I hope that my modest contribution will represent the first step toward identifying comparable judicial epochs throughout Supreme Court history.

178. *See generally, e.g.*, KEITH T. POOLE & HOWARD ROSENTHAL, CONGRESS: A POLITICAL-ECONOMIC HISTORY OF ROLL CALL VOTING (1997).

179. *See generally, e.g.*, GRANT GILMORE, THE AGES OF AMERICAN LAW (1977); ARTHUR M. SCHLESINGER, JR., THE CYCLES OF AMERICAN HISTORY (1986). *Cf., e.g.*, MARVER H. BERNSTEIN, REGULATING BUSINESS BY INDEPENDENT COMMISSION 74 (1955) (“The life cycle of an independent commission can be divided into four periods: gestation, youth, maturity, and old age.”); JOHN KENNETH GALBRAITH, THE GREAT CRASH 1929, at 171 (3d ed. 1972) (“[R]egulatory bodies, like the people who comprise them, have a marked life cycle. In youth they are vigorous, aggressive, evangelistic, and even intolerant. Later they mellow, and in old age . . . they become . . . either an arm of the industry they are regulating or senile.”).

