The special committee of the General Faculty to prepare a memorial resolution for Melvin J. Hinich, professor, government, has filed with the secretary of the General Faculty the following report.

Sue Alexander Greninger, Secretary
General Faculty and Faculty Council

IN MEMORIAM
MELVIN J. HINICH

Melvin J. Hinich, professor of political science and economics at The University of Texas at Austin and Mike Hogg Professor of Local Government, died in a tragic fall the evening of September 6, 2010.

Mel Hinich achieved an international reputation in four academic disciplines: political science, economics, engineering, and statistics. He published path-breaking contributions in seven books and more than four hundred journal articles, ranging over forty years, with an endless energy for work and a child-like curiosity about the science of almost everything. His scholarship blended technical virtuosity, theoretical depth, interdisciplinary sweep, and a keen eye for the main chance in terms of substantive importance.

But Mel was not simply a bright, but easily distracted, scholar with many interests. Rather, he was a scientist, a scholar who found most problems interesting, and he was capable of making connections across fields, because so many problems share a deep logical and mathematical structure.

Mel received a B.S. and M.S. degree in mathematics from the Carnegie Institute of Technology in 1959 and 1960, respectively. He earned his Ph.D. in statistics at Stanford University in 1963, working under Dr. Herman Chernoff. His thesis project involved the problem of estimating the properties of a recurring, but unknown, waveform in Gaussian data and proved useful enough to have the central theoretical result serve as the basis for a variety of civilian and military applications in signal processing.

Professor Hinich began his academic career at the Graduate School of Industrial Administration at Carnegie Institute of Technology in September 1963. He then circulated among academic teaching and research posts and stints in settings where he could apply his knowledge to industrial and governmental uses. He held positions at the Bell Laboratories, the Columbia University-Hudson Laboratories, the Center for Naval Analyses, and the Naval Coastal Systems Center. His academic appointments have been at Carnegie Mellon University in the Graduate School of Industrial Administration, the School of Urban and Public Affairs, and in the Department of Statistics. He moved to the Virginia Polytechnic Institute as professor of economics in 1974 and on to The University of Texas at Austin as professor of government and economics in 1983. He also served as research professor in the Applied Research Laboratories at UT Austin, a position he loved because he was in close contact with scholars from different disciplines.

Mel’s impact is easily illustrated both quantitatively and qualitatively. His work has been cited more than five thousand times in the professional literature, with twenty different papers and books in economics, political science, signal processing, and statistics, all having received more than one hundred references. No one paper and, in fact, no one disciplinary contribution is the “main” result. Mel’s contributions were broad and deep.

Qualitatively, Mel’s colleagues recognized his work by naming him to numerous honors and memberships in honorary societies. He was named Fellow of the Institute of Mathematical Statistics in 1973, appointed the Sherman-Fairchild Distinguished Scholar at the California Institute of Technology in 1975, named a Fellow of the Public Choice Society in 1988, elected president of that society in 1992, and named a Fellow of the American Statistical Association in 2002. Most recently, in 2008, Mel was named one of the twenty-one
original fellows of the Society for Political Methodology. Mel’s scientific contributions were so sweeping that we can only summarize them briefly. In political science, Mel made seminal contributions to the use of spatial analysis in analyzing politics and public policy. In collaboration with economist Otto A. Davis, he formalized a general model of the spatial theory of voting and elections. Although earlier researchers qualitatively identified the perspectives of that model, it was Mel’s conviction that if a model or idea was to yield scientifically testable propositions, it required formalization. Today, thanks to that effort, spatial voting choice theory occupies a role in political science that is as central as consumer choice is in economics.

Mel, however, didn’t formalize for the sake of displaying his considerable mathematical talents. What made him unusual was his insistence on staying close to the data in modeling exercises. He had scant patience with top-down modelers who had little appreciation for the data that Mel thought was required to give flesh and blood to the bones of an abstract model. No model was right, wrong, or beautiful to Mel; the only criterion was whether or not it was useful. And utility to Mel meant one thing: did it lead to further insights and more interesting work.

As the methods field splintered into “theory modelers” and “statistical modelers,” Mel resolutely bridged the gap and continued to use formal models as a way of understanding data and the underlying processes of politics. As a consequence, his work exhibited careful attention to the methods of statistical analysis and deftness in applying these skills to the analysis of empirical data. In a field often admired for its abstract models and arcane mathematics, but condemned for its failure to connect to the real world, Mel had a special talent for linking theories to data. He was not only a pioneer of the spatial choice revolution, he remained one of the most productive and innovative members of the field.

The Spatial Theory of Electoral Competition

Hinich was not merely one of the central figures in the early development of “spatial theory,” he was the central figure, the nexus of all of the important early collaborations. Spatial theory is a predictive and descriptive model based on the premise that the actors being studied prefer policies “closer” to their own goals and principles. Mel’s initial contribution here was the construction of mathematically explicit, empirically focused models. Mel had little interest in producing an endless series of disconnected mathematically elegant papers that lengthened one’s vita, but offered nothing but empirically vacuous technical reformulations, doing little to advance his clear understanding of science. His core motivation was to develop a science of politics and to give its study an empirically connected theoretically grounded base.

The Davis-Hinich collaboration on the development of the multidimensional spatial theory of the electoral process uses a conception of voter utility that is proportional to the “distance” between the candidate or party being considered and the voter’s most preferred set of policies. The model makes the concept of distance mathematically precise by defining the weighted Euclidean distance metric and allowing for both differences in salience and for connected, or “nonseparable,” preferences on different dimensions. In later work, the nature of the dimensions themselves was extended to take into account the (empirically demonstrable) latency of ideological or values-based dimensions that are linked, both in the political rhetoric of campaigns and in voters’ minds, to real political issues.

Although spatial theory has its roots in the early writings of Anthony Downs and Duncan Black, it was really Hinich, with his coauthors, Otto Davis and Peter Ordeshook, who developed the formal model on which spatial theory today rests. By inserting a matrix of weights into the Downsonian model and by demonstrating the ability of the extended model to test much more general claims about politics, spatial theory was given a much-needed generality and a mathematical life. In the process, Davis, Hinich, and Ordeshook transformed the model from a curiosity into a practical and powerful modeling tool.

The publication of Davis, Hinich, and Ordeshook (1970), "An Expository Development of a Mathematical Model of the Electoral Process," like the publication of The American Voter (1960), was a defining moment for contemporary political science. It was a tour-de-force statement of the state of the field as of 1970—and was required reading for many years afterward, not replaced until Enelow and Hinich’s The Spatial Theory of Voting in 1984, which has itself become a central work in the field.
Mel was not on some academic ego trip. His views of science included the argument that the most fruitful research requires collaborative efforts wherein coauthors test each other’s ideas, while contributing new ones in a context wherein true scientific advances occur as the product of the give-and-take of intellectual argument. And Mel was a scientist. A true scientist is one who attempts to understand real-world empirical phenomena. Unsurprisingly, then, his work in spatial theory directly led to issues of how one detects and statistically estimates spatial structure in voting data. In collaboration with one of his statistics Ph.D. students at the Department of Statistics at Carnegie Mellon, Lawrence Cahoon, Mel developed in 1978 a metric multidimensional scaling methodology that is based on the parametric weighted utility model for voting choice. This methodology was further developed by Hinich over many years and is now called the Cahoon-Hinich MAP Method.

Mel’s early work, centering on signal processing, addressed a problem that the Navy otherwise found intractable. The Navy had to decide between two alternative anti-submarine warfare (ASW) systems for detecting and locating enemy submarines. One alternative was a system of sonar devices scattered about the ocean that provided range only data (distance from a detected object). The second, more expensive, alternative provided both direction and range data. For a given cost, the first alternative allowed the ocean to be covered with many more units. So it was not so clear, which system was more capable. Such a problem presented a myriad of statistical and modeling problems, not in the least because the acoustic properties of the ocean are confounded by innumerable non-linearities, thereby rendering any simplistic approach worthless. For Mel, the problem was like red meat before a hungry lion.

At the same time, Mel, in his inimitable style at Carnegie, would hold conversations with anyone about anything, provided that there was intellectual content to the conversation. And it was in some of those lunchtime conversations with Otto Davis that Mel saw the connection between his work in ASW and the problem of statistically estimating the positions of candidates in a multidimensional issue space when surveys provided “range only” data in the form of thermometer scores.

The Cahoon-Hinich methodology of spatial analysis was a large additional step in estimating position using “range only” data. This work makes it possible for the spatial theory of elections to be empirically studied and tested in a wide variety of contexts. Since the publication of The Spatial Theory of Voting, which documents the methodology in detail, the Cahoon-Hinich methodology has been applied to elections in many countries, including Chile, Germany, Korea, Russia, Taiwan, Turkey, Ukraine, and the United States.

Mel loved working with coauthors. In addition to Davis and Ordeshook, Hinich began a long and fruitful collaboration with James Enelow in 1978 on both theoretical expansions of spatial theory and on using the Cahoon–Hinich MAP Method to estimate spatial maps of candidates in American politics using the thermometer scores from Inter-University Consortium for Political and Social Research (ICPSR) surveys. The collaboration produced the first book on the modern spatial theory of elections, The Spatial Theory of Voting. Then they produced an edited volume on spatial theory, Advances in the Spatial Theory of Voting, J. Enelow and M. J. Hinich (eds.), Cambridge University Press (1990).


In 1977, Hinich published a paper in the Journal of Economic Theory that introduced a model of probabilistic voting. Among other contributions, the paper illustrates how democratic systems can be stable and avoid the cycling that the open agendas spatial theory predicts. This model was an outgrowth of a simpler probabilistic voting model that Hinich had developed with Peter Ordeshook and John Ledyard several years before. This paper is still widely cited by political economy scholars, and Hinich and Munger used this probabilistic voting theory to develop a type of general equilibrium model in their 1994 book on political ideology. The book illustrates the predictions of a more general model of political competition, where elites are an important moving part, but in which the social construction of political belief, and rhetoric, plays a key role.
Mel’s work influenced many generations of scholars and students in several fields. Howard Rosenthal writes, “Most of my empirical work owes its inspiration to Mel’s awakening my interest in models and the spatial model in particular.” Much of Theo Panagiotidis’ work is based on Mel’s studies with Doug Patterson on nonlinearities in stock market returns, and Theo says, “I have followed his writing, and his work appears in most of my papers.” These are the human sides of the many scholarly citations his work has received over the years.

Hinich supervised a total of sixteen Ph.D. students at UT Austin, several of whom have contributed to the theoretical and empirical development of spatial theory. His most recent, and last, student was Chih-Cheng (Almond) Meng, who finished his dissertation in the spring of 2010. Mel influenced many more UT Austin students through his courses and by serving on their committees. Jan Box-Steppensmeier, a government department student in the 1990s, commented that, “I knew right away that Mel was a scholar with incredible reach when my spouse, who was a graduate student in the electrical engineering department, was also reading work by Mel Hinich.” In addition to his work in political science on spatial theory and estimation, Mel had a very serious presence in the statistical study of signal processing and time series and non-linear dynamics. His early development of important, straightforward ideas about stationarity and regime shift in data lie at the core of many key results in time series, even today. He invented bispectral and trispectral tests for nonlinearities in stationary stochastic processes. His article, “Testing for Gaussianity and linearity of a stationary time series,” published in the Journal of Time Series Analysis, 1982, remains Mel’s single most-cited article (only The Spatial Theory of Voting with Enelow has been cited more). He and Professor Douglas Patterson used his bispectrum method to discover nonlinearities in daily stock returns; that meant that the Efficient Market Thesis, based on Gaussian returns, could not be correct. Their paper in the Journal of Business and Economic Statistics has been cited over four hundred times. Later, they used the Hinich bicoherence and cross bicoherence tests to show that nonlinearities in asset returns are episodic in nature. As Doug Patterson explains, “on most days stock rates of return appeared to be drawings from a Gaussian distribution. On other days the data was highly nonlinear.”

As a person, Mel was warm and generous. A comment by one of his friends, Patricia Murrieta, is so typical of Mel:

I remember many hours of long and interesting conversations with him, even when we could have opposite ideas about politics and migration... I really enjoyed listening about his trips, his life, his family, politics, education, and many other things he would always be willing to discuss and share with us; including what was going on with our friends in Chile. Some of these wonderful conversations took place with a good bottle of tequila at our house in Mexico.

Boaz Golany summarized this complexity perhaps best of all:

Ironically, Mel was a professor of 'government.' Instead, he should have been a professor of ‘peoples.’ For the most part, he hated governments and was highly critical of the incapable (often corrupt) leaders who led them. But he really loved people—regardless of their race, gender, religion, and any other dividing lines that exist in our societies.

But Mel could as well be harsh and acerbic, especially toward those whom he considered academic inferiors (and this invariably included almost any academic administrator he had ever encountered). As Harrison Wagner notes, Mel “had the unusual ability to make me feel smaller and less significant, without making me feel any the worse about myself... [but he also] was inclined to make dire forecasts of the future of the world, or the U.S., or the University of Texas, or the government department.” There was a bright, expansive Mel, a man in whom every remark seemed insightful and worthy of thought and reaction. And there was the dark Mel, capable of viewing the world through lenses that left one depressed. Not that Mel was wrong; he was almost always right. But it was the extensiveness of the negativity that could shock. The trick was to move from the latter to the former, engaging his intellectual curiosity and boundless humanity.
Adrian Van Deeman provided a wonderful anecdote. Mel visited him in The Netherlands frequently. Adrian commented: “He always was very warm and gentle at my home, in particular towards my children.” But once he took Mel to a party full of academic political scientists.

Mel started to talk around with the people, but he did not like it. His voice became louder, and I observed that he started to offend people. I never forgot what Mel said when we were back in the car: ‘Well Ad, that was wine, cheese, and arrogance.’ That was my dear friend Mel: warm, gentle, open, wholehearted, curious, eager to know, easy-going with people, but also rough, offending, and disgusted by arrogance.

Mel never quite felt fully appreciated; perhaps because his work spanned so many fields none of us came anywhere close to grasping it, or, perhaps more likely, because he was such a poor self-promoter. He would rather fume a little and then turn to the next interesting idea. The over seventy of Mel’s many friends, colleagues, and students from all over the world who have shared their recollections on a website that the government department at The University of Texas at Austin has established show that indeed he was appreciated as a scholar, colleague, mentor, and human being.

Mel is survived by his wife, Sonje; their daughter, Amy Leksana; and two granddaughters, Catlin and Rachel Leksana. In his honor, the Department of Government has established the Melvin Hinich Fund to support graduate student research.

This resolution is based on a longer retrospective written by Bryan Jones, Tse-Min Lin, Michael Munger, Peter Ordeshook, and Brian Roberts.

Distributed to the dean of the College of Liberal Arts on August 23, 2012, and posted under “Memorials” at http://www.utexas.edu/faculty/council/.