Bulletin

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AMERICAN ACADEMY
OF ARTS & SCIENCES

Annual Fund Again Surpasses $1 Million Mark

For the fiscal year ending March 31, 2003, the Academy's Annual Fund totaled $1,080,205, exceeding the previous year's total. Development Committee Cochair Louis Cabot thanked his Cochair, Robert Alberty; the dedicated members of the committee, who continue to meet monthly; and all the Fellows, Foreign Honorary Members, and friends whose involvement and generosity continued at record levels during the past year and helped to make this success possible.

For questions about making a gift to the Academy, please contact the Development Office (e-mail: dev@amacad.org; phone: 617-576-5057).

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CALENDAR OF EVENTS

All members of the Academy are cordially invited to participate in any listed event, as space allows. This feature of the *Bulletin* informs all members of upcoming events, not only in their own regions but also in locations they may plan to visit. Special notices are sent to Fellows who reside in areas where specific meetings are held. A list of forthcoming Stated Meetings appears on the back cover.

Wednesday, May 14, 2003

1869th Stated Meeting / 223rd Annual Meeting—Cambridge

Communication: "Joyce, Leavis, and the Revolution of the Word," The Inaugural S. T. Lee Lecture in the Humanities

Speaker: **Denis Donoghue,** University Professor, New York University

Location: House of the Academy

Time: Program 5:30 p.m.
Reception 6:15 p.m.
Dinner 7:00 p.m.

At the Annual Meeting on May 14, 2003, Denis Donoghue, one of the foremost critics of the English language, will present the first S. T. Lee Lecture in the Humanities.

Denis Donoghue is a University Professor at New York University, where he holds the Henry James Chair of English and American Letters. He will speak on "James, Leavis, and the Revolution of the Word." As Donoghue observes, "Does it make sense to invoke the 'spirit' or 'genius' of a language—English, American, French, German, Swahili, or another? And if—a big if—it does, does it make further sense to maintain, as if it mattered, that a particular work of literature does or does not fulfill the spirit of the language in which it is written?" Writing in *Scrutiny* in 1933, the English critic F. R. Leavis addressed these questions in an analysis of passages from *Finnegan's Wake* by James Joyce and *Paradise Lost* by John Milton. In his talk at the Annual Meeting, Professor Donoghue will consider Leavis's view that there is indeed a spirit or genius of the

English language; that it has certain attributes; and that, in these passages, Joyce and Milton are culpable of having transgressed this spirit or ignored its values.

Denis Donoghue's interests include modern English, Irish, and American literature, as well as aesthetics and the practice of reading. He has authored over twenty books, including *Words Alone: The Poet T. S. Eliot* and *Adam's Curse: Reflections on Religion and Literature.* His book *The Practice of Reading* received the Robert Penn Warren/Cleanth Brooks Award for literary criticism. Professor Donoghue's most recent work, *Speaking of Beauty*, was previewed in the fall 2002 issue of *Daedalus* and published this spring by Yale University Press. He was elected a Fellow of the Academy in 1983 and serves as its representative on the board of trustees of the National Humanities Center and as cochair of its program on Humanities and Culture.

The S. T. Lee Lecture in the Humanities is the first endowed lecture in the history of the Academy. Dr. Seng Tee Lee's extraordinary record of philanthropy and support for scholarship spans several decades. He has been a member of the council of both the University of Malaya and the University of Singapore; he is currently a member of the board of the Singapore Art Museum and recently helped to establish the new Singapore Management University. A Foreign Honorary Member of the Academy since 2001, he is also an Honorary Fellow of Wolfson College, Cambridge; the British Academy; Needham Research Institute; and Oriel College, Oxford, as well as a member of the Chancellor's Court of Benefactors of the University of Oxford. Dr. Lee has established lecture series at the University of Pennsylvania, Harvard University, the University of Cambridge, the University of Oxford, Victoria University in New Zealand, and the British Academy.

For reservations, contact Sheri Bugbee (phone: 617-576-5032; e-mail: sbugbee@amacad.org).

Thursday, May 15, 2003

1870th Stated Meeting—Washington, DC

Communication: "The Independence of the Federal Judiciary"

Speakers: **Danny Boggs,** United States Court of Appeals, Sixth Circuit, and **Judith Resnik,** Yale University

Moderator: **Abner J. Mikva,** University of Chicago Law School

Location: Mumford Room, Madison Building, Library of Congress

Time: 5:30 p.m.

On Thursday evening, May 15, Judge Danny Boggs and Professor Judith Resnik will discuss "The Independence of the Federal Judiciary" at a Stated Meeting in Washington, DC. Judicial independence signifies that judges are free to decide cases fairly and impartially, protected from outside pressures and special interests. Congress, however, has the authority to determine the scope and range of judicial jurisdiction, and the Senate must confirm the appointment of all nominees to the federal bench. The speakers at the May 15 Stated Meeting will consider the increasing tension between these forms of democratic supervision and judicial independence.

Judge Danny Boggs has been a member of the United States Court of Appeals for the Sixth Circuit since 1986. Prior to his appointment to the court by President Ronald Reagan, he had a distinguished career in private practice and government service. His government positions included Assistant to the Solicitor General of the United States (1973–75), Assistant Director of the White House Office of Policy Development (1982–83), and Deputy Secretary of the United States Department of Energy (1983–86).

Judith Resnik is the Arthur Liman Professor of Law at Yale University, where she teaches and writes about adjudication, federalism, the judiciary, large-scale litigation, feminism, and women's rights, both in domestic and transnational contexts. Professor Resnik is the author of numerous books, mono-

graphs, and articles on these topics, including *Adjudication and Its Alternatives: An Introduction to Procedure* (with Owen M. Fiss, 2003) and "Trial as Error, Jurisdiction as Injury: Transforming the Meaning of Article III" (*Harvard Law Review,* 2000). She has testified many times before congressional and judicial committees, most recently before a subcommittee of the Senate Judiciary Committee considering the role of the Senate in the process of appointing federal judges.

Abner J. Mikva, visiting professor of law at the University of Chicago Law School, will moderate the program. Professor Mikva has served as White House Counsel and as Chief Judge of the United States Court of Appeals for the District of Columbia. Before coming to the bench in 1979, he was elected to Congress for five terms, representing portions of Chicago and its suburbs.

This meeting—the second in a series of Stated Meetings in Washington, DC, focusing on issues with important implications for the balance of power in this nation—has been organized by the Academy's Committee on Congress and the Courts. Committee members include Jesse Choper and Robert C. Post, cochairs (both, Boalt Hall School of Law, University of California, Berkeley), Linda Greenhouse (*New York Times),* Abner J. Mikva (University of Chicago School of Law), and Nelson W. Polsby (University of California, Berkeley).

For reservations, contact Sheri Bugbee (phone: 617-576-5032; e-mail: sbugbee@amacad.org).

ACADEMY UPDATE

New Academy Study

Corporate Responsibility: Beyond Regulation

In the wake of the scandals that hit the corporate world in 2001 and 2002, the American Academy of Arts and Sciences has initiated a new project on corporate responsibility in order to examine the causes of, and conditions surrounding, the malfunctioning of critical parts of the corporate system. Given its independence and nonpartisanship, the Academy is well suited to explore the institutional foundation on which public trust in our economic institutions is based and to contribute to the public discourse needed to restore that trust. The project's planning committee is cochaired by Martin Lipton (Wachtell, Lipton, Rosen & Katz), Jay Lorsch (Harvard Business School), and Larry Sonsini (Wilson Sonsini Rosati & Goodrich).

Large-scale enterprise, financed by stock and bond markets, dominates the American economy. This system has been hugely successful, but at its core lies an essential but fragile predicate: trust. Over the past two years, much of the trust upon which our capitalist system depends appears to have been badly eroded, as egregious instances of corporate misconduct have come to light. Moreover, various professions relied upon to help ensure ethical corporate behavior have disappointed the public, with some of their members themselves implicated in corporate misconduct.

The initial phase of the corporate responsibility project includes two workshops in the spring of 2003. The first, which took place at the House of the Academy on April 28, focused on a paper by John Reed regarding values and corporate responsibility. The second workshop, a series of panel discussions to be held in New York City on May 19–20, will consider the responsibilities of six professional and profession-like roles—auditor, lawyer, journalist, investment banker, corporate director, and regula-

tor—in relation to corporate conduct. The participants in each of the two workshops will include both academics and practitioners. The final product of this project phase will be an Academy Occasional Paper, which will include the papers presented at both workshops (as revised by their authors), written commentaries submitted by other participants, and the planning committee's own consensus statements and policy recommendations. The committee intends to circulate its findings to the corporate community, to regulators and legislators, and to the broad public.

Corporate Responsibility Planning Committee

Martin Lipton, *cochair* (Wachtell, Lipton, Rosen & Katz)
Jay Lorsch, *cochair* (Harvard Business School)
Lawrence Sonsini, *cochair* (Wilson Sonsini Rosati & Goodrich)
William Allen (New York University, Center for Law and Business)
John Biggs (New York City)
Margaret Blair (Georgetown Law Center)
Richard Buxbaum (Boalt Hall School of Law)
James Cochrane (New York Stock Exchange)
Michael Gellert (Windcrest Partners)
Amory Houghton, Jr. (US House of Representatives)
William McDonough (Federal Reserve of New York)
Douglass North (Washington University in St. Louis)
John Reed (New York City)
Mark Roe (Harvard Law School)
Felix Rohatyn (New York City)
John Rosenwald (Bear Stearns)
Damon Silvers (AFL-CIO)
Michael Useem (Management Department, Wharton School)
Alfred Chandler, *advisor* (Harvard Business School, emeritus)
Leslie Berlowitz (American Academy of Arts and Sciences)
Andy Zelleke (American Academy of Arts and Sciences, rapporteur)

▪ ***Thinking Strategically: The Major Powers, Kazakhstan, and the Central Asian Nexus,*** ed. by Robert Legvold, MIT Press (cloth, $48; paper, $24)

The Academy, in conjunction with MIT Press, has established a new book series entitled American Academy Studies in Global Security. The volumes will feature the results of research conducted by the Academy's Program on Science and Global Security and its Committee on International Security Studies (CISS).

The first book published in the series is *Thinking Strategically: The Major Powers, Kazakhstan, and the Central Asian Nexus*. It is one of several volumes planned by CISS to address international security challenges posed by developments within the territory of the former Soviet Union.

Thinking Strategically analyzes how—systematically, ambitiously, and skillfully—the major powers have thought about and pursued their vital stakes in Central Asia. Edited by Robert Legvold (Columbia University), it focuses on the policies of China, Japan, Russia, Europe, and the United States toward Kazakhstan, a key country in the area. While the stakes of the major powers vary, all are concerned with oil production, the actions of Islamic movements, ethnic tensions spilling across borders, and Kazakhstan's military relationships and strategic choices. By examining a case study in detail, the book illuminates elements of cooperation and conflict among the major powers in Central Asia more generally.

Other volumes in the series will consider:

• the influence of economic factors on the national security policies of states in the region, with specific attention to a comparison of Ukraine and Belarus;

• the current military profile of Russia, including the evolution of its defense policy, the socioeconomic condition of its military, its use of force in

regional conflicts, and its approach to nuclear weapons; and

• the impact of external and internal forces on the ways in which lesser post-Soviet states—Georgia and the three states of the Caucasus, Armenia, and Azerbaijan—are approaching the military component of national security. Adding complexity to the situation is the involvement of several external players—Russia, the United States, Turkey, and Iran—as well as the influence of oil politics.

To order *Thinking Strategically,* call MIT Press at 800-405-1619 or visit *http://mitpress.mit.edu.*

▪ ***The Consequences of Global Educational Expansion: Social Science Perspectives*** by Emily Hannum and Claudia Buchmann, an Academy Occasional Paper (print version free of charge to Academy members, $6 for nonmembers; electronic version at *www.amacad.org/publications*).

The first in a series of Occasional Papers from the Academy's Universal Basic and Secondary Education (UBASE) project brings new cross-disciplinary empirical evidence to the study of the impact of educational expansion in the developing world. Among development agencies, conventional wisdom holds that educational expansion will promote economic growth, improve health, expand political participation, and reduce social and gender inequalities.

In this study, Emily Hannum (University of Pennsylvania) and Claudia Buchmann (Duke University) demonstrate that education, as it is currently implemented, is not an overall panacea for the problems of developing countries. Some of the expected relationships appear to be well supported by empirical evidence. According to Hannum and Buchmann, "countries with better-educated citizens tend to have healthier populations, as educated individuals make more informed health choices, live longer, and have healthier children." At the same time, they report, "research in social stratification and mobility does not provide evidence that educational expansion necessarily narrows social inequalities between advantaged and disadvantaged

groups." Furthermore, the authors find that the relationship between education and democratization does not appear to be significant. These findings are critical for guiding future research to support the major educational initiatives currently being pursued by the international community. To attract the support of governments around the world, the costs and benefits of expanding education must be clarified through further research.

The UBASE study is cochaired by Joel E. Cohen (Rockefeller and Columbia Universities) and David E. Bloom (Harvard School of Public Health). Commenting on this initial report, Cohen observes that "this research presents us with both a challenge and an opportunity. From it, we see that the advantages of education are greater than anticipated. But it also demonstrates that we must invest in improving our understanding of the impact of basic and secondary education in less-developed nations. There are things we still do not know."

To order *The Consequences of Global Educational Expansion*, contact the Academy's Office of Publications (phone: 617-576-5085; fax: 617-576-5088). To obtain the electronic version, visit *www.amacad.org/publications.*

▪ ***Strong Religion: The Rise of Fundamentalisms Around the World,*** by Gabriel A. Almond, R. Scott Appleby, and Emmanuel Sivan, University of Chicago Press (cloth, $49; paper, $19)

Since the terrorist attacks against the United States on September 11, 2001, religious fundamentalism has dominated public debate as never before. In the early 1990s the Academy published the five-volume Fundamentalism Series, a prescient study of antimodernist, antisecularist militant religious movements on five continents and within several world religious traditions. The authors of *Strong Religion* draw upon more than seventy-five case studies and comparative essays from that series, and upon subsequent publications, interviews, and personal experiences, to examine the varied social structures, cultural contexts, and political environments that have fostered fundamentalist movements.

Strong Religion deals with a range of fundamentalist groups, from the Islamic Hamas and Hizballah to the Roman Catholic and Protestant paramilitaries of Northern Ireland; from the Moral Majority and Christian Coalition of the United States to the Sikh radicals and Hindu nationalists of India. The book focuses on four sets of questions inherent to an understanding of different modes of fundamentalism. First, what local, regional, and global conditions have triggered the emergence of fundamentalist movements in recent decades and enabled them to gain momentum? Second, what characteristics do these movements share across cultural, religious, and political boundaries? Can fundamentalism be understood as a singular phenomenon, a genus encompassing various species? Third, are fundamentalist movements now capable of, and inclined to, carry the battle against their enemies far beyond their territorial borders, or is that a unique characteristic of Islam as a host religion for fundamentalisms? Finally, is fundamentalism, by whatever name, necessarily given to violence? To what extent is it a threat to human rights, security, and democratic forms of government?

The goal of the authors is to provide readers with a framework and foundation for understanding not only the crisis surrounding "terrorism" but also the events, trends, and conflicts that will shape the interaction between radical religion and politics for years to come.

To order *Strong Religion*, call the University of Chicago Press at 800-621-2736 (specify order number AD2500) or visit *www.press.uchicago.edu.*

Increase in Academy Dues

In January the Executive Committee of the Council approved a dues increase of $25 for the fiscal year beginning April 1, 2003. This action stems from increases in Academy operating expenses, including costs associated with processing additional membership information, covering increased postal rates, and expanding outreach activities for Fellows across the country. The committee also approved a motion to review dues annually.

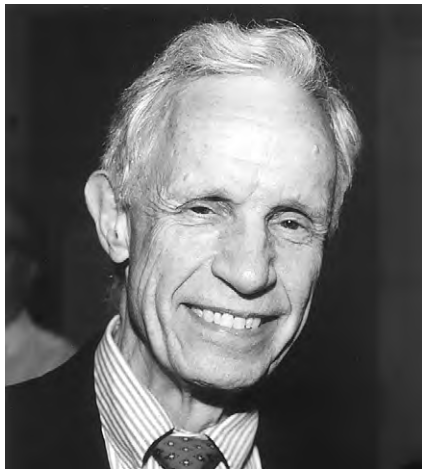
The Comedy of Errors as Early Experimental Shakespeare

David Bevington, Phyllis Fay Horton Distinguished Service Professor in the Humanities, University of Chicago

The Midwest Center held the 1862nd Stated Meeting of the Academy on October 26, 2002, at the Minneapolis Institute of Arts. Academy President Patricia Meyer Spacks (University of Virginia), Midwest Center Vice President Martin Dworkin (University of Minnesota), and Executive Officer Leslie C. Berlowitz welcomed several newly elected members from the region. Prior to the meeting, Fellows and their guests visited the Guthrie Theatre for a matinee performance of *The Comedy of Errors* and a backstage tour.

Speaker David Bevington is an authority on early English, Stuart, and Tudor drama. He is the author of *From "Mankind" to Marlowe* and *Action Is Eloquence: Shakespeare's Language of Gesture,* editor of *The Complete Works of William Shakespeare,* and general editor of *English Renaissance Drama: A Norton Anthology.* His remarks follow.

Establishing the chronological place of *The Comedy of Errors* in Shakespeare's oeuvre has long been a challenge for scholars. We do know that Shakespeare was born in 1564, and that sometime around 1590 or 1591 he showed up in London. There, he was soon acclaimed for writing *Henry VI,* Part 1 (the first of his three Henry VI plays); indeed, the character Lord Talbot was greeted as something of a national hero. In the wake of the English victory over the Spanish Armada in 1588, the history play had really sprung into prominence, and Shakespeare was lauded as one of its original architects and designers. At about the same time, however, he started writing comedies as well, including *Love's Labor's Lost, The Comedy of Errors, The Two Gentlemen of Verona,* and *The Taming of the Shrew.*



Speaker David Bevington (University of Chicago)

It is unclear whether *The Comedy of Errors* was the first comedy Shakespeare wrote, or the second, or the third, but it certainly is early. Starting with *A Midsummer Night's Dream,* scholars are fairly certain about when Shakespeare's plays were written, for whom they were written, and by whom they were performed. As for the history plays and romantic comedies written before 1594, however, we know very little. In that year, after an outbreak of the plague, many of the acting companies dissolved or reconstituted themselves. There was a recombination of artistic talent in London, and out of this emerged the Lord Chamberlain's Company, of which Shakespeare was a member, along with Richard Burbage, John Heminges, Henry Condell, and John Lowin—actors with whom he went on to spend the rest of his professional career. Shakespeare's output as a playwright is fairly steady and clockable from that point onward.

It is notable that in his early writing, Shakespeare developed genres very carefully, as though he had a plan. He wrote one history play a year from about 1590 to about 1599, and then he stopped writing history plays. After completing *Henry V*—his culminating history play after *Richard II* and *Henry IV,* Parts 1 and 2—he did not write another history play (at least not about English history) until 1613, at the very end of his career, when he completed *Henry*

VIII. I believe that the same is true about his writing of comedies. He must have apprenticed himself to the task of writing one romantic comedy every year from 1590 to about 1599 or 1600. *A Midsummer Night's Dream* appeared in 1594 or 1595, followed by *The Merchant of Venice, Much Ado About Nothing, As You Like It, The Merry Wives of Windsor,* and then *Twelfth Night,* which was written between 1600 and 1602. At about that time, Shakespeare was entering into the period of the great tragedies, writing *Hamlet* and *Troilus and Cressida* and going in a very different direction, exploring problems of sexual jealousy, high crimes, and murders. He had not written much tragedy during the earlier period. *Titus Andronicus* (recently adapted in the very interesting film directed by Julie Taymor) is dated around the time of *The Comedy of Errors* and has some of the marks of very early experimental Shakespeare. *Romeo and Juliet,* written in the middle of that decade, around 1595 or 1596, reads much like the romantic comedies he was writing during the same period, such as *A Midsummer Night's Dream*. But Shakespeare did not find his métier in tragedy until he reached about the middle of his career, starting with *Julius Caesar* and following, at one-year intervals, with *Hamlet, Othello, King Lear*, *Macbeth, Timon of Athens, Antony and Cleopatra,* and *Coriolanus*—an amazing achievement.

Midwest Center Vice President Martin Dworkin (University of Minnesota), George Schatz (Northwestern University), and Academy President Patricia Meyer Spacks (University of Virginia)

The chronology of Shakespeare's plays was not worked out satisfactorily until the middle of the nineteenth century, when German philological scholars, along with some imitators in Britain, determined the probable dates of composition (which have by and large held to this day). At that point one could start to talk about the shape of Shakespeare's career as a writer. In 1875 Edward Dowden wrote a book (*Shakspere: A Critical Study of His Mind and Art*) in which he postulated that Shakespeare's career consisted of four periods. The first was "in the workshop," or what we are talking about tonight: the period in which he wrote his experimental early plays. This was followed by the second period, in the late 1590s, when Shakespeare hit his stride as an author of history plays and romantic comedies, and then by the third period, in which he penned the tragedies. The prevailing theory of the late nineteenth century was that the shift to tragedies must have had a biographical origin—that something terrible must have happened in Shakespeare's life. His only son, Hamnet, died in 1596, but that is a little too early to fit the theory, because the tragic period did not start until 1599 or 1600, and lasted until about 1607. According to Dowden's analysis, Shakespeare's career reached a new plateau in the fourth period, during which he wrote the late romances, including *The Winter's Tale* and *The Tempest*—the last plays that brought him to his retirement. In that final phase, Shakespeare experienced the serenity of looking back over his career, and his approach to comedy reflected the deepening influence of the tragic period. A great many scholars have embraced Dowden's analysis. Others have attempted to explain Shakespeare's career in terms of Zeitgeist, citing the shift from Elizabethan optimism to Jacobean pessimism when Elizabeth I died in 1603 and James I ascended the throne.

It may be more interesting, however, to think about Shakespeare's career in terms of development of genre. Perhaps Shakespeare worked on romantic comedy and history plays until he felt he had perfected them, ending with *Henry V* on the one hand and *Twelfth Night* on the other at about the same time. Then he may have decided to attempt some-

thing truly experimental and avant-garde with *Troilus and Cressida*, which is a type of black comedy, very hard to define generically. Next he moved into tragedy. At that turning point, he speculated, for example, about infidelity in women—something he had dealt with in his comedies, such as *Much Ado*, as a product of the male diseased imagination: accusing women of untrue things and then having to be forgiven for lack of loyalty and faith. *Much Ado* demonstrates this configuration. Subsequently, however—as in *Troilus and Cressida, Hamlet*, and some of the sonnets—a deep misogyny surfaces through portrayals of situations in which women really are frail and problems of sexual jealousy are deepening.

Then Shakespeare went on to write *King Lear.* It is tempting to think about the phenomenon of Shakespeare's own aging as he crafted this play about an aging father faced with the question of whether his daughters will continue to love him. When composing *The Tempest*—again, about a father with a daughter—Shakespeare was nearing the point of retirement. Indeed, throughout his career, Shakespeare's choices of genres and subjects may be seen as reflecting his own development as a human being, moving from the young man falling in love to the young man being ambitious and coming to terms with his father, then addressing issues of sexual jealousy, marriage, and midlife crisis (as in *Antony and Cleopatra*), and, finally, confronting aging and retirement. The pattern makes for a very attractive understanding of Shakespeare.

I say all this by way of prelude to some further remarks about the beginning of Shakespeare's evolution as a playwright, as reflected in *The Comedy of Errors*—one of the earliest two or three of his plays. One thing that is characteristically early about this play is its heavy reliance on sources. *The Comedy of Errors* is based largely on an ancient comedy entitled *Menaechmi* (*The Twins*), by Plautus, a Roman dramatist who was much read in the schools during the Middle Ages and the Renaissance. (As I will mention later, *The Comedy of Errors* also incorporates elements of other Roman sources.) Shakespeare was

Councilor Gerald Early (University of Washington at St. Louis) and Executive Officer Leslie C. Berlowitz

doing something that he never did again to the same extent: writing a neoclassical comedy. He simplified the original story, elaborated on it, and moralized it in certain ways.

The Plautus play is about twins who are separated by a storm. Accompanied by servants, they spend years apart. The pattern of wandering and separation that we see in *The Comedy of Errors* is a plot that derives from classical Greece, during the years of the diaspora around the Aegean and the Mediterranean in the third and second centuries B.C. One of the hallmarks of these stories is that there is eventually a happy, romantic reunion: people are recognized by birthmarks, and other miraculous events of that sort occur. This is just what happens at the end of *The Comedy of Errors*.

Shakespeare's handling of sexual morality in this early play can be seen in the way he transforms the materials of his source, presumably in order to satisfy the expectations of his Elizabethan audience. The chief female figure in the Plautus play is a courtesan, whereas Shakespeare's play features a sister and a wife. The debate between these two women about marriage and how women should comport themselves with men—very much an Elizabethan English, moralized, middle-class dis-

cussion of those topics—is something that is absent from the *Menaechmi.* Still, Shakespeare did take from Plautus the important skeletal outline of a story about separation, wandering, and reunion, and especially the farcical comedy that arises out of situations involving the twins and mistaken identities. From this material, Shakespeare created a parade of wonderful comic situations. There is a sense of something magical going on—some kind of nightmare or crazy vision—in *The Comedy of Errors.* For all of that, Shakespeare's debt to Plautus is certainly considerable.

The Comedy of Errors is explicitly neoclassical in that it is modeled on works by ancient Roman writers, such as Plautus and Terence—not on works by Greek writers. That is because the Romans were the ones who were read in schools throughout Western Europe. Shakespeare was very much a person of his time in being educated in the basics of a Latin classical curriculum.

We know a fair amount about Shakespeare's education, even though the records have not survived the years. His father became the equivalent of mayor in the town of Stratford-upon-Avon when Shakespeare was young, which suggests that he had been reasonably prosperous. The father did fall on hard times, but he had a very substantial house, and as mayor he would undoubtedly have sent his son to the local King Edward VI grammar school—one of the new schools that the English Reformation was sponsoring and creating all over England. An educational revolution was going on, and much of it was tailored for just the likes of a bright son of a prominent alderman-citizen.

In the 1940s and 1950s, T. W. Baldwin of the University of Illinois wrote lengthy learned treatises about exactly how the long school day would have been spent in the England of Shakespeare's youth (see, for example, his *Shakspere's Small Latine & Lesse Greeke,* 1944). Whipping was very common; corporal punishment was considered a way of getting children to learn faster. Shakespeare gives us an amused picture of this in *The Merry Wives of Windsor.* In one charming little scene, quite detached from the rest of

the play, one of the wives is accompanied by her son when they meet the schoolmaster. He puts the boy through his declensions and then threatens him with spanking if he does not give the right answer to a question. Schoolmasters of this sort insisted on a great deal of rote memory, learning declensions and conjugations, all in Latin. Students did not read English literary texts at school at all; they did not read them at Oxford or Cambridge, either. Education was designed to teach students Latin and, perhaps, a little Greek.

After Shakespeare died, his plays were published in that sumptuous First Folio volume of 1623, edited by two of his colleagues. The plays were preceded by a commendatory poem by Ben Jonson, one of Shakespeare's brightest and best-known contemporaries. In it, Jonson said that Shakespeare was the best writer of comedy ever, and that he was no slouch about writing tragedy, either. At the same time, Jonson noted that Shakespeare had "small Latin and less Greek." Jonson himself was very much a classicist—both his Greek and his Latin were exemplary—and he looked down his nose at Shakespeare for being more of a popular writer. In chiding Shakespeare, he was thinking about plays like *Henry V* and *The Tempest*. He deplored the fact that Shakespeare transported his characters from one country to another instead of locating his

G. David Tilman, Vernon Ruttan, and Hans Weinberger (all, University of Minnesota)

scenes in one place, or showed that an infant can grow into a child and then an adult (as in *The Winter's Tale, Cymbeline,* and a number of other plays, including *The Tempest,* in which that transformation is described through recollection). Jonson's characterization of Shakespeare as a writer is consistent with the profile of one who had just six years of Latin and was thus no great classicist, and who was disinclined to follow the classical rules. Jonson's view seems to have been that if Shakespeare, with his incredible genius, had had the benefit of Jonson's own education and had possessed Jonson's refined sensibilities as a classicist, he might have written extraordinary plays.

No doubt most of us take the view that Shakespeare's genius was probably better left the way it was. Yet Jonson's perspective was very common, not only in the Renaissance but later as well. It was voiced by Milton, for example, who wrote that Shakespeare was "fancy's child," able to "warble his native woodnotes wild" ("L'Allegro," lines 133–4), and this view persisted throughout the eighteenth century. This is very interesting in light of the current art exhibit on "The American Sublime" here at the Minneapolis Institute of Arts (on loan from the Tate Gallery in London). Shakespeare was an early example of the sublime in the sense of being a romantic and intuitive poet, a popular poet, and a popular dramatist—unlike Ben Jonson, who was a strict neoclassicist.

However, as we have noted, Shakespeare—despite his being the great romantic, popular native English dramatist—actually began as a neoclassical writer. He went back to the *Menaechmi* by Plautus, followed the plot very carefully, anglicized it, and moralized it a bit. Despite these modifications, it is set in one town, on the coast of the Aegean; it occupies twenty-four hours; the characters never leave town; and there is a single story throughout. Its unities of time, place, and action are things that Shakespeare seldom used elsewhere during his career. *Antony and Cleopatra,* for example, covers the course of about eleven years (41–30 B.C.) and goes all over the Mediterranean, from Rome to

Robert Lucas and Nancy Stokey (both, University of Chicago)

Greece to Egypt and back again. That is the way that Shakespeare normally preferred to write. Another example of geographic meandering occurs in *Henry V*, which crosses from England to France.

In *The Comedy of Errors*, as an apprentice, Shakespeare tried out the neoclassical style as a way to start. The play contains a lot of Latin jokes and a good deal of precious word play, which depend on the kind of knowledge of the Latin language that Shakespeare evidently possessed. Another neoclassical characteristic of the play—and this really is unique to *The Comedy of Errors*—is that it can be acted on a classical stage. Shakespeare's normal mode is presentational, with the characters rapidly entering and leaving an open platform with no scenery and telling us where they are; everything is conveyed through comic effects, costuming, gesture, and eloquent speech. *The Comedy of Errors* is an instructively contrastive model. It is usually produced on a set with several doors, one of which represents the house of Antipholus of Ephesus, where a great deal of the action takes place. This is the house in which his wife inveigles the visiting Antipholus of Syracuse, thinking that she is inviting her husband in. This plot, by the way, is borrowed from another Plautus play, the *Amphitryo,* in a characteristically neoclassical move: not to follow slavishly one classical model but to combine materials from different sources. In the *Amphitryo*—a play about Zeus as a seducer—a master and a ser-

vant, locked out of their own house, talk to their look-alikes and their opposites within the house.

I have never seen a production of *The Comedy of Errors* without a stage door of some sort visible throughout. That is the way it would have been done on the ancient Roman stage. Another door signifies a house for the courtesan; it is not as important a house, but it is still necessary. At the end of the play, another door usually represents the abbey, from which the abbess emerges in the final scene of recognition. A stage arranged in this fashion became so standard in neoclassical drama—especially in France and Italy, where neoclassical drama took a more vigorous, and indeed a rather doctrinaire, hold—because the whole play was supposed to be visually comprehensible as taking place in one location. The central requirement was to have the main stage be a street in front of visible houses. On such a set, actors can appear and disappear into one of the houses. They can go off to town (as the goldsmith has to do, for example) or down to the seaport through another exit that leads offstage in another direction. The entire play can be staged with identifiable, fixed, realizable stage locations creating the visual impression of Ephesus in a certain year at a particular time. Shakespeare never wrote another play so perfectly suited to the classical stage.

Conversely, we can see that *The Comedy of Errors* looks forward as well as back. In interesting ways, this play anticipates *Twelfth Night*, for example—a fact that did not go unnoticed by contemporary observers. *Twelfth Night* is a play about twins who get separated at sea and, at the end of the story, eventually find each other. It is also about the sense of madness that arises when a comedy of errors occurs. We might call *Twelfth Night* a comedy of errors, as characters meet each other surprisingly and do not know each other's identities. For instance, Viola's twin brother and look-alike, Sebastian, is met on the street by a beautiful lady who has fallen in love with Viola (who has been dressing as a man); thinking that Sebastian is the object of her affection, the lady tells him that she

wants to marry him. It is a fantasy about a man meeting a beautiful woman on the street who tells him, "Please come into my house; I want you to marry me right now." With its farcical situations and its emphasis on both the madness and the wonderfulness of falling in love, *Twelfth Night* clearly echoes *The Comedy of Errors*.

Finally, I want to discuss some productions of *The Comedy of Errors* that I have seen recently. A number of years ago I saw one at Chicago's Goodman Theatre, featuring the juggling troupe known as the Flying Karamazov Brothers. Adriana, the wife, was portrayed by an actress who did a really superb baton-twirling act. During her disquisition with her sister about the nature of marriage and whether a woman should be patient or impatient with a wandering husband, the actress was throwing batons up in the air, catching them behind her back, and so forth. The baton twirling was brilliant, but it distracted the audience's attention from the serious issue at debate between the two sisters.

A happier production, in my opinion, was the one mounted by the Chicago Shakespeare Theater just two or three years ago, with Tim Gregory as Antipholus of Syracuse and Lisa Dodson playing the wife. This version was done in modern dress, more or less, and it was set along a seacoast on the Adriatic or somewhere in the Mediterranean. There were lights twinkling in the distance, and coffee tables were arranged on the stage to suggest a waterside café. It all made a great deal of sense. The café setting yielded comic capital during the scene in which Dodson did a real vamping act to tempt Gregory to come into the house. In keeping with the café theme, the set included some pastry-making equipment. As Gregory eagerly lunged toward Dodson, he stepped on the kind of device used for putting decorations on cakes, producing an "ejaculation" that spurted about fourteen feet across the stage. *The Comedy of Errors* seems to invite that sort of irreverence.

Despite its earliness, *The Comedy of Errors* resembles later Shakespeare plays in that the framing plot—that is, the story about Egeon and his long

narration—is disturbing. Egeon is under threat of execution within twenty-four hours if he cannot come up with the money needed for his ransom, and the situation seems hopeless. Why did Shakespeare surround his farce with a tragicomic plot? Presumably, he wanted to deepen the seriousness in the play, to give the story a context of life and death. He went to an entirely different source for this; neither Plautus's *Menaechmi* nor his *Amphitryo* has a surrounding plot involving a threat of death. A story about Apollonius of Tyre (which Shakespeare used again later, in *Pericles*) provided the tragicomic circumstance. If we look forward to the later plays, we can see that this combination of tragedy and comedy is very characteristic of Shakespeare. In *Much Ado About Nothing*, for example, he pairs the nonthreatening plot of Beatrice and Benedick, two attractive young people who have a misunderstanding and have trouble getting together, with the more serious plot about Hero and Claudio, in which Hero, accused of sexual infidelity on the night before her intended marriage, apparently dies of the terrible accusation; as it turns out, however, she really is not dead, and so she and Claudio can be reunited. That is a characteristic move in Shakespeare. In *The Merchant of Venice*, Shakespeare combines a love plot with the extraordinarily serious theme of a Jewish moneylender threatening the life of a Christian whose debt is overdue.

Shakespeare, in comedy, often combines the tragicomic with the farcical and the romantic. Thus, *The Comedy of Errors*—as experimental, young, and unformed as it is—is unmistakably Shakespearean in ways that presage the shape of his entire career as a writer of comedy.

The Problem of Thinking Too Much

Persi Diaconis, Mary V. Sunseri Professor of Mathematics and Statistics, Stanford University

Introduction: ***Barry C. Mazur,*** Gerhard Gade University Professor, Harvard University

Barry C. Mazur

Persi Diaconis is a pal of mine. He's also someone who, by his work and interests, demonstrates the unity of intellectual life—that you can have the broadest range and still engage in the deepest projects. Persi is a leading researcher in statistics, probability theory, and Bayesian inference. He's done wonderful work in pure math as well, most notably in group representation theory. He has the gift of being able to ask the simplest of questions. Those are the questions that educate you about a subject just because they're asked. And Persi's research is always illuminated by a story, as he calls it—that is, a thread that ties the pure intellectual question to a wider world.

Persi's world is indeed wide. It includes discovering beautiful connections among group-representation theory, algebraic geometry, card-shuffling procedures, and Monte Carlo algorithms; studying random-number generators, both theoretical and very practical; analyzing and interpreting real-world applications of statistics, as in voting procedures; critiquing misrepresentations of science and mathematics, in particular the protocols of experiments

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Barry C. Mazur (Harvard University)

regarding extrasensory perception; writing on the general concept of coincidence; and working on historical treatises about probability and magic. As is well known, Persi is also a magician, credited with, as Martin Gardner once wrote, "inventing and performing some of the best magic tricks ever."

As for honors, there's a long list. He was, for example, one of the earliest recipients of the MacArthur Fellowship. He's a member of the National Academy of Sciences and was president of the Institute of Mathematical Statistics. On top of all this, Persi has an exemplary gift for explaining things, so I should let him do just that.

Persi Diaconis

Consider the predicament of a centipede who starts thinking about which leg to move and winds up going nowhere. It is a familiar problem: Any action we take has so many unforeseen consequences, how can we possibly choose?

Here is a less grand example: I don't like moving the knives, forks, and spoons from dishwasher to drawer. There seems no sensible way to proceed. I frequently catch myself staring at the configuration, hoping for insight. Should I take the tallest things first, or just grab a handful and sort them at

the drawer? Perhaps I should stop thinking and do what comes naturally. Before giving in to "thinking too little," I recall a friend's suggestion: you can speed things up by sorting the silverware as you put it into the dishwasher. On reflection, though, this might lead to nested spoons not getting clean. And so it goes.

I'm not brazen enough to attempt a careful definition of "thinking" in the face of a reasonably well-posed problem. I would certainly include mental computation (e.g., running scenarios, doing back-of-the-envelope calculations), gathering information (e.g., searching memory or the Web, calling friends), searching for parallels (e.g., recognizing that the problem seems roughly like another problem one knows how to solve, or thinking of an easier special case), and, finally, trying to maneuver one's mind into places where one is in tune with the problem and can have a leap of insight.

The problem is this: We can spend endless time thinking and wind up doing nothing—or, worse, getting involved in the minutiae of a partially baked idea and believing that pursuing it is the same as making progress on the original problem.

The study of what to do given limited resources has many tendrils. I will review work in economics, psychology, search theory, computer science, and my own field, mathematical statistics. These aren't of much help, but at the end I will note a few rules of thumb that seem useful.

An Example

One of the most satisfying parts of the subjective approach to statistics is Bruno de Finetti's solution of common inferential problems through exchangeability. Some of us think de Finetti has solved Hume's Problem: When is it reasonable to think that the future will be like the past? I want to present the simplest example and show how thinking too much can make a mess of something beautiful.

Consider observing repeated flips of a coin. The outcomes will be called heads (H) and tails (T). In

Speaker Persi Diaconis (Stanford University)

a subjective treatment of such problems, one attempts to quantify prior knowledge into a probability distribution for the outcomes. For example, your best guess that the next three tosses yield HHT is the number P(HHT). In many situations, the order of the outcomes is judged irrelevant. Then P(HHT) equals P(HTH) equals P(THH). Such probability assignments are called "exchangeable."

Bruno de Finetti proved that an exchangeable probability assignment for a long series of outcomes can be represented as a mixture of coin tossing: For any sequence a, b, . . . , z of potential outcomes,

$$\mathrm{P}(\mathrm{a}, \mathrm{b}, \ldots, \mathrm{z}) = \int_0^1 p^A (1-p)^B \mu(dp)$$

with A the number of heads and B the number of tails among a, b, . . . , z. The right side of this formula has been used since Thomas Bayes (1764) and Pierre-Simon Laplace (1774) introduced Bayesian statistics. Modern Bayesians call $p^A (1–p)^B$ the likelihood and μ the a priori probability. Subjectivists such as de Finetti, Ramsey, and Savage (as well as Diaconis) prefer not to speak about nonobservable things such as "p, the long-term frequency of heads." They are willing to assign probabilities to potentially observable things such as "one head in the next ten tosses." As de Finetti's Theorem shows,

in the presence of exchangeability, the two formulations are equivalent.

The mathematical development goes further. After observing A heads and B tails, predictions about future trials have the same type of representation, with the prior μ replaced by a posterior distribution given by Bayes's formula. Laplace and many followers proved that as the number of trials increases, the posterior distribution becomes tightly focused on the observed proportion of heads—that is, $A/(A+B)$ if A heads and B tails are observed. Predictions of the future, then, essentially use this frequency; the prior μ is washed away. Of course, with a small number of trials, the prior μ can matter. If the prior μ is tightly focused, the number of trials required to wash it away may be very large. The mathematics makes perfect sense of this; fifty trials are often enough. The whole package gives a natural, elegant account of proper inference. I will stick to flipping coins, but all of this works for any inferential task, from factory inspection of defective parts to evaluation of a novel medical procedure.

Enter Physics

Our analysis of coin tossing thus far has made no contact with the physical act of tossing a coin. We now put in a bit of physics and stir; I promise, a mess will emerge. When a coin is flipped and leaves the hand, it has a definite velocity in the upward direction and a rate of spin (revolutions per second). If we know these parameters, Newton's Laws allow us to calculate how long the coin will take before returning to its starting height and, thus, how many times it will turn over. If the coin is caught without bouncing, we can predict whether it will land heads or tails.

A neat analysis by Joe Keller appeared in a 1986 issue of *American Mathematical Monthly.* The sketch in Figure 1 shows the velocity/spin plane. A flip of the coin is represented by a dot on the figure, corresponding to the velocity and rate of spin. For a dot far to the right and close to the axis, the velocity is high, but spin is low. The coin goes up

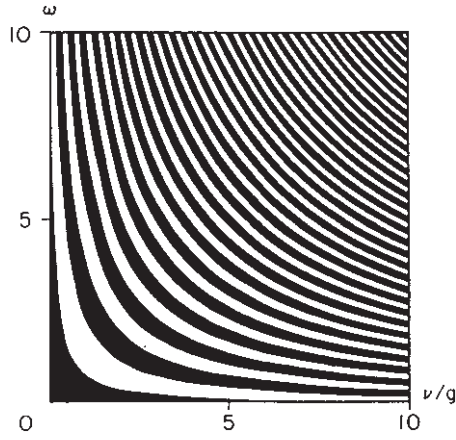

Figure 1. Partition of phase space induced by heads and tails

like a pizza and doesn't turn over at all. All the points below the curve correspond to flips in which the coin doesn't turn over. The adjacent region contains points at which the coin turns over exactly once. It is bounded by a similar curve. Beyond this, the coin turns over exactly twice, and so on.

As the figure shows, moving away from the origin, the curves get closer together. Thus, for vigorous flips, small changes in the initial conditions make for the difference between heads and tails.

The question arises: When normal people flip real coins, where are we on this picture? I became fascinated by this problem and have carried out a series of experiments. It is not hard to determine typical velocity. Get a friend with a stopwatch, practice a bit, and time how long the coin takes in its rise and fall. A typical one-foot toss takes about half a second (this corresponds to an upward velocity of about 5½ miles per hour). Determining rate of spin is trickier. I got a tunable strobe, painted the coin black on one side and white on the other, and tuned the strobe until the coin "froze," showing only white. All of this took many hours. The coin never perfectly froze, and there was variation from flip to flip. In the course of experimenting, I had a good idea. I tied a strand of dental floss about three feet long to the coin. This was flattened, the coin flipped, the flip timed, and then we unwrapped the floss to see how often the coin had turned over. On

the basis of these experiments, we determined that a typical coin turns at a rate of 35 to 40 revolutions per second (rps). A flip lasts half a second, so a flipped coin rotates between 17 and 20 times.

There is not very much variability in coin flips, and practiced magicians (including myself) can control them pretty precisely. My colleagues at the Harvard Physics Department built me a perfect coin flipper that comes up heads every time. Most human flippers do not have this kind of control and are in the range of 5½ mph and 35 to 40 rps. Where is this on Figure 1? In the units of Figure 1, the velocity is about ⅕—very close to the zero. However, the spin coordinate is about 40—way off the graph. Thus, the picture says nothing about real flips. However, the math behind the picture determines how close the regions are in the appropriate zone. Using this and the observed spread of the measured data allows us to conclude that coin tossing is fair to two decimals but not to three. That is, typical flips show biases such as .495 or .503.

Blending Subjective Probability and Physics

Our refined analysis can be blended into the probability specification. Now, instead of observing heads and tails at each flip, we observe velocity/spin pairs. If these are judged exchangeable, a version of de Finetti's Theorem applies to show that any coherent probability assignment must be a mixture of independent and identically distributed assignments:

$$P((v, w) \text{ in } A, \ldots, (v', w') \text{ in } B) = \int F(A) \ldots F(B)\, \mu\,(dF)$$

The meaning of these symbols is slightly frightening, even to a mathematical grownup. On the right, F is a probability distribution on the velocity/spin plane. Thus μ is a probability on the space of all probabilities. Here, de Finetti's Theorem tells us that thinking about successive flips is the same as thinking about measures for measures. There is a

set of tools for doing this, but at the present state of development it is a difficult task. It is even dangerous. The space of all probability measures is infinite-dimensional. Our finite-dimensional intuitions break down, and hardened professionals have suggested prior distributions with the following property: as more and more data come in, we become surer and surer of the wrong answer.

This occurs in the age-old problem of estimating the size of an object based on a series of repeated measurements. Classically, everyone uses the average. This is based on assuming that the measurement errors follow the bell-shaped curve. Owning up to not knowing the distribution of the errors, some statisticians put a prior distribution on this unknown distribution. The corresponding posterior distribution can become more and more tightly peaked about the wrong answer as more and more data come in. A survey of these problems and available remedies can be found in my joint work with David Freedman in the *Annals of Statistics* (1986).

What's the Point?

This has been a lengthy example aimed at making the following point. Starting with the simple problem of predicting binary outcomes and then thinking about the underlying physics and dynamics, we

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Robert Alberty and Stephen Crandall (both, MIT) with George Hatsopoulos (Pharos L.L.C., Waltham, MA)

were led from de Finetti's original, satisfactory solution to talking close to nonsense. The analysis led to introspection about opinions on which we have small hold and to a focus on technical issues far from the original problem. I hope the details of the example do not obscure what I regard as its nearly universal quality. In every area of academic and more practical study, we can find simple examples that on introspection grow into unspeakable "creatures." The technical details take over, and practitioners are fooled into thinking they are doing serious work. Contact with the original problem is lost.

I am really troubled by the coin-tossing example. It shouldn't be that thinking carefully about a problem and adding carefully collected outside data, Newtonian mechanics, and some detailed calculations should make a mess of things.

Thinking About Thinking Too Much

The problem of thinking too much has a prominent place in the age-old debate between theory and practice. Galen's second-century attempts to balance between rationalist and empiricist physicians ring true today. In his *Three Treatises on the Nature of Science* (trans. R. Walzer and M. Frode), Galen noted that an opponent of the new theories claimed "there was a simple way in which mankind actually had made enormous progress in medicine. Over the ages men had learned from dire experi-

ence, by trial and error, what was conducive and what was detrimental to health. Not only did he claim that one should not abandon this simple method in favor of fanciful philosophical theories, which do not lead anywhere; he also argued that good doctors in practice relied on this experience anyway, since their theories were too vague and too general to guide their practice." In my own field of statistics, the rationalists are called decision theorists and the empiricists are called exploratory data analysts. The modern debaters make many of the same rhetorical moves that Galen chronicled.

Economists use Herbert Simon's ideas of "satisficing" and "bounded rationality," along with more theoretical tools associated with John Harsanyi's "value of information." Psychologists such as Daniel Kahneman and Amos Tversky accept the value of the heuristics that we use when we abandon calculation and go with our gut. They have created theories of framing and support that allow adjustment for the inevitable biases. These give a framework for balancing the decision to keep thinking versus getting on with deciding.

Computer science explicitly recognizes the limits of thinking through ideas like complexity theory. For some tasks, computationally feasible algorithms can be proved to do reasonably well. Here is a simple example. Suppose you want to pack two suitcases with objects of weight a, b, . . . , z. You

Daniel Bell (Harvard University) and Martin Cohn (MIT)

want to pack them as close to evenly as you can. It can be shown that this is a virtually impossible problem. Despite fifty years of effort, we don't know how to find the best method of packing, save for trying all of the exponentially many possibilities. Any progress would give solution to thousands of other intractable problems. Most of us conclude that the optimal solution is impossible to find.

Undeterred, my friend Ron Graham proposed the following: sort the objects from heaviest to lightest (this is quick to do). Then fill the two suitcases by beginning with the heaviest item, and each time placing the next thing into the lighter suitcase. Here is an example with five things of weight 3, 3, 2, 2, 2. The algorithm builds up two groups as follows:

$$3,\quad 3/3,\quad \frac{2}{3}/3,\quad \frac{2}{3}/\frac{2}{3},\quad \frac{2}{\frac{2}{3}}/\frac{2}{3}$$

This misses the perfect solution, which puts 3, 3 in one pile and 2, 2, 2 in the other. One measure of the goodness of a proposed solution is the ratio of the size of the larger pile to the size of the larger pile in the optimal solution. This is 7/6 in the example. Graham proved that in any problem, no matter what the size of the numbers, this "greedy" heuristic always does at worst 7/6 compared to the optimal. We would be lucky to do as well in more realistic problems.

An agglomeration of economics, psychology, decision theory, and a bit of complexity theory is the current dominant paradigm. It advises roughly quantifying our uncertainty, costs, and benefits (utility) and then choosing the course that maximizes expected utility per unit of time. A lively account can be found in I. J. Good's book *Good Thinking* (don't miss his essay on "How Rational Should a Manager Be?").

To be honest, the academic discussion doesn't shed much light on the practical problem. Here's an illustration: Some years ago I was trying to decide

Helen Pounds, William F. Pounds (MIT), and Paul Doty (Harvard University)

whether or not to move to Harvard from Stanford. I had bored my friends silly with endless discussion. Finally, one of them said, "You're one of our leading decision theorists. Maybe you should make a list of the costs and benefits and try to roughly calculate your expected utility." Without thinking, I blurted out, "Come on, Sandy, this is serious."

Some Rules of Thumb

One of the most useful things to come out of my study is a collection of the rules of thumb my friends use in their decision making. For example, one of my Ph.D. advisers, Fred Mosteller, told me, "Other things being equal, finish the job that is nearest done." A famous physicist offered this advice: "Don't waste time on obscure fine points that rarely occur." I've been told that Albert Einstein displayed the following aphorism in his office: "Things that are difficult to do are being done from the wrong centers and are not worth doing." Decision theorist I. J. Good writes, "The older we become, the more important it is to use what we know rather than learn more." Galen offered this: "If a lot of smart people have thought about a problem [e.g., God's existence, life on other planets] and disagree, then it can't be decided."

There are many ways we avoid thinking. I've often been offered the algorithm "Ask your wife to decide" (but never "Ask your husband"). One of my most endearing memories of the great psychologist of decision making under uncertainty, Amos

Tversky, recalls his way of ordering in restaurants: "Barbara? What do I want?"

Clearly, we have a wealth of experience, gathered over millennia, coded into our gut responses. Surely, we all hope to call on this. A rule of thumb in this direction is "Trust your gut reaction when dealing with natural tasks such as raising children."

It's a fascinating insight into the problem of thinking too much that these rules of thumb seem more useful than the conclusions drawn from more theoretical attacks.

In retrospect, I think I should have followed my friend's advice and made a list of costs and benefits—if only so that I could tap into what I was really after, along the lines of the following "grook" by Piet Hein:

A Psychological Tip

Whenever you're called on to make up your mind,
and you're hampered by not having any,
the best way to solve the dilemma, you'll find,
is simply by spinning a penny.
No—not so that chance shall decide the affair
while you're passively standing there moping;
but the moment the penny is up in the air,
you suddenly know what you're hoping.

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FORTHCOMING STATED MEETINGS

May 14, 2003 at the House of the Academy

Annual Meeting

Inaugural S. T. Lee Lecture in the Humanities

Speaker: ***Denis Donoghue*** *(New York University) on "Joyce, Leavis, and the Revolution of the Word"*

May 15, 2003 at the Library of Congress

Speakers: ***Danny Boggs*** *(US Court of Appeals, Sixth Circuit) and* ***Judith Resnik*** *(Yale University) on "The Independence of the Federal Judiciary"*

Moderator: ***Abner J. Mikva*** *(University of Chicago Law School)*

Save the Date: Induction Ceremony—October 11, 2003

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