

IAS The Institute Letter

Institute for Advanced Study

Spring 2010

Between Discovery and Invention *How Lead Poisoning Became an Epidemic in France*

BY DIDIER FASSIN



This French cartoon reads "Don't worry... with all the asbestos in your apartment, he will not have time to die of lead poisoning."

In 1981, a group of French pediatricians published a paper about a case of lead poisoning in the *Archives Françaises de Pédiatrie*. The clinical history of a five-year-old boy named Mammarr was described in detail. He had been suffering from consciousness disorders and epileptic seizures, but all diagnostic investigations remained inconclusive. As his condition worsened, a neurosurgical operation was performed, with no success. Finally, from dozens of biological tests, some almost randomly selected, as often occurs in these difficult cases, one yielded an answer: a very high level of lead concentration was found in his blood.

The search for a diagnosis had been a lengthy process because, at that time in France, lead poisoning was considered a rare

disease, mostly occupational, and afflicting adults. The pediatricians conducted a bibliographical inquiry and discovered that cases had been reported for decades in the United States involving children, generally living in underprivileged neighborhoods where white lead was used as house paint. Mammarr's parents confirmed that he sometimes

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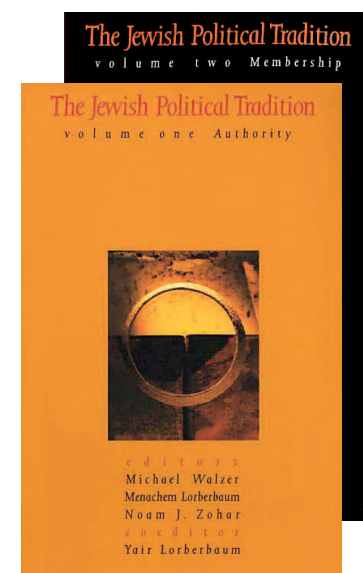
Retrieving Arguments within the Jewish Political Tradition

BY MICHAEL WALZER

"The Jewish Political Tradition" is now a twenty-year-old project. Together with colleagues from Israel, all of whom have spent time here at the Institute, I have been working on it since the late 1980s. Menachem Lorberbaum and Noam Zohar, from the Hartman Institute in Jerusalem where the project originated, are my coeditors. Seven other people have worked with me in Princeton on particular topics; Yuval Jobani is the most recent of these. Let me describe the project and then, more briefly, the routines of study and writing that the Institute has made possible.

Two volumes of JPT (as we call it) have been published by Yale University Press; two more are to come. The books are readers with commentaries—collections of texts dealing with political issues, which are discussed by contemporary political theorists, philosophers, experts in Jewish studies, and legal scholars. The texts cover the whole course of Jewish history, starting with excerpts from the Bible and Talmud and ending with nineteenth- and twentieth-century debates about emancipation, Zionism, assimilation, and the politics and wars of the state of Israel. They are

(Continued on page 4)



On the Excitements of Lot-Casting

BY PATRICIA CRONE

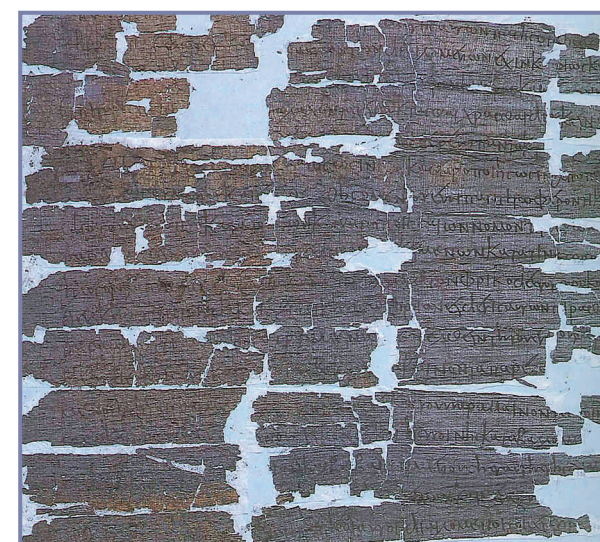
In 2004, a Member of the Classics section of the School of Historical Studies I was chatting with told me that some badly burnt papyri dating from the sixth century had been found in a church during excavations at Petra in Jordan. Modern technology made it possible to read them, their damaged state notwithstanding, and one of the persons involved in the project was my colleague, Glen Bowersock. It was the first I heard of it. Petra is located in a region involved in the rise of Islam, which began in the early seventh century, so I rushed off to Glen's office and asked for more information. I left with a stack of papers and books and an agreement that Glen would give a talk about these papyri in the Islamicist seminar. When he did so, he mentioned a papyrus that describes an estate divided among three brothers where the shares were assigned by lot. This intrigued me because this was also how shares were assigned in the ancient Near East (more precisely, ancient Iraq). I had come across a surprising number of references to lot-

casting in similar situations in sources relating to the first fifty years of Islam. So I emailed an Oxford colleague, Adam Silverstein, who is also interested in the link between the ancient Near East and Islam, and he reminded me of another sixth-century papyrus, from Nessana in what is now the Negev, in which shares are also assigned by lot. The correspondence continued and eventually we decided to write an article about it together. We both had more pressing work to do, so we worked on it intermittently, with long periods of inactivity in between, and only finished it in 2008.¹

Lot-casting is perhaps not the most interesting subject in the world, but the practice was common in the ancient world (not just the Near East) in official contexts where we would now find it surprising. The attestations in the cuneiform literature, the Bible, the two papyri, and Islamic literature were suggestive of a

(Continued on page 4)

1 P. Crone and A. Silverstein, "The Ancient Near East and Islam: the Case of Lot-casting," forthcoming in *Journal of Semitic Studies* 2010/2



Substantial portions of badly burnt papyri, which were found during excavations at Petra in Jordan, have been painstakingly restored. This is the papyrus that caught Professor Crone's interest.

News of the Institute Community

ENRICO BOMBIERI, IBM von Neumann Professor in the School of Mathematics, and **TERENCE CHI-SHEN TAO**, former short-term Visitor in the School of Mathematics, have been named winners of the 2010 King Faisal International Prize in Science (Mathematics). The King Faisal Foundation selected Bombieri for his pioneering work, which, it noted, is characterized by originality, power, and clarity of exposition and addresses fundamental and difficult problems in number theory, algebraic geometry, complex analysis, and minimal surfaces. Tao, the James and Carol Collins Chair of Mathematics at the University of California, was selected for his highly original solutions of difficult and important problems and for his technical brilliance in the use of the necessary mathematical machinery.

JEAN BOURGAIN, Professor in the School of Mathematics, has been awarded the Vernadski Golden Medal of the National Academy of Sciences of Ukraine. The medal is presented every year to two eminent scientists, one of whom is a member of Academy and the other a foreigner. Bourgain was selected for his remarkable contributions to harmonic analysis and its applications.

DIDIER FASSIN, James D. Wolfensohn Professor in the School of Social Science, has edited *Les Nouvelles Frontières de la Société Française* (The New Frontiers of French Society) (Editions La Découverte, 2010). The volume analyzes profound changes that concern not only immigrants and foreigners in France but also the next generation born in France. It is based on four years of interdisciplinary research conducted by a group of twenty-five social scientists coordinated by Fassin.

AVISHAI MARGALIT, George F. Kennan Professor in the School of Historical Studies, has been awarded the 2010 Israel Prize in philosophy. The Israel Prizes, considered Israel's most distinguished awards, will be presented in a state ceremony in Jerusalem.

ERIC S. MASKIN, Albert O. Hirschman Professor in the School of Social Science, was awarded an honorary doctorate by the University of Cambodia in a ceremony in Phnom Penh.

NATHAN SEIBERG, Professor in the School of Natural Sciences, has been elected as a 2009 Fellow of the American Physical Society.

SCOTT TREMAINE, Richard Black Professor in the School of Natural Sciences, will receive an honorary degree from the University of Toronto in June.

Ashgate has published *Crusaders and Crusading in the Twelfth Century* by **GILES CONSTABLE**, Professor Emeritus in the School of Historical Studies. The volume contains studies illustrating aspects of crusading that are often passed over in narrative histories.

SHING-TUNG YAU, former Professor (1980–84) and Member (1971–72, 1979–80) in the School of Mathematics, will share the 2010 Wolf Prize in Mathematics with **DENNIS SULLIVAN**, former Visitor (1968–70) in the School. Yau is William Caspar Graustein Professor of Mathematics at Harvard University, and Sullivan is Professor of Mathematics at Stony Brook University, the State University of New York.

GRAHAM FARMELO, former Director's Visitor (2005, 2006, 2009), has received the Costa Book Award for Biography for *The Strangest Man: The Hidden Life of Paul Dirac, Quantum Genius* (Faber and Faber, 2009), which award judges called the most compelling biography of the year. Farmelo, Adjunct Professor of Physics at Northeastern University and Bye-Fellow of Churchill College, University of Cambridge, worked on the book during his time at the Institute.

WILLIAM FULTON, former Director's Visitor (1994) and former Member (1981–82) in the School of Mathematics, has received the American

Mathematical Society's Steele Prize for Lifetime Achievement for his research, writing, and intellectual leadership in algebraic geometry, and for his teaching and mentoring. Fulton is the Oscar Zariski Distinguished University Professor at the University of Michigan.

FRANCISCUS VERELLEN, Member in the School of Historical Studies, has been awarded the French National Order of the Legion of Honor.

ROBERT L. GRIESS JR., former Member (1979–80, 1994) in the School of Mathematics, has been awarded the American Mathematical Society's Steele Prize for Seminal Contributions to Research for his construction of the "monster" sporadic finite simple group. Griess is Professor at the University of Michigan.

SUBHASH KHOT, former Member (2003–04) in the School of Mathematics, will receive the 2010 Alan T. Waterman Award, presented annually by the National Science Foundation. The award recognizes an outstanding young researcher in science or engineering. Khot is Associate Professor of Computer Science at the Courant Institute of Mathematical Sciences of New York University.

JUDITH MCKENZIE, former Member (2003–04) in the School of Historical Studies, has won the 2010 James R. Wiseman Book Award of the Archaeological Institute of America for her book *The Architecture of Alexandria and Egypt 300 BC–AD 700* (Yale University Press, 2007). McKenzie is a member of the Faculty of Classics in the University of Oxford.

PHILIP VAN DER EIJK, former Member (2006) in the School of Historical Studies, has been awarded an Alexander von Humboldt Professorship in Classics and History of Science at Humboldt-Universität zu Berlin. Van der Eijk, the first candidate from the humanities to receive this prize, will direct a major research program devoted to the history of medicine in the classical world.

Contents

- 2 News of the Institute Community
Carl Kaysen, 1920–2010
- 3 Mathematics in Mesopotamia: From Elementary Education to Erudition
From the Shelby White and Leon Levy Archives Center
- 5 Erwin Panofsky—Jan van Eyck—Philip Pearlstein
- 6 George F. Kennan and the Institute
- 7 Of Historical Note
- 8 Mathematical Sciences Investigation (MSI):
The Anatomy of Integers and Permutations
Centennial Council
- 10 Beyond the Formalist-Realist Divide: Exposing a
Legal Myth
Friends Rise to Chooljian Challenge
Sheila Hicks Tapestry Installed in Renwick Gallery
- 11 Extending the Gift of Scholarship Across Generations
Writers' Conversations at IAS
www.ias.edu

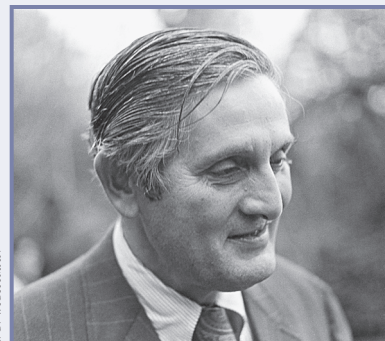
Questions and comments regarding the *Institute Letter* should be directed to Kelly Devine Thomas, Senior Publications Officer, via email at kdtthomas@ias.edu or by telephone at (609) 734-8091.

Issues of the *Institute Letter* and other Institute publications are available online at www.ias.edu/about/publications.

Carl Kaysen 1920 – 2010

Carl Kaysen, who served as the Institute for Advanced Study's fourth Director from 1966 to 1976, overseeing a decade of growth and change, died on February 8 at the age of eighty-nine. A political economist with a distinguished career in public service, he was President Kennedy's Deputy Special Assistant for National Security Affairs from 1961 to 1963, and was most recently the David W. Skinner Professor of Political Economy, Emeritus, at the Massachusetts Institute of Technology.

Born in 1920 in Philadelphia, Kaysen earned his M.S. in 1947 and Ph.D. in 1954 from Harvard University, where he became Professor of Economics in 1957. He was hired by the Institute to help broaden its academic scope to include topics relevant to contemporary society. One of the ways Kaysen fulfilled this objective was to create the School of Social Science, which began as the Program for



Social Change in 1968 and was formalized in 1973 as the Institute's fourth School, joining the Schools of Historical Studies, Mathematics, and Natural Sciences.

Of the creation of the School, Kaysen noted, "The opportunity to develop a new field of activity at the Institute was the challenge that meant the most to me. That the School of Social Sci-

ence now exists on a firm intellectual and financial base is an accomplishment that I consider to be one of my chief contributions to the institution."

In 1970, Kaysen appointed the Program's first Professor, the anthropologist Clifford Geertz (1926–2006), who influenced generations of scholars in interpretive social science. Kaysen himself served as a Professor in the School, along with Albert O. Hirschman, a development economist appointed in 1974 and currently Professor

(Continued on page 8)

Mathematics in Mesopotamia: From Elementary Education to Erudition

BY CHRISTINE PROUST

The recovery of Mesopotamian mathematics was pioneered in the early thirties by Otto Neugebauer (1899–1990), an eminent Member of the Institute for Advanced Study whose association with the Institute spanned forty-five years (see article below). Neugebauer began his career as a mathematician in Göttingen. After fleeing Nazi Germany, he emigrated to the United States and became a major figure in the history of ancient mathematics and astronomy. Since the publication of cuneiform mathematical texts by Neugebauer and other scholars, such as the French Assyriologist François Thureau-Dangin, we have known that the history of mathematics did not begin in Greece in the third century BC, but more than a thousand years before in Mesopotamia and Egypt, and perhaps elsewhere. The tradition of studying Mesopotamian mathematics and astral sciences continues at the Institute through the support of the Otto Neugebauer Fund, from which I had the chance to benefit in 2009.

In 1986, Otto Neugebauer was awarded the Balzan Prize for his fundamental research into the exact sciences in the ancient world, in particular, on ancient Mesopotamian, Egyptian, and Greek astronomy. Neugebauer donated the prize money of 250,000 Swiss francs to the Institute for Advanced Study. Funding for Christine Proust's Membership in the School of Mathematics was provided by the fund that Neugebauer established.

Beginning in 1999, I set out to learn cuneiform mathematics by reading school tablets and recreating the training given to young scribes in Mesopotamia four thousand years ago. I studied in the Istanbul Archaeological Museum a set of more than three hundred unpublished mathematical school tablets exhumed from Nippur, in central Mesopotamia, by the University of Pennsylvania. Thanks to this pedagogical material, I reconstructed the curriculum of mathematical education in Nippur in the Old Babylonian period (early second millennium). But perhaps more importantly, I learned from these tablets some original mathematical concepts that were taught in scribal schools at the time. The school tablets show that the concept of numbers was quite different from the one we inherited from Indian and Arab mathematicians. In the school tablets, we find two kinds of numbers. The first was used to quantify, for example, to evaluate magnitudes, such as length and weight, as well as to count objects. The second was used to calculate, that is, to perform arithmetic operations such as multiplication and reciprocal extractions. The numbers used for calculation were written in sexagesimal place value notation, an abstract system that allowed the

scribes to develop remarkably efficient algorithms. Sexagesimal place value notation was probably invented by the end of the third millennium BC in the context of major reforms and policies of standardization, including the unification of metrological systems, undertaken by the king of the first great centralized states.

The bulk of the known mathematical cuneiform sources dates from the Old Babylonian period. A highly elaborate mathematics was produced by a few generations of scholars who belonged to the scribal school communities. The mathematics they invented was essentially abstract and quite unrealistic. It seems that this mathematics was conceived to be taught rather than to be useful for solving practical problems. However, many texts of mathematical problems refer to social activities such as construction, irrigation, work planning, and surveys. In modern language, the mathematical content includes linear problems with one or several unknowns, second and higher degree problems, arithmetic sequences, extraction of reciprocals, square roots and cube roots, and generating Pythagorean triples. Babylonian geometric knowledge included the metric properties of rectangles, triangles, circles, trapezoids, and regular polygons and properties of similar figures. Some mathematical tablets are particularly famous. A school tablet, now kept at Yale University (inventory number YBC 7289), contains a diagram representing a square, its diagonal, and an excellent approximation of the root of 2 ($1;24,51,10$ in sexagesimal place value notation). Another famous tablet is a list of fifteen independent Pythagorean triples involving very large numbers, with more than five sexagesimal digits (this tablet, Plimpton 322, belongs to a private collection).

During my stay at the Institute, I studied little-known but amazing Old Babylonian tablets. They contain hundreds of equations without any indication about their resolution. Some of the equations are so complex that one wonders if they were made in order to be solved. These long lists were written in Sumerian, a dead language at the Old Babylonian period, on sequences of several numbered tablets, using elaborate combinatory methods. These tablets show



Christine Proust, a historian of mathematics and ancient sciences, studied more than three hundred unpublished mathematical school tablets in the Istanbul Archaeological Museum, like the one pictured above, which contains a table of reciprocals. Proust, who was a Member in the School of Historical Studies in the fall of 2009, is currently a Visiting Research Scholar at New York University's Institute for the Study of the Ancient World.

that the ancient scribes developed sophisticated tools for writing complex mathematical expressions and thought deeply about the nature of an equation.

After the end of the Old Babylonian period, mathematical sources dry up. A revival of mathematics occurred more than a thousand years later in the Hellenistic period (third century BC). The context was then radically different. Mathematical tablets come from the great libraries of Babylon and Uruk. The authors of the mathematical texts, who were also astrologers and astronomers, belonged to great families of priests. Hence, Hellenistic mathematics is closely linked to mathematical astronomy.

It is well known that Babylonian astronomical knowledge was transmitted to Greek scholars. The question of whether mathematical knowledge was conveyed from Mesopotamia to Greece, the Arab world, and perhaps India, remains a debated issue among historians. ■

that the ancient scribes developed sophisticated tools for writing complex mathematical expressions and thought deeply about the nature of an equation.

From the Shelby White and Leon Levy Archives Center

Otto Neugebauer (1899–1990) left the bulk of his library to the Institute for Advanced Study. The Institute's Shelby White and Leon Levy Archives Center holds a portion of his papers, which has been arranged into five series: Notebooks, Astronomical Cuneiform Texts, Copernicus Notes, Diary and Correspondence, and Publications.

A finding aid for the Neugebauer papers, as well as select notebooks available in PDF format, may be found at <http://library.ias.edu/hs/neugebauer.html>. The following biographical note was written by Christine Di Bella, the Institute Archivist.

Otto Neugebauer was born on May 26, 1899 in Innsbruck, Austria. His parents died when he was young and he was raised by an uncle. He attended Gymnasium in Graz, then served in the Austrian army upon graduation in 1917. During World War I, he spent a year in an Italian prisoner-of-war camp, where he met Ludwig Wittgenstein. From 1919 to 1921, he studied electrical engineering and physics at the University of Graz. He transferred to the University of Munich in 1921, where he studied with physicist Arnold Sommerfeld and mathematician Arthur Rosenthal. He then moved to the University of Göttingen, where he assisted mathematician Richard Courant and supervised the university's mathematical reading room. (Neugebauer later designed Göttingen's new mathematical institute, built in 1929.) He completed his Ph.D. on Egyptian fractions in 1926, and received his *venia legendi* in 1927. He also received an honorary LL.D. from St. Andrews University in Scotland in 1938.

He remained at Göttingen, was appointed an associate professor in 1932, and was named acting director of the mathematical institute in 1933, in the wake of the firing of Courant, who was Jewish, by the Nazi regime. Neugebauer himself was later fired after refusing to take the Nazi loyalty oath. Harald Bohr arranged for

Neugebauer to become a professor at the University of Copenhagen, where he remained until 1939. Neugebauer, who had founded and served as the editor for the *Zentralblatt für Mathematik und ihre Grenzgebiete* since 1931, was then brought to Brown University in the United States to edit the journal under the new title of *Mathematical Reviews*. He continued with the journal until 1948.

(Continued on page 8)

Verwandlung von Dezimalen in Sexagesimalbrüche

Dezimalen	0	1	2	3	4	5	6	7	8	9	
0' 00 (0'50)	0, 0, (0,30)	0, 0	3, 36	7, 12	10, 48	14, 24	18, 0	21, 36	25, 12	28, 48	32, 24
0' 01 (0'51)		36, 0	39, 36	43, 12	46, 48	50, 24	54, 0	57, 36	1, 12	4, 48	8, 24
0' 02 (0'52)	0, 1, (0,31)	12, 0	15, 36	19, 12	22, 48	26, 24	30, 0	33, 36	37, 12	40, 48	44, 24
0' 03 (0'53)		48, 0	51, 36	55, 12	58, 48	2, 24	6, 0	9, 36	13, 12	16, 48	20, 24
0' 04 (0'54)	0, 2, (0,32)	24, 0	27, 36	31, 12	34, 48	38, 24	42, 0	45, 36	49, 12	52, 48	56, 24
0' 05 (0'55)	0, 3, (0,33)	0, 0	3, 36	7, 12	10, 48	14, 24	18, 0	21, 36	25, 12	28, 48	32, 24
0' 06 (0'56)		36, 0	39, 36	43, 12	46, 48	50, 24	54, 0	57, 36	1, 12	4, 48	8, 24
0' 07 (0'57)	0, 4, (0,34)	12, 0	15, 36	19, 12	22, 48	26, 24	30, 0	33, 36	37, 12	40, 48	44, 24
0' 08 (0'58)		48, 0	51, 36	55, 12	58, 48	2, 24	6, 0	9, 36	13, 12	16, 48	20, 24
0' 09 (0'59)	0, 5, (0,35)	24, 0	27, 36	31, 12	34, 48	38, 24	42, 0	45, 36	49, 12	52, 48	56, 24

This conversion table from decimal fractions to sexagesimal fractions, which is necessary for work on mathematical and astronomical cuneiform texts, appears in Neugebauer's notebook *Rechentabellen zur sumerisch-akkadischen Mathematik*. The notebook is among the collection of papers that Neugebauer left to the Institute.



The charred remnants of the papyrus scrolls dating from the sixth century, pictured here before being reassembled, were found in a building connected to a Byzantine church in Petra.

pattern that could help us trace the threads between the ancient and the Islamic periods of the Near or, as it is usually called today, the Middle East. This was where the excitement lay.

The Middle East is an odd region in that it does not have a single history, but rather three, studied in different university departments. The study of the ancient and by far the longest period, covering the period ca. 3000 to 330 BC, is called Assyriology and is usually treated as an adjunct of either

Biblical studies or archaeology. The next thousand years, from the conquest of Alexander in the 330s BC to the Arab conquests in the 630s AD, form part of Classics. The rest is called Islamic or Middle Eastern history and is studied now as an adjunct of Arabic and in History departments. Until recently, these segments were seen as having little to do with each other. To Islamicists, the Near East outside Arabia was a foreign territory made familiar by Arab settlement and Islamization. Some introductory courses did start with surveys of the Near East on the eve of Islam, but this was largely a formality, for with the exception of the conquests, the explanation of later developments never seemed to hinge on anything that happened there. Islam was seen as sufficiently developed by the time of the conquests to continue growing on the basis of its own internal resources, merely absorbing this or that occasional “foreign element” in the process. The idea that there might be continuity all the way back to the ancient period seemed wildly implausible. A few echoes of ancient Near Eastern themes could indeed be seen here and there, but they came across as odd survivals inducing marvel at their longevity, but incapable of telling us anything significant.

Today all this has changed. The interaction between ancient Near Eastern and classical culture, both before and after Alexander, has become an exciting field of study, and it has also come to be widely recognized that Islamic culture is rooted in that of late antiquity, both Greco-Roman and Persian. If we still cannot trace the threads between the ancient and the Islamic periods, it is because practically all the evidence is lost. The inhabitants of the ancient Near East exchanged their ancient languages for Aramaic; it is the development of the Aramaic tradition that we need to follow. But it was not an imperial culture; its literature ceased to be copied when its bearers converted to other religions; and it was written on more perishable material than clay tablets. We do have some Jewish writings in Aramaic, and from the third century AD onward we also have Christian ones (in that branch of Aramaic called Syriac), but the pagans who formed the vast majority in the region for most of the period are almost invisible in the record. By and large, we have to study the Near East through the eyes of its conquerors, who

remained outsiders to the region in the sense that they continued to be oriented toward their own cultural centers even after having made themselves at home in the Near East. The bulk of the Persian tradition is also lost, so that for practical purposes we only have one pair of foreign eyes, those of the Greeks and the Romans. It is only inscriptions and archaeology that allow us occasionally to see the Near Easterners directly before they became Muslims and started writing plenty about themselves that still survives.

This, of course, is one reason why the history of the region is divided into three segments: we do not have the tradition that connects them. But without putting the segments together again one cannot see some of the most striking facts about the region. Most obviously, the Near/Middle East is a cultural area marked by over a thousand years of colonial rule, with a bit more following at the hands of the Europeans after another twelve hundred years or so. This seems to be unparalleled in history. Other conquerors who managed to hold on to their possessions for as long as the Greeks and the Romans did between them absorbed the peoples they had conquered (to use a dreadfully simplistic shorthand), but the Greeks and the Romans did not, nor of course did the Europeans. This is of major importance for the political evolution of the Islamic Middle East, but it is never taken into consideration. It is also impossible to understand the nature of Islamic culture without remembering that the same people continued to live in the region for all those millennia, passing on their own tradition in gradually changing forms from one generation to the next, so that the substratum of Islamic culture must be a remote descendant of that which prevailed in ancient times.

Adam Silverstein and I found that all evidence for lot-casting as a live practice in official contexts had petered out by the second century AD, except on the Jewish side. Thereafter it reappeared in Arabic literature on the Prophet and the early caliphs. Without the two papyri, it would have looked like a case of continuity between Judaism and Islam. The two papyri are Christian, however, produced in communities that were undoubtedly Arabic-speaking even though they wrote in Greek. What we had was a Near Eastern practice that had remained alive on the periphery of the Roman empire and also beyond it, in that part of Arabia that was never subjected to colonial rule. We would have been more excited by evidence throwing light on the gradual transformation of the Near Eastern tradition in Iraq itself (the undoubted home of Islamic culture). But the practice attested in the two papyri did gain acceptance in Islamic law, to be discussed along new lines, so it did add one thread to the many we need to sew the severed segments of Near/Middle Eastern history together. ■

The research of Patricia Crone, Andrew W. Mellon Professor in the School of Historical Studies, is focused on the Near East from late antiquity to the coming of the Mongols. She is interested in the delineation of the political, religious, and cultural environment in which Islam began and how it transformed, and was itself transformed by, the regions that the Arabs conquered. Originally a political, social, and military historian (some diversions notwithstanding), she has been steadily moving into the history of ideas. She now works mainly on the Qur'an and the cultural and religious traditions of Iraq, Iran, and the formerly Iranian part of Central Asia.

JEWISH POLITICAL TRADITION (Continued from page 1)

arranged topically into chapters, and chronologically within chapters.

Volume One, titled *Authority*, deals with questions of political legitimacy: Who should rule over the Jewish people? There are chapters on God, kings, priests, prophets, rabbis, lay leaders, and the elected leaders of Israel today. Volume Two, titled *Membership*, addresses the question, Who is a Jew?—but also, How were the boundaries of the community maintained in the centuries of statelessness? There are chapters on converts, heretics, apostates, and (since no boundary can be understood without knowing who is on the other side) Gentiles. Volume Three, now nearing completion, is called *Community*, and it is focused mostly on the communities of the Diaspora. How have they governed themselves, raised money, provided welfare and educational services, and sustained a legal system—without a territorial base and with limited coercive power? There are chapters on taxation, welfare, government, and the rabbinic courts. Volume Four, called *Politics in History*, for which we are now collecting and translating texts, will deal with the big world-historical issues: land, war, exile, and redemption.

We have tried to be inclusive in our choice of texts—JPT isn't a collection only of the nicest political arguments. We present the tradition, as Oliver Cromwell told the state portraitist he wanted to be painted, warts and all. The texts are rationalist and mystical, monarchist and republican, authoritarian and liberal, chauvinist and universalist. We include writings from all the contemporary denominations, from ultraorthodox to reform—and from secular writers as well. The commentators we have chosen span both the religious/secular and right/left spectrums. These aren't, however, books for everyone. We have told the commentators that we don't want academic contextualizations or pious appreciations of the texts; we want critical engagements with them.

JPT isn't a history of Jewish politics; nor is it a history of Jewish political thinking. It is an effort to retrieve the arguments that have gone on within the Jewish world and

to make them available to modern readers—on the assumption that the arguments can still be joined and should be joined. When I read, say, Rousseau's *Social Contract*, without having any special knowledge of eighteenth-century French history, I join the argument: is he right or wrong about popular sovereignty, the general will, his educational program? We aim to make it possible for contemporary students of politics to ask questions like that about these Jewish texts.

Historians may have some quarrel with what we have done, for we juxtapose texts from different times and places as if the authors were in conversation with each other (sometimes they actually were). We can't provide anything like a full account of the particular circumstances in which the different texts were written.

We provide only brief introductory notes for each text and a biographical glossary of authors. The arguments of the authors stand pretty much by themselves. But they are remarkably engaging.

JPT challenges the standard view (also the Zionist view) of Jewish history, which holds that without a state, there is no politics and certainly no political thought. The autonomous or semiautonomous communities of the exile, in this view, were engaged only in what Hannah Arendt once called “housekeeping.” It is true enough that a stateless people has no high politics, no politics of war and peace, no full-scale self-determination. But to sustain a common life, a legal system, and a strong sense of peoplehood without a state—that is an extraordinary political achievement, and it raised all the classic political issues: Who rules—the one, the few, or the many? How are the burdens of the common life distributed? Who counts as a member, entitled to welfare services? What services need to be provided?

I have sat for many hours in my IAS study with my colleagues and coeditors, all of whom have had much better Jewish educations than I had, trying to find the texts that

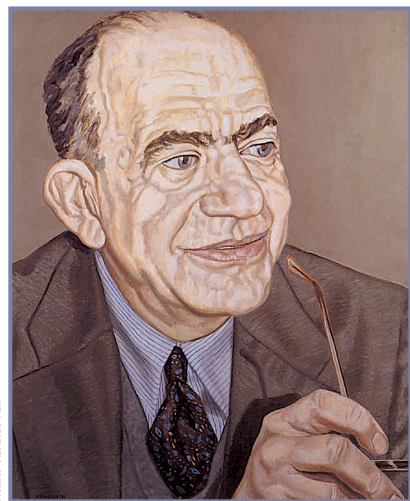
(Continued on page 5)

Erwin Panofsky—Jan van Eyck—Philip Pearlstein

BY IRVING LAVIN

The splendid portrait of Erwin Panofsky, late Professor in the School of Historical Studies, installed in the Institute's Historical Studies–Social Science Library, was commissioned from Philip Pearlstein in 1993. The portrait was the result of a series of coincidences that Panofsky liked to call “accidents on the highways of tradition,” this time involving a collision of at least a half-dozen vehicles of history.

First, in 1964, one of the Institute's Trustees, Harold Linder, gave a modest sum for art for our library, in memory of Herbert H. Lehman. Evidently long forgotten, the



(Left) Philip Pearlstein, Portrait of Erwin Panofsky, oil on canvas, 33 3/4 by 27 3/4 inches. Institute for Advanced Study, Princeton. (Right) Sometimes attributed to Jan van Eyck, Man with a Pink, oil on panel, 15 3/4 by 12 1/4 inches. Staatliche Gemäldegalerie, Berlin.

existence of the fund was very kindly brought to my attention by Elliott Shore, our librarian at the time, but it proved devilishly difficult—the second coincidence—to hit upon an appropriate and really first-rate work for the amount available. The difficulty was in fact fortunate because—the third coincidence—the money was still there when Panofsky's centennial approached and the idea, which seems inevitable in retrospect, dawned on me that it would be singularly appropriate if we could obtain for the centennial of one of the leading art historians of our time, a portrait by one of the leading artists of our time.

The choice of that artist, Philip Pearlstein, was also inevitable and providential. Pearlstein had already done a double portrait of two leading American art historians, Linda Nochlin and Richard Pommer, and a portrait of Panofsky by him would stand in the noble tradition of Max Liebermann's portrayal of Wilhelm von Bode, and Oskar Kokoschka's painting of Hans and Erika Tietze. A fourth coincidence was that Philip and I had known each other for more than forty years, ever since we were graduate students together at the Institute of Fine Arts in

New York, where in spring of 1950 we listened, in adjoining seats—and this is the fifth coincidence—to the lectures of none other than Erwin Panofsky, who taught there regularly. I telephoned Philip and made him an offer that, under those circumstances, he could hardly refuse. What came as an astonishing surprise, however, was that instead of producing a modest little sketch or drawing, which is all I expected at the agreed price, Pearlstein made a monumental, over lifesize and labor-intensive painting.

Pearlstein's unusual artistic generosity was matched by an equally unusual scholarly generosity. Besides his own memories of Panofsky, he based the portrait on several snapshots I sent him, some of which were kindly lent by Gerda Panofsky.¹ Well-trained art historian that he is, when he finished the picture, Pearlstein sent me the following documentary letter describing his working procedure, along with several slides:

May 1, 1993

Dear Irving,

Enclosed is the original slide, my painting and the studio set-up crudely improvised—I suspended a piece of transparent vellum from an old canvas-stretcher frame that is leaning against an unused easel, onto which I projected, from the rear, the original slide which then became my “model.” I tried to paint as if from a still-life. Projecting the slide this way allowed me to keep on the usual studio lights I work with. You can see that I re-positioned

the hand holding the eye glasses, to compress the composition, and as I told you, I painted the details of the hand from my own hand as a model—there simply wasn't enough detail in the photo—and my hand is just as pudgy as Panofsky's! Thanks for the opportunity to do this.

Yours,

Philip

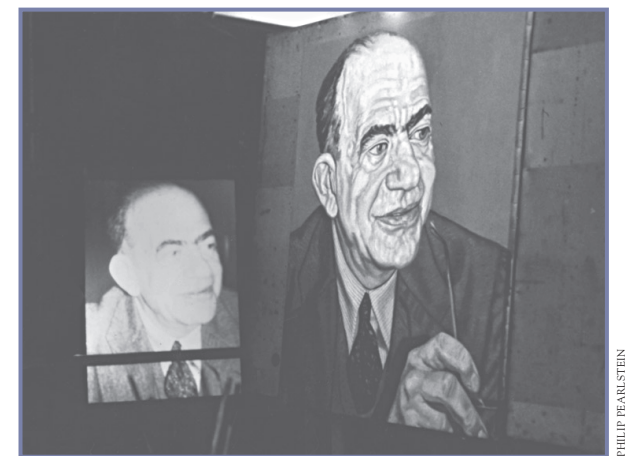
The artist's use of the word compress is a dead giveaway, for with this device he transformed the snapshot into a modern, Philip Pearlstein version of those powerfully analytical and evocative portraits by Early Netherlandish painters like Jan van Eyck. In fact, with its intensely “up-front” view, body and arms hidden below the frame, leaving

1. I have been informed by Panofsky's son, Wolfgang, that the snapshot was taken by the latter's son, Edward, then aged fifteen, in Kennebunkport, Maine, in July 1962.

visible only the hand with fingers holding a personal symbol (eyeglasses for the scholar), the portrait of Panofsky is reminiscent of the *Man with a Pink* in Berlin.

The next-to-last coincidence is that the lectures we heard in New York were none other than the manuscript of what soon became one of Panofsky's most important books, *Early Netherlandish Painting, Its Origins and Character* (Harvard University Press, 1953), and the *Man with a Pink* was one of the well-known works he discussed.

The final coincidence is that Pearlstein actually bears an uncanny personal resemblance to Panofsky, both physically (not only the pudgy hands) and in his personal warmth and good humor. Hence Pearlstein's portrait of Panofsky may also be viewed as an appropriately whimsi-



Philip Pearlstein worked on his painting of Erwin Panofsky while using a projected snapshot as a model.

cal indulgence in that fateful tendency of artists described in the Renaissance by the famous aphorism “every painter paints himself” (*ogni dipintore dipinge se*), which Leonardo considered the painter's “worst defect.”² ■

Irving Lavin, Professor Emeritus in the School of Historical Studies, has written extensively on the history of art from late antiquity to modern times, including numerous studies on Italian painting, sculpture, and architecture of the Renaissance and Baroque periods. This essay was originally published in *Meaning in the Visual Arts: Views from the Outside. A Centennial Commemoration of Erwin Panofsky (1892–1968) edited by Lavin and published by Princeton University Press in 1995. Pearlstein's portrait of Panofsky appeared as the frontispiece of the volume.*

2. M. Kemp, “‘Ogni dipintore dipinge se’: A Neoplatonic Echo in Leonardo's Art Theory?,” in C. H. Clough, ed., *Cultural Aspects of the Italian Renaissance: Essays in Honour of Paul Oskar Kristeller* (Manchester, 1976), 311–33; F. Zollner, “‘Ogni pittore dipinge se.’ Leonardo da Vinci and ‘Automimesis,’” in M. Winner, ed., *Der Künstler über sich in seinem Werk. Internationales Symposium der Bibliotheca Hertziana. Rom 1989* (Weinheim, 1992), 137–60.

JEWISH POLITICAL TRADITION (Continued from page 4)

best represent what Jewish writers had to say about these issues. Though my colleagues came initially as research assistants, they were more like my teachers. We would read texts together, they would provide sight translations, and then we would have our own arguments: Should this text be included? What part of it? Might this other text be better? Is this the best counterargument? We circulated lists of texts among scholars in the field—and invariably were told, No, no, you have missed the most important piece of writing on that question! This was sometimes true, but not always. Still, the selection process wasn't finished until we made the last “last minute” addition and sent the manuscript to Yale.

Some of the selected texts existed in good English translations. Most didn't, and so we set about translating or retranslating them. My colleagues did the translating,

then I edited the versions they produced as if I were editing articles for *Dissent* magazine, aiming at an easy English style. Then they went over the translations again to make sure that I had not introduced any errors. I worried about this process, but the translations in volumes one and two have been praised by reviewers. I wrote the first drafts of all the chapter introductions, whose chief purpose is to show how these Jewish arguments resemble (or don't) arguments in Western political theory. And then I rewrote them, again and again, to meet the criticisms and suggestions of my coeditors.

All this took a lot of time—and a lot of money. Some of the money came from the National Endowment for the Humanities, some of it from the Hartman Institute and from the Gladys Delmas Foundation, but most of it, the stipends of my research assistants and my own travel money, came from IAS. And the time—that

is the most wonderful gift of this place. I couldn't have done my part of this work anywhere else. ■

Michael Walzer, Professor Emeritus in the School of Social Science, is one of America's foremost political thinkers. He has written about a wide variety of topics in political theory and moral philosophy, including political obligation, just and unjust war, nationalism and ethnicity, economic justice, and the welfare state. The Jewish Political Tradition has its origin in a conference on Jewish philosophy, religion, and politics, sponsored by the Shalom Hartman Institute in Jerusalem, that has been convened every year since 1983. The first, rough proposal for a book on Jewish political thought was circulated by Walzer in 1987.

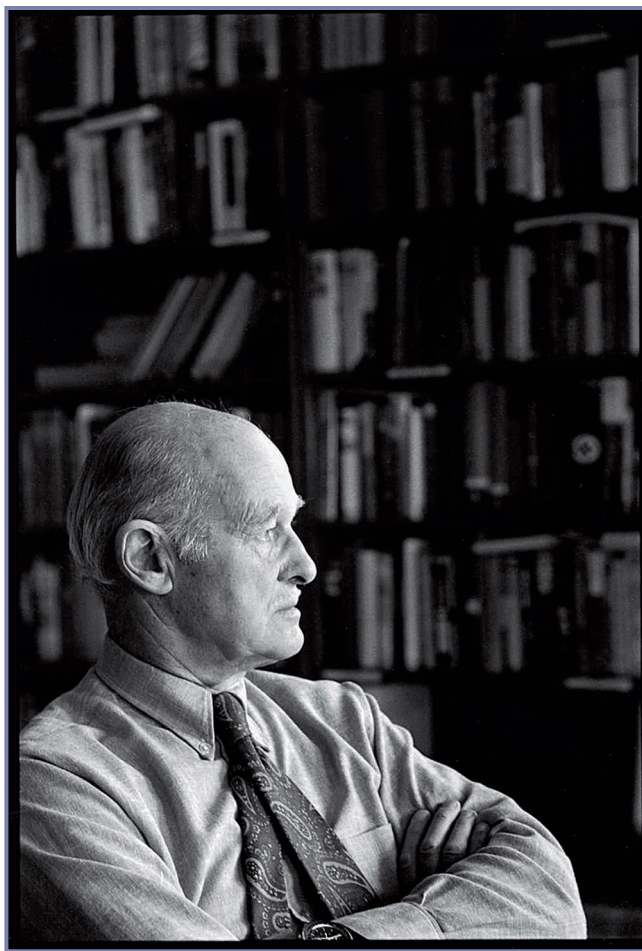
George F. Kennan and the Institute

BY FRANK COSTIGLIOLA

*“True scholars often work in loneliness, compelled to find rewards in the awareness that they have made valuable, even beautiful contributions to the cumulative structure of human knowledge, whether anyone knows it at the time or not.”*¹

These words from George F. Kennan are carved into Elyn Zimmerman’s curved granite and steel sculpture overlooking the pond between Fuld Hall, Kennan’s scholarly home, and the Institute Woods, where he loved to walk. Nearly every phrase of the quotation reflects some aspect of his personality and work. He ranked as a “true scholar,” publishing over twenty books, winning nearly every relevant book prize, and receiving many honorary degrees—all this in a career begun in the second half of his 101-year life. Much of his writing and thinking centered on Russia. “Your gifts are unique in the world,” Isaiah Berlin penned in 1965. “Literary, intellectual, moral, political: *nobody* in the Western world . . . can detect, as you can, the spirit of Russia, the smells of (old) Russia.”²

Despite such acclaim, Kennan spent much of his life, as page after page of his newly opened diary testify, in “loneliness.” In the 1930s–50s, he felt cut off from close association with Russians and with Russian culture because the Kremlin’s secret police restricted contact with foreigners. His yearning had the insistence of a physical need. He wrote of his returning to Russia “like a thirsting man on a stream of clear water.”³ Living in Riga in 1932, he felt immersed in the pre-Revolutionary society of Chekhov’s stories. “I drink it all in, love it intensely, and feel myself for a time an inhabitant of that older Russia.”⁴ Kennan’s loneliness stemmed also from his feeling out of step with the march of power in Washington. Until early 1946 and the circulation of his famous “Long Telegram,” his sounding the alarm about the “Soviet threat” went largely unheeded. There followed three halcyon years in which he became a major player in formulating U.S. policy in the Cold War. By 1949, however, he was growing increasingly uncomfortable with Washington’s focus on military buildup rather than diplomacy that might reduce tensions with Moscow. Despite his service as ambassador to the Soviet Union in 1952, ambassador to Yugoslavia in 1961–63, and as a short-term consultant, Kennan, though still respected, was excluded from Washington’s policy-making circle. Still another aspect of his loneliness arose from his feeling, as he put it in 1988, like “an expatriate in time.”⁵ He felt more in tune with the eighteenth and early nineteenth centuries. He criticized contemporary American society as dangerously atomized, commercialized, and beholden to technology. In a 1955 diary entry, he confided that even his friends did “not know the depth of my estrangement, the depth of my repudiation



George F. Kennan tended toward a melancholy view of life.

of the things [the American public] lives by.”⁶

An organic conservative, Kennan treasured continuity across generations and the community nurtured by small towns. He lamented how the automobile had dispersed the intimate clusters of homes and businesses formerly served by rail lines. What had cohered instead was suburban sprawl, which separated neighbors and destroyed farmland. He rued the loss of human contact when the Princeton telephone system shifted from operator-assisted to self-dialed phone calls. He prized networks of responsibility, whether they linked mutually respectful people in a hierarchy or humans interdependent with their environment.

Inspired by Edward Gibbon, Kennan aimed for literature that was elegant, even “beautiful.” The attention to aesthetics complemented his attunement to the senses and to emotions. Whether writing for his diary or the State Department, he crafted like a playwright. The substance of his political analysis was certainly subtle, discerning, and informed. His most influential writing went further, however, by also delineating moods, personalities, and scenarios. He deployed rhetorical strategies and dramatic tension. Speaking to the P.E.N. club, he endorsed Berlin’s citing of Virginia Woolf’s belief that underlying “the so-called economic and political realities” was the more “genuine” world of individual relations and of the “colors, smells, tastes, sounds, and movements, the jealousies, loves, hatreds, passions, and rare flashes of insight.” Kennan believed that writing history “gracefully and effectively” contributed to the “scientific essence of the exercise.” Graceless writing, moreover, no matter how conscientious, “would tend to die in the libraries.” That was a fate he dreaded. He cared deeply about his audience, about the reach of his pen.⁷

How did this devotion to scholarship and beauty, this susceptibility to loneliness

and concern for audience, play out over six decades at the Institute? In February 1950, J. Robert Oppenheimer,

then Director of the Institute, invited Kennan to become a Member. The latter gratefully accepted, adding, “You have become my intellectual conscience.”⁸ The two men shared respect for the humanities as well as the sciences. They valued rigorous thought expressed with elegant style. They tended toward a melancholy view of life and sometimes gave way to emotion. Each bore some responsibility—Kennan with his dire warning about the Soviets in the Long Telegram, Oppenheimer with his direction of the atomic bomb project—for the darkening of the Cold War. Both deplored this trend and were frustrated in trying to keep it in check.

In 1955, the School of Historical Studies voted unanimously to offer Kennan a Faculty position. Other Faculty members, however, most of them from the School of Mathematics, demurred. The final vote was thirteen to five in favor. Though Kennan would rise to the top in terms of prestige at the Institute—after all, the only other people quoted on the sculpture are Albert Einstein and founder Abraham Flexner—the controversy over his appointment chafed at him. He later confided that a principal reason for the “appalling accumulation of detail” in his first scholarly work, the two-volume, one-thousand-page *Soviet-American Relations, 1917–1920* (1956–58), was to forestall criticism for superficiality from colleagues, particularly those at the Institute.⁹ Two letters of evaluation written at the time of his hiring point to why Kennan’s historical scholarship was controversial. He published *Soviet-American Relations* in part to counter Moscow’s criticism of U.S. intervention in the Russian civil war. Gordon A. Craig, a Professor at Princeton University at the time (and a former Member of the Institute’s School of Historical Studies), wrote that despite Kennan’s brilliance, his “thinking is not the thinking of a professional historian.” He was apt to “stop being the objective historian and slip into the role of the polemicist, arguing the case of 1950 from the circumstances of 1917.”¹⁰ That present-mindedness was what impressed Theodor E. Mommsen of Cornell. “Not many people in this world” were as “profoundly humane” as Kennan, Mommsen declared. He found particularly praiseworthy the man’s “deep sense of moral and civic responsibility.”¹¹ Critics weighed in with their own judgments. In addition to largely rave reviews in the historical journals, *Soviet-American Relations* garnered the Pulitzer Prize, the National Book Award, the Bancroft Prize, and the Francis Parkman Prize for literary distinction in history.

Kennan appreciated that the Institute’s facilities for scholarly work were “unsurpassed anywhere in the world.”¹² He and his wife, Anneliese, loved living in Princeton. Yet he continued to feel a bit out of place. He agonized about his career. Where did he—where should he—position himself on the spectrum between the scholar focused on the past and the man of affairs? He felt attracted and repelled by both poles. His 1957 Reith lectures, which called for negotiations with Moscow to reunify Germany and reduce nuclear weapons, generated enormous buzz when they were broadcast from Oxford by the BBC. In 1958, he wrote Oppenheimer: “Not one person in a hundred who approaches me is in any way interested in my work as an historian.” Instead they saw him either as an irresponsible dreamer or as a rescuer from the Cold War. Kennan felt torn. He prized his privacy. Yet he was also entranced by his audience. He now had “a voice which is listened to by millions of people with interest and respect. . . . There are not so many voices of this sort in our western world today.” He could not abandon those “who have confidence in me.”¹³ Then again, playing a public role could undermine his commitment to the Institute. He had accepted the Faculty appointment with the understanding that, as Oppenheimer had reported to the Trustees, he would “make the business of scholarship his life work.” (The pledge had specifically omitted a “commitment to refuse high political office.”)¹⁴ Kennan worried about losing “the very detachment and disinterestedness” that



Kennan with his family in Princeton

authenticated his voice. Oppenheimer advised him to take his time deciding.

By late 1959, Kennan, encouraged by Robert F. Goheen, President of Princeton University, was contemplating a run for the U.S. Senate. More than ever he felt a “public responsibility” to the “thousands of people” in America, Europe, and Asia, especially young people, “who look to me to do my part” in solving world problems. The Institute now seemed too “isolated a position” from which to address pressing issues. The Director could not, however, keep a Professor waging a political campaign on the payroll. Kennan countered that since joining the Faculty he had produced “a not discreditable record of scholarly work”—enough work to justify his taking off most of 1960 to campaign. Oppenheimer would not relent. The Director probably recalled that the caveat in Kennan’s pledge specified that he would not “refuse” high office. It said nothing about seeking such office. The would-be candidate had no other means to support his family. The larger problem, Kennan emphasized, was that democracy suffered from the limited pool of candidates who could afford to run. “This state of affairs makes me very unhappy,” he told Oppenheimer.¹⁵

The career of a Senator Kennan is fascinating to contemplate. He would likely have tried to bring his scholarly erudition to bear in Senatorial discussion. He would have crafted beautiful speeches. He would have argued for a different approach to the Soviet Union. He would have worked to develop an audience informed about world affairs. But how, one wonders, could he have avoided the inner loneliness and turmoil resulting from the conflict between a public persona acceptable to voters and a private self that “repudiated” much of those voters’ culture?

Kennan never had to merge those personae. Instead,



“Not one person in a hundred who approaches me is in any way interested in my work as an historian,” Kennan wrote in 1958.

for most of the next four decades he stayed at the Institute, where he produced beautifully written, thoroughly researched works of history, volumes of memoirs, and stirring arguments for nuclear disarmament. He negotiated a workable balance between his scholarship and engagement with current affairs. Even so, in his last years he “didn’t find as many connections with the Institute as earlier,” a longtime associate would later recall. “He felt more isolated.”¹⁶ Nevertheless Kennan’s commitment endured. At the Institute’s celebration of his centenary on February 18, 2004, he made only one point in his brief remarks: “I have never regretted” the dedication to scholarship, he said. “I have regarded it as a privilege to consider myself a member of the Faculty of the Institute.”¹⁷ ■

Frank Costigliola, Professor of History at the University of Connecticut, is currently a Member in the School of Historical Studies. During his stay at the Institute, he has finished writing *Lost Alliances: How Personal Politics Helped Win World War II and Form the Early Cold War*. He is now beginning a biography of George F. Kennan.

1. Comments by George F. Kennan at the State Department, October 6, 1994, Kennan papers, box 181, Mudd Library, Princeton University.
2. Berlin to Kennan, September 4, 1965, Kennan papers, box 5, *ibid.* (emphasis in original).
3. Kennan, *Sketches from a Life* (Norton, 1989), 363
4. Kennan, *Memoirs 1925–1950* (Little, Brown and Company, 1967), 190
5. Kennan, *At a Century’s Ending* (Norton, 1996), 31.
6. Kennan diary, October 21, 1955, box 233, Mudd.
7. Kennan, “History as Literature,” *Encounter*, April 1959, 15, 11.
8. Kennan to Oppenheimer, June 5, 1950, Kennan papers, box 37, Mudd.
9. Lee Congdon, *George Kennan: A Writing Life* (ISI Books, 2008), 73–74.
10. Craig to E. L. Woodward, March 18, October 16, 1955, Faculty Series, box 19, Kennan folders, The Shelby White and Leon Levy Archives Center, Institute for Advanced Study.
11. Mommsen to Ernst Kantorowicz, March 17, 1955, *ibid.*
12. Kennan to Martin E. Segal, January 15, 1976, *ibid.*
13. Kennan to Oppenheimer, February 21, 1958, *ibid.*
14. Excerpt from Minutes of the Board of Trustees meeting, November 15, 1955, *ibid.*
15. Kennan to Oppenheimer, December 14, 1959, *ibid.*
16. Author interview, October 22, 2009.
17. Symposium in Honor of George F. Kennan, February 18, 2004, Audiovisual Collection, The Shelby White and Leon Levy Archives Center, Institute for Advanced Study.

Of Historical Note

The following excerpt is from remarks given by John Archibald Wheeler on March 27, 2000, in connection with the play *Copenhagen* by Michael Frayn. Wheeler was a Professor of Physics at Princeton University from 1938 until his retirement in 1976 and a Member of the Institute’s School of Mathematics (prior to the founding of the School of Natural Sciences) in the spring of 1937, when it was still temporarily housed in Fine Hall (now Jones Hall) at Princeton University. Niels Bohr, who had a twenty-year association with the Institute, first visited in the academic year 1938–39, when the Institute completed Fuld Hall. For more about Bohr and his relationship with Albert Einstein, one of the Institute’s first Professors, see the Spring 2009 Institute Letter.

If two such great thinkers as Bohr and Einstein, who had such a high regard for each other, could be brought together for a prolonged period, would not something emerge of great value to all of us? This thought and this hope animated the guiding spirits of the Princeton Institute for Advanced Study to invite Niels Bohr to come as a guest of the Institute for the entire spring semester of 1939. However, four days before Bohr boarded his America-bound ship, he learned from Otto Robert Frisch that Frisch and his aunt Lisa Meitner had solid evidence that a neutron splits the nucleus of uranium. As he crossed the Atlantic, Bohr’s vision turned more and more from the problem of quantum mechanics to the problems of nuclear physics. So January and February, March and April of 1939 saw him working, discussing, calculating, and writing, day after day, not with Einstein on quantum physics as intended, but with me on the nuclear physics of fission. Yes, of course, there were meetings Bohr had with Einstein but they were . . . occasional and did not lead to the big push it takes to formulate a solid well-argued position. No. Fission, and what it meant

SEPTEMBER 1, 1939 PHYSICAL REVIEW VOLUME 56

The Mechanism of Nuclear Fission

NIELS BOHR
University of Copenhagen, Copenhagen, Denmark, and The Institute for Advanced Study, Princeton, New Jersey

AND

JOHN ARCHIBALD WHEELER
Princeton University, Princeton, New Jersey
(Received June 28, 1939)

On the basis of the liquid drop model of atomic nuclei, an account is given of the mechanism of nuclear fission. In particular, conclusions are drawn regarding the variation from nucleus to nucleus of the critical energy required for fission, and regarding the dependence of fission cross section for a given nucleus on energy of the exciting agency. A detailed discussion of the observations is presented on the basis of the theoretical considerations. Theory and experiment fit together in a reasonable way to give a satisfactory picture of nuclear fission.

INTRODUCTION

THE discovery by Fermi and his collaborators that neutrons can be captured by heavy nuclei to form new radioactive isotopes led especially in the case of uranium to the interesting finding of nuclei of higher mass and charge number than hitherto known. The pursuit of these investigations, particularly through the work of Meitner, Hahn, and Strassmann as well as Curie and Savitch, brought to light a number of unsuspected and startling results and finally led Hahn and Strassmann¹ to the discovery that from uranium elements of much smaller atomic weight and charge are also formed.

The new type of nuclear reaction thus discovered was given the name “fission” by Meitner and Frisch,² who on the basis of the liquid drop model of nuclei emphasized the analogy of the process concerned with the division of a fluid sphere into two smaller droplets as the result of a deformation caused by an external disturbance. In this connection they also drew attention to the fact that just for the heaviest nuclei the mutual repulsion of the electrical charges will to a large extent annul the effect of the short range nuclear forces, analogous to that of surface tension, in opposing a change of shape of the nucleus. To produce a critical deformation will therefore require only a comparatively small energy, and by the subsequent division of the nucleus a very large amount of energy will be set free.

¹O. Hahn and F. Strassmann, *Naturwiss.* 27, 11 (1939); see also F. Abelson, *Phys. Rev.* 55, 418 (1939).

²L. Meitner and O. R. Frisch, *Nature* 143, 239 (1939).

Just the enormous energy release in the fission process has, as is well known, made it possible to observe these processes directly, partly by the great ionizing power of the nuclear fragments, first observed by Frisch³ and shortly afterwards independently by a number of others, partly by the penetrating power of these fragments which allows in the most efficient way the separation from the uranium of the new nuclei formed by the fission.⁴ These products are above all characterized by their specific beta-ray activities which allow their chemical and spectrographic identification. In addition, however, it has been found that the fission process is accompanied by an emission of neutrons, some of which seem to be directly associated with the fission, others associated with the subsequent beta-ray transformations of the nuclear fragments.

In accordance with the general picture of nuclear reactions developed in the course of the last few years, we must assume that any nuclear transformation initiated by collisions or irradiation takes place in two steps, of which the first is the formation of a highly excited compound nucleus with a comparatively long lifetime, while

³O. R. Frisch, *Nature* 143, 276 (1939); G. K. Green and Luis W. Alvarez, *Phys. Rev.* 55, 417 (1939); R. D. Fowler and R. W. Dodson, *Phys. Rev.* 55, 418 (1939); R. B. Roberts, R. C. Meyer and L. R. Haislip, *Phys. Rev.* 55, 417 (1939); W. Jentschke and E. Prankl, *Naturwiss.* 27, 134 (1939); H. L. Anderson, E. T. Booth, L. R. Dunstun, E. Fermi, G. N. Glasoe and F. G. Slack, *Phys. Rev.* 55, 511 (1939).

⁴F. Joliot, *Comptes rendus* 208, 341 (1939); L. Meitner and O. R. Frisch, *Nature* 143, 471 (1939); H. L. Anderson, E. T. Booth, J. R. Dunstun, E. Fermi, G. N. Glasoe and F. G. Slack, *Phys. Rev.* 55, 511 (1939).

426

and how it differed from one nucleus to another, and what those differences offered in the way of using the nucleus for a chain reaction stood at the center of our attention. . . .

Close to us were our two Hungarian colleagues, Eugene Wigner and Leo Szilard, who had talked together confidentially many times of the possibility of arranging a nuclear chain reaction. On March 15, 1939, these hopes of theirs came to expression. On that day Bohr and I had a long meeting with Szilard and Wigner in the next-door office of Wigner (which had been the office of Einstein until, a few weeks earlier, Einstein moved to the new building of the Institute for Advanced Study).

Only a few days before, Bohr and I concluded that the fission observed in natural uranium originates in the rare constituent, Uranium-235, not in the 139 times more abundant U-238. “Then separate out the U-235” said Szilard, “and use it to make atomic bombs.” “That would be conceivable” Bohr replied. “But it would be an enormous enterprise. To carry it through would require the entire efforts of a nation.” Ultimately, it was to take the efforts of three nations, Britain, Canada, and the United States.

With discussions as passionate and fateful as those regarding fission going on, it is no wonder that the world lost forever equally passionate and fateful discussions on the quantum between Bohr and Einstein.

By May of 1939 Bohr was back in Denmark, despite the looming threat of war. . . . The paper by Bohr and me on the mechanism of nuclear fission appeared in the *Physical Review* of September 1, 1939, the same day the war began. ■

Mathematical Sciences Investigation (MSI): The Anatomy of Integers and Permutations

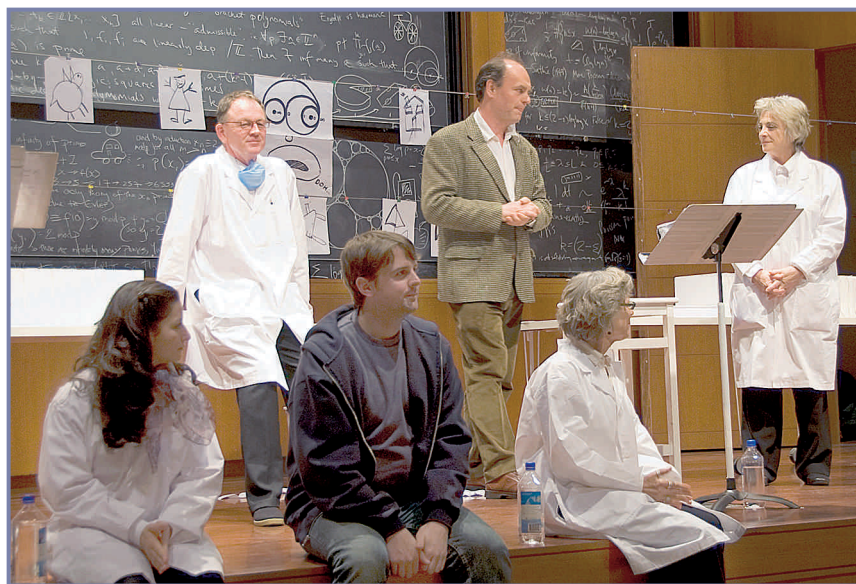
BY ANDREW GRANVILLE

Andrew Granville, a Member in the School of Mathematics, describes the origins and making of an experimental work that blurred the boundaries between pure mathematics, film, and live performance. It premiered in Wolfensohn Hall on December 12.

Mathematics involves a rich language, invoking precise definitions that deter most people who are not well-trained in its subtleties. Although there is a fine tradition of “popularizations,” these are always subject to the dilemma that writing at too high a level discourages readership and at too low a level does not do justice to the material. The question remains as to how to disseminate high-level mathematics to a wider audience. When my latest idea for an expository article took shape, I wondered whether it could be presented in a nontraditional way to attract a different, wider audience.

The mathematics I was interested in explaining involved the underlying composition of two central mathematical objects, integers and permutations, and the surprising revelation that in many ways their structure seems very similar—so similar, in fact, that they are almost identical. This reminded me of an episode of the TV series *CSI: Crime Scene Investigation* in which two different-looking people proved to be twins. Autopsies yielded the crucial evidence; why not construct a similar revelation from autopsies of integers and permutations? We set out to create a fantasy world that would slowly reveal various mathematical properties, just as evidence is slowly revealed in *CSI*.

Could just-out-of-reach *mathematical* ideas and an allegorical story explaining the mathematics hold an audience’s interest? Certainly, the characters would need to be compelling. Fortunately, mathematical history has no shortage of interesting characters: Karl Friedrich Gauss, Sophie Germain, John von Neumann, Alexander Grothendieck . . . By incorporating some of their history, other issues could be addressed—how mathematicians



Andrew Granville (standing, center) takes questions from the audience after the premiere of *Mathematical Sciences Investigation* in Wolfensohn Hall.

work together; student-teacher as well as peer relationships; the role of women in mathematics today; and mathematics as structure-building research vs. problem-based investigation.

I approached my sister, who is a screenwriter, for help. She wove my ideas into a storyline, never cutting the mathematics, but asking me to shape it to different situations. Our first draft of *Mathematical Sciences Investigation* was critiqued by other mathematicians who enjoy writing expository mathematics, and duly revised. We then wanted to see how it would work as a live reading by professional actors in front of a mathematical audience. I ran the idea by Peter Sarnak, a Professor in the School of Mathematics, and Peter Goddard, the Director of the Institute, who kindly agreed to host the reading in Wolfensohn Hall.

For the performance, we needed some visual language, short of making a movie! Michael Spencer, Director of Performance Design and Practice at Central St Martin’s College of Art and Design in London, brought a distinctive vision to our script. He suggested the use of paper corpses to represent the research—thus the autopsies

would literally reveal the mathematics.

Robert Schneider, the lead singer and composer for the band *The Apples in Stereo* and a keen amateur mathematician, composed an original score for *MSI* that he performed live along with clarinetist Alex Kontorovich, a Member in the School of Mathematics, and cellist Heather McIntosh. The instruments played four different measures—at the second, third, fifth, and seventh beats—all primes. The missing beats were at eleven, thirteen . . . exactly the primes between ten and fifty, thus turning the Sieve of Eratosthenes into haunting music.

Six actors from New York City read our screenplay, after working with us for just one day. They did remarkably well with so much technical language, so many difficult names to navigate, and sounding as if they knew what they were talking about!

We were delighted by the positive response at the post-performance question-and-answer session and at the reception. We are now revising the script to prepare for other performances over the coming year, which will take *MSI* to a wider mathematical audience, and are working on a related graphic novel for Princeton University Press. ■

Andrew Granville is Canada Research Chair in Number Theory and Professor at the Université de Montréal. In 2008, Granville and K. Soundararajan (a Member in the School of Mathematics) re-proved the fundamental “Deuring-Heilbronn phenomenon” by showing that “pretentious characters are repulsive.” A mathematical object is pretentious, according to Granville, if it masquerades as something it is not. During their fall semester at the Institute, Granville and Soundararajan established that most of the basic material in analytic number theory can be understood by restricting pretentiousness, rather than by restricting the locations of putative zeros of “L-functions,” the technique that has dominated the field since Riemann’s seminal paper of 1859.

NEUGEBAUER (Continued from page 3)

In 1945, he and his collaborator Abraham Sachs were invited by Hermann Weyl to spend the year as Members of the School of Mathematics at the Institute. This was the beginning of Neugebauer’s long association with the Institute. He returned as a Member for the second semester of the 1949–50 academic year, then was offered a five-year membership beginning in 1950–51. Duties at Brown prevented him from accepting fully, but he made arrangements to be at the Institute “for one term every second year.” In later years, he was in residence a great deal more often than the original agreement. While he retired from Brown in 1969, he held a permanent appointment at the Institute from 1980 until his death. Unusually, he was active in three schools, the School of Mathematics, the School of Humanistic Studies (later Historical Studies), and the School of Natural Sciences, during his long affiliation with the Institute.

Neugebauer was a prolific writer, and published on a range of topics, including Babylonian mathematics, medieval astronomy, and chronology. Among his books were the three-volume *A History of Ancient Mathematical Astronomy* (1975), the three-volume *Astronomical Cuneiform Texts* (1955), and *The Exact Sciences in Antiquity* (1951, with a second edition in 1957). Near the end of his career his notes on Copernicus’s *De Revolutionibus* were published in collaboration with Noel Swerdlow. He received many awards and honors, including the Balzan Prize (1986) and the Franklin Medal of the American Philosophical Society (1987). ■

KAYSEN (Continued from page 2)

Emeritus. The School remains dedicated to the analysis of societies and social change, and is devoted to a multidisciplinary, comparative, and international approach to social research.

Kaysen’s leadership endowed the School “both financially and intellectually,” said Joan Wallach Scott, Harold F. Linder Professor in the School of Social Science. “He sustained it through the institutional conflicts its founding provoked. The long and rich history of the School is one of his most important legacies for the Institute.”

During his tenure, Kaysen sought to strengthen the Institute’s financial standing and independence and increased its endowment by \$8 million. Major improvements were made to the Institute’s campus during Kaysen’s tenure, including the construction of the Dining Hall, which continues to serve as an important daily gathering place for the entire Institute community, and West Building, which houses the School of Social Science and scholars affiliated with the School of Historical Studies. While Director, Kaysen served as a Professor in the School of Historical Studies from 1966–73 before becoming Professor in the School of Social Science.

Kaysen is survived by his wife, Ruth Butler, his daughters Susanna and Jesse, and his sister Flora Penaranda. ■

Centennial Council

In May, James and Elaine Wolfensohn will host the next event for the Centennial Council, the Institute’s most generous donors. The program will be organized by Didier Fassin, the James D. Wolfensohn Professor in the Institute’s School of Social Science. Fassin and other experts in the area of global health will participate in a panel discussion on the theoretical and practical approaches to some of the pressing issues in the field. The Centennial Council’s most recent event, a discussion on “Financial Crisis, Recession, and Recovery,” was hosted by Institute Trustee James Simons and his wife Marilyn Simons in their New York City home last October. In addition to James Simons, panelists included Robert Engle of New York University and Eric S. Maskin, Albert O. Hirschman Professor in the School of Social Science, both Nobel Prize-winning economists, and Institute Trustee Roger Ferguson, President and Chief Executive Officer of TIAA-CREF. Members of the Centennial Council provide major operating and endowment support for the Institute, essential to maintaining its academic independence and the sustained focus on groundbreaking research that has defined it since its beginnings. For information on becoming a member of the Centennial Council, please contact Catie Newcombe, Senior Development Officer, at (609) 951-4542 or cnewcombe@ias.edu.

LEAD POISONING (Continued from page 1)

put the flakes of old paint falling off the walls of their dilapidated flat in his mouth. The little boy was administered a chelator, i.e., a substance facilitating the elimination of lead from the blood, although not from the organs where it had accumulated, and as his condition apparently improved, he was sent home, where he probably continued inadvertently poisoning himself, if not by ingesting flakes, by inhaling the toxic dust. In their discussion of the case, the authors indicated that, contrary to what had been observed in North America, lead poisoning in children was “exceptional” in France: only ten cases had been recorded in twenty-five years.

In 1999, however, a report written by experts from the French National Institute for Health and Medical Research (INSERM) proposed quite a different picture: based on epidemiological studies conducted in France, an estimated 85,000 children were victims of lead poisoning, that is almost 2 percent of the age group; the disease was referred to as a “silent epidemic” and programs to combat it were declared a “national priority”; large-scale screening of low-income families living in aging housing was recommended and measures to renovate dwellings were proposed at a cost of approximately \$5 billion.

Let us examine these two published accounts. In less than two decades, lead poisoning in children has evolved from an exceptional disease ignored by most pediatricians to an epidemic now regarded as a priority. Does this change reflect a massive propagation of lead in older housing? Has the proportion of children affected dramatically increased? Actually, it is exactly the opposite: the number of contaminated homes has diminished (many have been destroyed and white lead has not been used for half a century) and doctors hardly ever encounter children with high lead concentrations in their blood (severe cases such as Mammars’ have disappeared). So, how can we explain this evolution? It is not the biological reality that has changed, but the way it is viewed. Not so long ago, lead poisoning was a medical condition with hematological, digestive, and above all neurological disorders; individuals were diagnosed via X-rays and blood tests; they eventually received palliative drugs and were sent home. Now, lead poisoning is seen as an epidemiological fact analyzed in terms of prevalence rates and risk factors, as opposed to symptoms and signs; populations are screened on the basis of where they live rather than what they suffer from; prevention is preferred to treatment.

One way to interpret this change is to view it as the discovery of a fact that had been overlooked: children suffered from lead poisoning in the past but were not identified. This is actually part of the story. In 1985, a little girl was diagnosed with lead poisoning in a Paris hospital. Instead of routinely releasing her after she had received the palliative treatment, however, a social worker investigated her living conditions. Initially skeptical, local public health specialists were prodded to conduct a small study of the decaying building where she resided with other immigrant families in squalid conditions. They found high lead concentrations in the blood of several children and in the paint on the walls. Convinced by this unexpected evidence, they informed the public health department of a university of their findings and together they launched a screening program in facilities for mother and child health care. By 1990, 1,500 cases of lead poisoning in children had thus been diagnosed. The epidemic was born. Three factors had made this discovery possible. First, new actors were mobilized: public health specialists rather than clinicians, social workers as well as doctors, and subsequently town-planners and policy-makers. Second, new tools were used: epidemiological studies and statistical analyses, prevalence rates and odds-ratios, instead of clinical examination, radiological

explorations, and interviews with parents and inquiries into children’s behavior. Third, a new approach was formed: one of prevention rather than treatment, in which populations at risk were considered rather than individuals suffering from a disease. In sum, a new culture emerged, part of a larger picture in which public health as a mode of thinking and acting slowly—and belatedly—was developing in France, a country where the medical profession has long been disinclined toward social medicine. But the discovery of these previously undiagnosed children is not the sole explanation for the dramatic evolution of lead poisoning from an “exceptional disease” to a “silent epidemic.”

A second factor has to be taken into account: how lead poisoning in children was reinvented. When it was still a disease occasionally seen by pediatricians, i.e., when symptoms alone admitted young patients to the hospital, lead poisoning was defined by very high lead concentrations in the blood. In the early 1980s, medical literature often considered 35 or even 45 $\mu\text{g}/\text{dl}$ as the pathological threshold: beyond it, one could see encephalopathy. But in fact, international epidemiological studies had identified adverse consequences at lower concentrations. The first investigation conducted



It took years for doctors in France to accept a political-economic explanation for the considerably higher prevalence of lead poisoning in children of African descent.

in the Parisian building therefore used 25 $\mu\text{g}/\text{dl}$ as its norm. The second survey subsequently carried out in the mother and child health care units considered 15 $\mu\text{g}/\text{dl}$ as the acceptable limit. Finally, the INSERM report was based on concentrations above 10 $\mu\text{g}/\text{dl}$. Obviously, this decreasing threshold had the statistical effect of increasing the number of poisoned children. Public health

The ten initially recorded patients suffered from a confirmed clinical condition, whereas the 85,000 estimated cases today correspond to a potential social condition. Thus, not only was lead poisoning in children discovered, it was reinvented.

specialists found many more cases but of a much less serious nature than medical doctors had previously. In so doing, the meaning of lead poisoning changed completely. It used to be a severe disease with neurological disorders sometimes leading to death (all cases had clinical symptoms). It was now evaluated in terms of an increased risk of developing learning disabilities (only some have significant difficulties at school).

The work of Didier Fassin, James D. Wolfensohn Professor in the School of Social Science, is situated at the intersection of the theoretical and ethnographic foundations of the main areas of anthropology—social, cultural, political, medical. Trained as a medical doctor, Fassin has conducted field studies in Senegal, Ecuador, South Africa, and France, leading to publications that have illuminated important aspects of the AIDS epidemic, social inequalities in health, and the changing landscape of global health. He recently turned to a new area that he calls “critical moral anthropology.” He argues that morality should be treated as a legitimate object of study for anthropologists and analyzed in its political contexts. From this perspective, his work has been concerned with the “politics of compassion,” namely, the various ways in which inequality has been redefined as “suffering,” violence reformulated as “trauma,” and military interventions qualified as “humanitarian.”

What was once a pathology had become a probability. Recently epidemiologists even made lead responsible for children’s delinquency—again in a statistical sense, meaning that those with blood concentrations even slightly above 10 $\mu\text{g}/\text{dl}$ were more likely to develop “antisocial behaviors.” In other words, the ten initially recorded patients suffered from a confirmed clinical condition, whereas the 85,000 estimated cases today correspond to a potential social condition. Thus, not only was lead poisoning in children discovered, it was reinvented. This is how the epidemic came into being.

This story is not just about lead poisoning: it has important implications for our understanding of health problems. Too often we consider diseases as mere natural facts. When thinking this way, we elude the social work of actors who permanently redefine the boundary between “the normal and the pathological,” to paraphrase Georges Canguilhem. This concept is not only true of mental illnesses, for which it is well known, but also of somatic conditions: health problems are not pure biological entities; they are also complex social constructions.

Epilogue. In 1981, nobody took note of the fact that Mammars’ parents were Africans. Ten years later, however, as the epidemic swelled, it appeared that this characteristic was true of 99 percent of severe cases. Why would children diagnosed with lead poisoning be almost exclusively Africans? The initial answer was culturally based—doctors suspected traditional healing practices, the use of craft pottery, and women’s eye shadows. When it became clear that lead paint was the cause, they proposed a cultural form of geophagy, suggesting that African mothers had an idiosyncratic tolerance toward their children’s consumption of paint flakes. It took doctors years to admit this mundane reality: African families were part of the last waves of immigration, as borders started to close; during that same period, social projects became a scarce resource and these last immigrants, who also belonged to the lower classes, were housed in the most dilapidated buildings. This is how their children got lead poisoning. Instead of an exotic cultural explanation, one had to accept a political-economic interpretation, as the United States had acknowledged a few decades earlier, to account for the considerably higher prevalence of the disease in African-American neighborhoods. A final lesson that lead poisoning teaches us: health problems are not only socially construed, through statistics and studies; they are also socially produced, as the result of inequalities and policies. ■

Beyond the Formalist-Realist Divide: Exposing a Legal Myth

BY BRIAN Z. TAMANAHA

According to the conventional account, American lawyers and judges from the 1870s through the 1920s believed in “legal formalism”—that law is a comprehensive and logically ordered body of rules and principles, and judges mechanically deduce the correct answer in cases. In the 1920s and 1930s, the long-assumed narrative goes, legal realists destroyed the prevailing formalist view of judging by demonstrating that law is filled with gaps, uncertainties, and inconsistent precedents; they argued that judges decide cases based on their personal preferences and work backward to find legal justifications for their decisions.

My professors taught me this version of events and, in turn, I have taught my students the same. This narrative is not just a quaint historical account—it structures contemporary debates about judging among legal theorists as well as quantitative research on judging by political scientists.

Modern search technology helped me stumble onto a discovery that overturned this fundamental notion about judging in the United States. When fooling around one afternoon to familiarize myself with the search mechanism of a legal database, I input the phrase “judicial legislation” (prior to 1900), not expecting to find much. According to the conventional account, it was an article of faith during the formalist age that judges do not legislate—they merely interpret and apply preexisting law.

Nearly four hundred documents were flagged by the search, a startlingly large number. But the real surprise came next. “We all know judges legislate”—jumped out of the second or third document I examined, published in the 1870s. Then I came across this stunning 1881 passage: “It is useless for judges to quote a score of cases from the digest to sustain almost every sentence, when everyone knows that another score might be collected to support the opposite ruling.” This consummately realistic observation was uttered in the heart of the formalist age, when everyone purportedly believed that judges

mechanically deduce answers from a logically coherent body of law.

After thirty minutes of near frenzy, checking one document after another, I suspected that the conventional narrative was flawed. Two weeks of obsessive searching later, I knew it was flat wrong. It took me a year of research in residence at the Institute to fully comprehend the events that gave rise to this false story, how it took hold, and its distorting consequences for later generations.

Throughout the so-called formalist age, it turns out, many prominent judges and jurists acknowledged that

This now-dominant formalist-realist divide, in hindsight, appears shockingly lacking in substance.

there were gaps and uncertainties in the law and that judges must sometimes make choices. The period was marked by a severe economic depression and raging social and political conflict, especially between capital and labor, conflict that played out in courts. Progressive critics castigated judges for deciding cases in a logically blinkered fashion, erecting barriers against necessary legal reforms.

This charge of blind judicial formalism was embellished by the legal realists, who were critical of courts in the 1930s, and the image was repeatedly invoked by subsequent generations to serve as the exemplar of judicial folly. Reinforced by repetition over the course of decades, the political impetus behind the original charge faded from view and the story about the formalist age became a firmly entrenched verity within our legal culture. The legal formalists and legal realists, moreover, entered the standard textbook as contrasting extremes, a pairing of opposites that painted the legal realists, incorrectly, as radical skeptics of judging.

Debates about judging in the United States have been distorted for decades by this formalist-realist

antithesis: either judging involves the objective application of legal rules with no discretion (formalism) or judicial decisions are determined by the subjective preferences of individual judges (realism).

The continuing impact of this antithesis is evident during Senate confirmation hearings when judicial nominees for the Supreme Court ritually intone that they decide cases purely based upon the law, denying that their personal views have an impact. This is false—a measurable proportion of Supreme Courts cases are legally open to more than one answer—but prudent to assert. The admission that personal views sometimes (inevitably) come into play in legal decisions would expose a nominee to the accusation of improper politics. Stuck in this formalist-realist divide, we oscillate from one extreme to the other.

This now-dominant formalist-realist divide, in hindsight, appears shockingly lacking in substance. It was a politically inspired story repeated innumerable times, given credibility by a string of citations to authoritative figures, resting on a wobbly, unsupported set of thin legs.

This is an unsettling image for anyone who believes, as I do, that scholars must strive to produce histories and theories that fit the facts without distortion. This is not the naïve assertion that the political views of scholars do not matter, but an insistence that this political bent be disciplined by a commitment to be true to the evidence (the same is asked of judges with respect to their legal decisions). The enterprise of knowledge production depends on adherence to these commitments. If the standard account of the formalists and the realists is as comprehensively flawed as I believe it is, in this instance our collective construction of knowledge went spectacularly amiss. ■

Brian Z. Tamanaha, Professor of Law at Washington University School of Law, is the author of Beyond the Formalist-Realist Divide: The Role of Politics in Judging (Princeton University Press, 2010), which he wrote while a Member in the School of Social Science in 2007–08.

Friends Rise to Chooljian Challenge

Earlier this year, the Friends of the Institute for Advanced Study were presented with an extraordinary opportunity to raise additional funds in support of the Institute. Martin Chooljian, Trustee of the Institute, and his wife Helen, Friends since 1992, issued a challenge to the Friends, whose annual gifts provide the Institute with its greatest source of unrestricted income. The Chooljians promised to match the increase in any gift by a current Friend and to match every gift by a new Friend, up to a total of \$100,000. The Friends were motivated by this challenge and have been extremely generous in response, with over \$98,000 qualifying for matching funds to date.

Thirty-one Friends have made a larger contribution this year than they did last year, and when added together, those increases total more than \$52,000. Additionally, thirty new Friends have joined the Institute in 2009–10, with contributions by these new Friends totaling \$46,000. Both amounts will be matched dollar for dollar by the Chooljians.

Carolyn Sanderson, Vice Chair of the Friends and Chair of the Membership Committee, is delighted by the results. “We deeply appreciate the response to this challenge by current Friends and we are especially pleased to welcome so many new Friends, whose membership contributions mean even more this year,” noted Sanderson. “As Friends, we believe deeply in the mission and vision of the Institute. There is faith that the work and study that takes place here will produce significant results in ways that we may not or cannot fully understand today. The freedom that the Faculty and Members have to pursue their research independently and in a superlative location, surrounded by an international cadre of scholars, is a remarkable legacy of those who have come before us. I would argue that it is our duty to continue to protect it, and that is what the Friends so generously do.”

For information on increasing your contribution or becoming a Friend of the Institute, contact Pamela Hughes, Senior Development Officer, at (609) 734-8204 or phughes@ias.edu. Additional information is also available at www.ias.edu/people/friends.



Sheila Hicks Tapestry Installed in Renwick Gallery

The Smithsonian American Art Museum has acquired a tapestry by Sheila Hicks, *The Silk Rainforest*, which is the complement of the tapestry donated in 2008 to the Institute for Advanced Study by Bob and Lynn Johnston (pictured above, left, with Curator Nicholas R. Bell in the Smithsonian's Renwick Gallery). Both tapestries were donated by the Johnstons, who are Friends of the Institute, through their foundation Educational Ventures, Inc. The *Silk Rainforest* is installed in the permanent collection galleries at the Museum's Renwick Gallery; for more information, visit <http://americanart.si.edu/collections/acquisitions/#hicks>. Hicks wrote about the Institute's tapestry, which is installed in the Dining Hall, for the Summer 2008 issue of the Institute Letter.

Extending the Gift of Scholarship Across Generations



Klaus-Dietrich Fischer

Klaus-Dietrich Fischer was a Member in the School of Historical Studies in spring 2009, coming to the Institute from his position as Professor of History of Medicine at Johannes Gutenberg Universität in Mainz, Germany. As his term drew to a close, Fischer spoke of the unique qualities of the Institute that made his time here so productive: the quiet environment, excellent facilities and staff support, and opportunities for intellectual exchange with colleagues from around the world.

He also began to see his experience in a new way. He writes, "My stay at the Institute in 2009—of more than seven months—helped me to understand and relate to some aspects of American life I had not really been aware of before. One of them is the culture of philanthropy: giving support to things that mean a lot to you, that you enjoy or have enjoyed, and that you wish others to benefit from as well. In this regard, the Institute for Advanced Study is high on my list." With these thoughts in mind, Fischer established a Charitable Gift Annuity that will ultimately benefit the School of Historical Studies endowment. Fischer continues, "It was a pleasure for me to be in a position to make a gift to the Institute, as a token of my appreciation and with a view to helping, in a small way, with the Institute's mission." ■

A CHARITABLE GIFT ANNUITY (CGA) is a popular philanthropic strategy because of its many benefits and the ease with which it can be established. A CGA is a simple contract between the donor and the grantor (such as the Institute for Advanced Study), in which the donor makes a gift in exchange for a stream of annuity payments to one or two individuals during their lifetimes. Donors can establish annuities for themselves and/or a spouse, for their parents, or to support a relative or a friend. Donors can elect to begin receiving annuity payments immediately or defer payments to a later date.

Individual annuity rates, which range from 5 percent to 9.5 percent depending on the annuitant's age, will be higher if the gift is made now and the payments are deferred. Donors are eligible for an immediate charitable income-tax deduction and capital-gains tax deferral if the annuity is funded with appreciated assets such as stock. In addition, a portion of each annuity payment is tax-exempt.

The Institute is qualified to grant CGAs in New Jersey and in many other states. An irrevocable gift of at least \$10,000 is required to establish a charitable gift annuity, and the annuitant must be at least sixty years old when income payments begin. To explore how a CGA might work for you, please contact Catie Newcombe, Senior Development Officer, at (609)951-4542 or cnewcombe@ias.edu. If you wish to calculate payments yourself, access the [Planned Giving Calculator](http://www.ias.edu/support/planned-gifts) at www.ias.edu/support/planned-gifts. All calculations are anonymous unless you indicate you wish to be contacted.

Writers' Conversations at IAS From Steve Bodow to Vincent and Alex Katz



CHRISTINE FERRARA



CHRISTINE FERRARA

This year, Artist-in-Residence Derek Bermel introduced a series of Writers' Conversations at the Institute. In November, Steve Bodow, head writer and supervising producer of *The Daily Show* with Jon Stewart (pictured with Bermel, top) spoke with Bermel about how the Comedy Central television show has been dealing with the news and news media since President Obama's election and the comedic challenges posed by the presidential transition. In February, Bermel discussed artistic experiences and collaboration with painter Alex Katz and his son, writer Vincent Katz, (pictured with Bermel, bottom) who have been involved in numerous collaborative projects with poets, artists, and choreographers.

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Carl Kayesen 1920-2010

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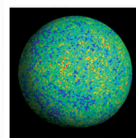
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A Community of Scholars

A list of current and former scholars associated with the Institute for Advanced Study is now available. Please [click here](#) to access a record of the Institute's community of scholars from our founding in 1930 to today.



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The Institute for Advanced Study's website, which was redesigned last fall, is constantly evolving as a resource for video lectures by Faculty and Members as well as information about the Institute's academic life, events, community, and history.

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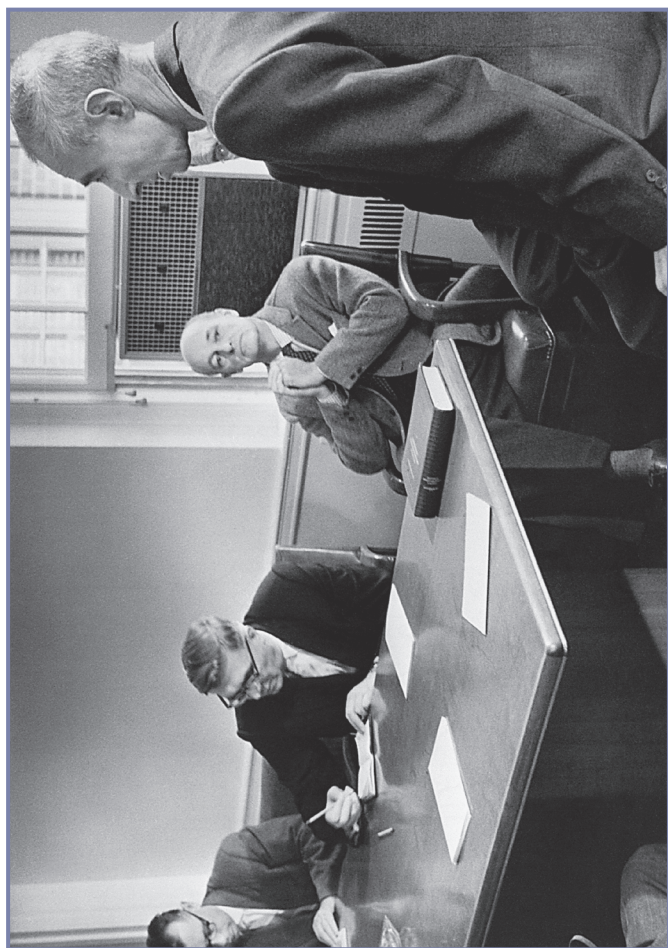
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IAS The Institute Letter

Spring 2010



On November 20, 1958, J. Robert Oppenheimer (right), Director (1947–66) of the Institute for Advanced Study, and George F. Kennan (center), then Professor in the School of Historical Studies and former Ambassador to Russia, conferred with nine Soviet educators who were on a five-week stay in the United States. At left is Aleksei I. Markushевич, editor of the Russian pedagogical encyclopedia and head of the delegation. The book on the table is an autographed copy of Markushевич's volume on the theory of analytic functions, which he presented to Oppenheimer. The conference, which was held in Oppenheimer's office, was principally to acquaint the Soviets with the operation of the Institute.

At the time the photograph was taken, Kennan was writing his two-volume, one-thousand-page *Soviet-American Relations, 1917–1920*. Kennan's long connection with the Institute began with an invitation from Oppenheimer to come to the Institute as a Visitor in 1950; he was appointed to the Faculty in 1956. In this issue (see page 6), Frank Costigliola, a Member in the School of Historical Studies who is working on a biography of Kennan, writes about how the Institute permitted Kennan the time for study and reflection that allowed him to negotiate "a workable balance between his scholarship and engagement with current affairs," although not without some internal strife.

Tom between his obligations to scholarly endeavors and to discussions of current events, Kennan turned to Oppenheimer for advice in 1958 when Kennan was still at Oxford, having recently delivered his Reith lectures in which he called for negotiations with Moscow to reunify Germany and reduce nuclear weapons. Oppenheimer replied, "If the Institute is to mean what it can to you, it must surely mean that you are free to return here with no clear notion of what you will do next, and with the confidence that here you will find, in terms of the years that you have spent here, and perhaps with some help from us, a gradual settling of the issues."

IAS

The Institute Letter

Spring 2010

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