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JOHN ROBERT BORCHERT
1918–2001

A Biographical Memoir by
JOHN S. ADAMS AND VERNON W. RUTTAN

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JOHN ROBERT BORCHERT

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BY JOHN S. ADAMS AND VERNON W. RUTTAN

JOHN BORCHERT WAS A practical scholar of exceptional intellect and charismatic personality who made original and important contributions to physical geography, especially climatology, regional economic analysis of the United States, U.S. metropolitan evolution, urban and regional planning, geographic information science, and geographic education. A Regents' Professor of Geography at the University of Minnesota, he inspired three generations of students at all levels to get out of their armchairs and into the field, to explore and get to know the territory, to ask questions, produce effective map series, generalize from them to infer and advance original interpretations of what is happening on the land, and to participate in public policy debate and planning activity in local, regional, national, and global arenas.

AN EARLY OBSERVER OF AMERICAN SETTLEMENT

John was born in Chicago, the son of Ernest J. Borchert and Maude (Gorndt) Borchert, and grew up in Crown Point, Indiana. As a boy in the 1920s and 1930s he lived on the edge of one of the steepest physical and cultural geographical gradients in the world at that time. On one side of the gradient stood his hometown, a typical quiet Corn Belt county

seat of 2,500, mostly of German and other northwest European origins. Yet just a few miles north was the city of Gary, laid out less than a decade earlier by U.S. Steel Corporation, and the gates of the largest steel mills in the world with 20,000 Afro-American residents, most of the rest from eastern and southern Europe, plus a small contingent from Asia. In his later years John told one of us (J.A.) that regular 59-minute train rides from his hometown to downtown Chicago took him through Gary with its smoky chaotic array of recent modest residential neighborhoods, past refineries and factories, through vast rail yards sprawling westward across the Calumet flats for 15 miles into Chicago, and then monumental office towers and hotels rising above the commotion and soot of the Chicago Loop.¹ Drawing on his prodigious memory for telling detail, he recalled peering through grime-covered day-coach windows at the rapid-fire and bewildering transitions from the northern Indiana countryside, through an industrial complex that matched the Ruhr and the Pittsburgh-Cleveland axis, past rail yards teeming with box cars displaying railroad system names that read like a gazetteer of North America, to the heart of one of the largest cities on Earth. This was his first important geography lesson, and the more he observed it and mulled it over the more it piqued his curiosity and shaped his thinking.

In the 1920s and 1930s as John was coming of age, academic geography like many social sciences was struggling in the face of received orthodoxies to grasp and define the nature of the social, economic, political, and urban-industrial changes that had spread over the industrialized world during the previous century. Geography had a long history as an Earth science in universities as a subset of nineteenth century natural science, or as a curricular element in schools of commerce borrowing from the universities of Europe's colonial powers. What was slow to evolve in the field was an

understanding of how urban and rural settlement systems were transforming in response to socioeconomic change, and how human interaction with natural environments was producing profound changes both in society and in the environmental systems they were exploiting in new and different ways. John Borchert grew up during that era, and using his powers of observation, imagination, and intellect he focused on these changes; without realizing it until later in life he provided himself with an experiential foundation for his remarkable career as one of the world's leading geographers during the last half of the twentieth century.

Originally John planned to be a journalist, so it seemed obvious that the best way to start was to get a job with the local weekly paper and work up. But, through the local Methodist minister he met a Chicago Tribune Company executive who firmly advised John to go to college. The following fall John was enrolled at DePauw in Greencastle, Indiana. By chance John took a year of geology as a freshman, and after getting oriented he decided on the geology major for two reasons. The study of historical geology—especially the Ice Age and recent—was his most liberating intellectual experience in college up to that time, and the study of economic geology might lead to employment. The lone geology professor at DePauw offered one course called geography, which satisfied a state requirement for education students but left John unimpressed. However, the geologist, Professor “Rock” Smith, saw the future of such fields as statistics, geophysics, and aerial photography in geology research and applications, and pushed his majors through a well-rounded introduction to geology, the basic sciences, and mathematics—a suite of rigorous courses unusual for the time. Accompanying fieldwork included informal observation of not only the physiographic but also the cultural landscapes throughout Indiana.

Following receipt of his A.B. degree in 1941 but before proceeding to graduate school in geology at the University of Illinois, John worked a short while in geophysical exploration for oil on the northern Great Plains where he met his future wife, Jane Anne Willson, in Bismarck, North Dakota. One semester of graduate work—just long enough to discover he enjoyed teaching—was punctuated by Pearl Harbor and U.S. entry into World War II. It was difficult to concentrate on graduate work, so John took a position as a topographer with the U. S. Geological Survey, with an assignment on the Tensaw quadrangle, on the delta of the Alabama and Tombigbee rivers at the northeast edge of Mobile Bay. Topographic mapping of coastal areas had been accelerated in response to fears of Nazi and Japanese attacks.

Work on the Tensaw quadrangle ended in early 1942 when John shifted from geology and geophysics to graduate work in meteorology at MIT, where John and Jane were married on June 10th. The meteorology course was part of the Army's aviation cadet program and led to a commission in the Army Air Force. In John's recollection the most exciting part of the program was working with synoptic weather maps. Foreshadowing later events, one course dealt with world regional climatology and introduced the Köppen classification of climates, which unknown to John was a major focus for research and writing in U.S. geography at that time.

Following commissioning John went to England to work as an operational weather forecaster at headquarters of the B-24 "Liberator" bomber division, briefing flight crews and general officers and de-briefing crews after missions were completed. He found the drawing and analyzing of weather maps and preparing weather forecasts to be powerful learning experiences. He worked with a large array of numerical data to produce twice-daily isopleth maps to locate highs, lows, gradients, air flows, and weather conditions generated

by those flows as they diverged, converged, and crossed relief features and water bodies. Then he applied a mixture of rigorous procedures and intuition to extrapolate the patterns through time—what amounted to four-dimensional cartographic analysis, which he later came to believe was the heart of the geographic method, and of which he became one of modern geography's outstanding practitioners.

The end of the war triggered a chain of chance events that led John quickly to the field of academic geography. At an army base library in East Anglia he happened upon a copy of *Elements of Geography* by Vernor C. Finch and Glenn T. Trewartha, geography professors at the University of Wisconsin, a top U.S. geography department in the 1940s. Much of the text was devoted to efforts to relate Earth science material to the human use of the land, with a final section addressing in a minimal way the morphology of human settlement. The effort was halting but the idea was intriguing, so he decided to look into it further.

He visited Madison en route back to Indiana following his discharge from the army at Camp McCoy, Wisconsin, located the Geography Department, and found Finch's office. Finch received him graciously; they talked for some time, then Finch looked at his watch announcing that he had to give a lecture to the introductory physical geography class in a few minutes. He paused and said to John, "The lecture today deals with marine West Coast climates in the Köppen system. You're certainly familiar with that climate and what it meant for our fliers in northwestern Europe. Would you like to give the lecture?" "Recklessly," John later recalled, "I accepted the invitation, illustrating the lecture with blackboard sketches describing weather forecasting episodes from the war." The lecture went well, and the 200 students applauded. A week later he and his family were living in

Madison. John Borchert had found the field he was looking for, and was hooked for good.

DISCOVERING GEOGRAPHY

Following his lecture John remained in the department for lunch with the half-dozen graduate students, including Alan Rodgers and Wilbur Zelinsky (both of whom went on to distinguished careers at Penn State). By chance a guest speaker after lunch was geographer Wellington Jones from the University of Chicago reporting on his research in the Punjab. Jones's presentation was an eye-opener for someone at John's level of preparation. The maps were simply work sheets, portraying Indian census data on crops at successive time intervals. Data were overlaid with isopleths describing areas of high and low production, intervening gradients, and changes in patterns from one time to another. Jones laid out his explanations for the patterns and changes based on archival work, interviews in the field, and comparisons with other maps. He also examined his subject at several geographical scales. Behind him hung large wall maps on which he placed his study area within South Asia and the world, and at the opposite end of the scale he showed photographs of landscapes that were generalized on his maps. He discussed questions that puzzled him, and he speculated about further questions the maps suggested.

Years later John recalled that this approach to geographical analysis was analogous in many ways to what his weather forecasting team had done with weather observations— isopleth analysis, with description and classification of patterns; description at different scales from global to local; interpretation using both theories and simple, direct observations; then discussion of results with others who were interested. Here once more was a demonstration to John of what he would later come to regard as the core of the

geographic method. Jones's data were for minor civil divisions rather than specific weather stations. Jones was sampling an extensive surface using small areas rather than points. His time intervals were in years rather than hours. But there was plenty of opportunity to observe and map the change as it was taking place. In later years John recalled with one of us (J.A.) that in those early days of graduate training he had no idea how far we would still be from understanding the cognitive aspects of all this when he retired 50 years later. Nevertheless, he was sensing the value of the map as a powerful intellectual tool, and would later conclude that it would be hard to imagine a more efficient way to understand the locations and interactions among a great variety of day-to-day activities while at the same time contributing to the quest for understanding the role of humanity on the Earth. He admitted that with the benefit of hindsight it was probably easy to make too much of that brief encounter with Wellington Jones, but he remained confident in later years that the seeds were planted.

It set in motion his thinking about the discipline and practice of geography. The inspiration of it and his infectious enthusiasm for it never waned. It led to many rewarding discussions with fellow graduate students, including Rodgers and Zelinsky as well as E. Cotton Mather (later a colleague at Minnesota), John E. Brush (who taught many years at Rutgers), and John W. Alexander (later a faculty member at Wisconsin). Richard Hartshorne (one of John's teachers at Madison) added historical depth to John's understanding of the history of the field of geography, background that he had missed in his early schooling. Arthur H. Robinson (America's leading cartographer, also on the Wisconsin geography faculty) instilled insight into discussions of scale, generalization, and measurement. Glenn T. Trewartha (climatologist and expert on Japan) contributed his penchant

for orderly and unequivocal description. Reid A. Bryson (fellow graduate student, later geography professor at Wisconsin) shared ideas about flows, gradients, boundary zones, and interactions between Earth and human settlement that ranged far beyond his central interest in dynamic climatology. Thinking begun during that lunch hour with Wellington Jones in 1945 carried through to later discussions with Minnesota colleagues, especially Jan O. M. Broek, John C. Weaver, Phillip W. Porter, Joseph E. Schwartzberg, Fred E. Lukermann, and a procession of graduate students including one of us (J.A.).

Maps in time series to analyze geographic processes became a hallmark of most of John's research from the time he became a geographer. His first major publication, in 1949, was his doctoral dissertation in which he compared patterns of central North American atmospheric circulation, rainfall, and temperature in different dry seasons through a series of decades. Later, two studies of municipal water supplies of American cities compared patterns of water use with available supplies in wet and dry periods.

His celebrated 1967 study "American Metropolitan Evolution" depended on maps of the locations of the country's cities, using comparable size classes at successive dates in the evolution of transportation and industrial technologies. Comparison of this paper with the grassland study illustrates his continued focus on new methods for mapping geographic processes, notwithstanding a creative shift of application from natural resources to human settlements.

A subsequent paper on "Major Control Points in American Economic Geography" dealt with one component of metropolitan evolution by mapping a half-century of change in the location of headquarters of large business organizations. The maps reflected the importance of entrepreneurship, instability, inertia, and drive for security, as well as the impact

of local cultures. Another follow-up study in 1983 on “Instability in American Metropolitan Evolution” described a century of increasing variability in local urban growth rates that accompanied ever-greater speed and capacity of inter-metropolitan transportation and communication.

His prize-winning 1987 book, *America’s Northern Heartland*, possibly his magnum opus, was based on maps comparing the settlement patterns of the upper Midwest at successive times—at the beginning of railroading, the beginning of the auto-air age, and the beginning of the jet-satellite-fiber optic era. The study documented and interpreted changes in the way the region functioned. It also highlighted persistent features of the culture and circulation network of a busy part of the country, whose winters, most Americans think, make it basically uninhabitable.

Later John had an opportunity to reflect on metropolitan system change after the 1960s in a chapter on “Futures of American Cities” in the book *Our Changing Cities* conceived and edited by geography colleague John Fraser Hart on the occasion of John’s retirement. In that paper John argued that we had been in a new epoch since the 1970s, and he speculated on the settlement features that would be hallmarks of the resulting new metropolitan “age rings.”

He commented later that he could not escape from impressions developed over the previous three decades—the importance of evolving and pervasive technologies; unique local sites and histories; entrepreneurship; and increasing instability, complexity, and fragmentation, adding that an outpouring of atlases and interpretation would be more essential than ever as residents of cities sought to understand their options and effects of their actions. He had in mind two converging trends: society’s growing need for geographic analysis and forecasting and the potential power of geographic information systems.

Both trends had been foreshadowed by a major study of the influence of highway improvements on land development in the Twin Cities area, carried out in collaboration with Philip M. Raup, a University of Minnesota agricultural and land economist, and their students in the late 1950s. This work helped establish his credentials as one of the nation's leading urban geographers. One product of that study was "The Twin Cities Urbanized Area: Past, Present, Future," published in 1961, which brilliantly illustrated a remarkably precise method for producing a geographical forecast of the expansion of suburban land development around a metropolitan area. Although that paper also rested on a time series of maps, there were added features. For one thing, the goal of the study was to map a probable future geographic pattern of land subdivision in the metropolitan area. That demanded an historical series of data more consistent and detailed than the census. Computerized land records were still well in the future, so he had to devise a measure that could be obtained readily from both old and recent maps and would be consistent through time. From a large sample of mile-square sections in the land survey his team determined that a count of public-street and road intersections per square mile provided a virtually perfect indicator of the emerging density of platted building lots and street mileage, that is, a physical descriptor of the cultural landscape.

The resulting maps provided an exceptional picture of the spatial growth of the Minneapolis-St. Paul area from 1900 to the height of the post-World War II building boom in 1956, plus an extension of the growth picture to 1980 with a forecasted map that accommodated the number of new persons in accepted gross population forecasts. The map also assigned all of the projected new people to places that developed logically from past decisions, terrain, and

accessibility. The map showed unprecedented geographical detail, and a quarter century later it turned out to be about 80 percent accurate. Meanwhile it helped to plan major expansions of highways, parks, utilities, and shopping facilities, schools, and subdivision locations.

What was important and innovative about John Borchert's geographical scholarship during the period from the late 1950s to the mid-1960s was his meticulous use of quantitative data and replicable technique to portray on a series of maps the evolution of the geographical structure of a modern industrial metropolis. No one in or outside geography had done this before. Urban geography was a relatively new direction in geographical scholarship in Europe and the United States in the 1950s, and research frontiers of modern quantitatively oriented urban geography were being extended.² One research thrust involved cross-sectional investigations of national and regional systems of cities involving empirical testing of central place theory. A parallel thrust focused on the emergence of national and regional systems of cities, and the growth and spread of individual metropolitan areas within such systems. John was an early leader contributing to both, in contrast to much earlier geographical work on individual metropolitan areas, which often was impressionistic or idiosyncratic in its execution, and lacked a theoretical basis and replicable research procedures.

Within this scholarly milieu John's 1961 Twin Cities study went beyond the notion of a time series of synoptic maps unfolding from past to present and attempted systematically to extend the series into the future. It also set an example locally for the use of fine grids and quantified descriptors of the landscape, anticipating computerized geographic information systems, in the development of which he was an important pioneer. In that respect it was part of the movement spearheaded by the area transportation studies stem-

ming from the federal Interstate highway program in the late 1950s. It established the direction for two subsequent large-scale research projects that he directed: the Minnesota Lake Shore Development Study and the Minnesota State-wide Land Use Management Study—affectionately known to students and state legislators in the late 1960s as the LSD and SLUM studies.

GEOGRAPHY IN EDUCATION AND PUBLIC POLICY

John Borchert joined the University of Minnesota geography faculty in 1949 upon completing his Ph.D. at the University of Wisconsin. Several of his former fellow graduate students (Zelinsky, Rodgers, Mather) told one of us (J.A.) that John was recognized by most of them as the best and the brightest of the postwar geography cohort at Madison, so it was not surprising that John was offered an instructorship in the Wisconsin department. He decided instead to move west to the Twin Cities and join the small but prominent geography department and its new chair, Jan O. M. Broek, who arrived in 1948. By the early 1950s the trio of Broek, John C. Weaver (earlier at the American Geographical Society; later University of Wisconsin president), and Borchert, supported by a number of graduate assistants and instructors, mounted a balanced and innovative program of courses with burgeoning enrollments many times their prewar numbers. In those days “Big Ten” universities, along with the Ivy League, the University of California, and the University of Chicago, accounted for almost all of the most prominent comprehensive research universities in the country, with disciplinary leadership in most fields centered in these 20 or so schools. Within this academic setting a top graduate from a top graduate program, bristling with energy and creativity, was about to make his mark in scholarship, teaching, and outreach to government at all levels. John was already rather

well known, and the work he did gained quick acclaim for originality and its emphasis on U.S. urban development and science resource policy, topics that in all areas of the social and physical sciences were seriously underdeveloped at the time.

In the preface to *Minnesota's Changing Geography* John asserted that the book's maps and narrative "reveal one of the most exciting facts which the human mind can discover—the fact that the varied landscapes all around us are parts of an orderly spatial pattern. That spatial pattern is the focus of the study of geography. And it is a fascinating, ever-changing composite expression of the combined works of men and nature." He also claimed, "Organized knowledge of the present is essential to give relevance to the historical past. Knowledge of the pattern of land and settlement provides the concrete framework upon which to build more abstract knowledge of human society. Knowledge of today's changing patterns provides the foundations from which plans for tomorrow must grow." In subsequent decades of use of the book by hundreds of teachers, and in the face of frequent re-statements of those convictions in classes and workshops, John recalled, no one ever challenged them. So he remained convinced that if those convictions were true, little doubt existed about the importance of geography in liberal education, formal and informal, at every level.

Like most geography departments in the 1950s the University of Minnesota had several lower division courses that provided an opportunity to introduce large numbers of students to the field and the discipline. When he began teaching at Minnesota in 1949, John inherited one of those: a long-established though poorly attended course on the geography of Minnesota. He assumed somewhat naively that students would enter the course with the shared attitude that they already knew the territory because they lived "there."

Hence they would be expecting an unrewarding but easy three credits. He wanted to demonstrate to them that they could gain new insights about their own territory, or any other, by studying it as geographers; to show that although the place was familiar, the discipline was new to them and that as a result they not only would enlarge their substantive knowledge and understanding but also learn useful skills and concepts. He decided to organize the course content around major problems of public policy, selecting issues that not only had a major geographic dimension but also were important and persistent. The procedure was to state each problem in general terms, sort out the major dependent variables, study their geographic distribution, and ask what were the principal independent variables that accounted for the distribution. Students then compared the resulting series of maps, attempted to explain dimensions of the problem and related issues, and showed which variables would have to be changed in which ways to resolve them.

As one of us, who was a teaching assistant for John at the time (J.A.), observed the problems themselves were not peculiarly geographical, nor were the answers, but the analytical approach was. It used the vocabulary of regional patterns, place knowledge, generic terms of map legends, and concepts—location, scale, circulation, nodality—which are hallmarks of geography. It showed that geography is a way to clarify an issue, analyze a problem, identify and evaluate issues surrounding the problem, and propose solutions. John selected five broad, interrelated issues vital in Minnesota at that time, and likely to be around for some years: the farm problem, promoting industrial growth, metropolitan organization, future of small towns, and outlook for the depressed northeastern Minnesota Iron Range.

Rather than eliminate a need for traditional material, this course framework demanded more rigorous descrip-

tion of location and form of such features as moraines and summer drought; and it gave to their understanding an obvious urgency that was evident to the students. It also demanded new maps of cultural and economic features that had been unneeded in the traditional approach, and had never been prepared because the questions had never been asked.

Students helped do the research. The material turned out to be so timely and informative that the instruction soon spread far beyond the classroom to political podiums, panels, and editorial pages, leaving no doubt that it was geographical analysis. People had to discuss the ideas from maps, comparing and analyzing patterns, locations, and spatial trends. They had to know what was where, and they concluded with place-specific statements about issues. Reflecting on those days devoted to developing and teaching a novel and policy-oriented course on the "Geography of Minnesota," John commented that it was not stretching history to say that his scholarly direction for much of the following five decades of work flowed from that experience.

The need for material for the Minnesota course motivated the first atlas of the state of Minnesota, which he produced in the early 1950s with Neil Salisbury, a senior undergraduate major. The first edition emphasized the state's agricultural geography and helped John cultivate a lasting relationship with the University of Minnesota's Institute of Agriculture. That relationship in turn led to funded research in the late 1950s with faculty and graduate students from geography and applied economics investigating freeway impacts on land use and land value. The geographical studies used a time series of maps to differentiate freeway influences from independent, long-term trends in both rural and urban settings and thereby showed the complexity of the changes that were assumed to result simply from free-

way building. Meanwhile, later issues of the Minnesota atlas along with other policy-oriented research projects inspired an extended family of graduate students: Thomas J. Baerwald (National Science Foundation), John Wolter (Library of Congress), Robert W. Marx and Jacob Silver (U.S. Census Bureau), Robert C. Lucas (U.S. Forest Service), Rodney A. Erickson, William J. Craig, Ronald F. Abler, William Casey, and others who went on to positions of leadership in local, state, and national public agencies and universities.

Development of material for the metropolitan unit in the Minnesota course led eventually to "The Twin Cities Urbanized Area: Past, Present, Future." Work with various planning organizations led to the opportunity for John to organize and lead the urban research component of the Ford Foundation-financed Upper Midwest Economic Study (1959-65). This major regional development study, a joint undertaking of the Upper Midwest Research and Development Council (a Ninth Federal Reserve District banking and business group) and the University of Minnesota, was inspired in part by the University's Economics Department chair, Walter W. Heller, and directed by James M. Henderson and Anne O. Krueger. John's research team focused on the changing geography of towns and cities across the upper Midwest through ingenious applications of central place theory. The ostensible goal was to encourage more urban planning in the changing economy. But, the studies produced a much deeper understanding of the irreversible geographic trends that the postwar automobile era had visited on every part of the region's settlement system.

Meanwhile, the visibility of the atlas and industry studies led to an opportunity to work with Minnesota state legislators on a new program responding to the federal Outdoor Recreational Resources Act. In Minnesota's natural resource setting attention went directly to lakes and forests—to

fisheries, public access, tourism, control of polluted runoff, exchange of public and private forest lands, and so on. The state badly needed centerpiece studies of the basic geography of those topics, and by the mid-1960s Minnesota geographers under John's direction were involved with virtually all of them.

An urgent need was for a study of the state's thousands of recreational lakes—their physical properties and status and trends in their development. John's team brought together data from sources scattered through state agencies and local courthouses and supplemented them with survey research. They joined all the data on a grid of 40-acre cells in a basic land survey covering 12,000 miles of inland lakeshore. The study had applications to public policy, lakeshore property development, and recreational businesses, and provided a context for contemporaneous research in the basic sciences that was necessarily localized.

Widespread interest led to the expansion of the lakeshore study to a statewide land inventory covering more than a million 40-acre cells. By 1972 the project had produced a land use map of the entire state, along with files that became the basis for the Minnesota planning agency's pioneering land management information system, an achievement of national renown. The big colored map might well have been the first such computer-generated civilian work in the United States. It soon hung in hundreds of state and local offices and libraries and raised many aspects of geographic awareness to a higher level.

Other applied and policy-oriented studies in the later 1970s and 1980s dealt with such disparate topics as higher education enrollments, historic preservation of buildings, origins and destinations of redistributed tax revenue, and the market value of land and buildings across the state. All included fieldwork and the analysis of a time series of maps.

They focused on features of the settlement pattern, bringing geographic detail to topics that were otherwise being dealt with in generalities with only limited value in policy making.

SERVICE TO THE UNIVERSITY, COMMUNITY, AND SCIENCE

John Borchert described his principal academic interest as “geography applied to public policies in land use and resource management.” He was University of Minnesota Geography Department chair in the 1950s and served as associate dean of the Graduate School and assistant to the vice-president for educational relationships and development. In 1969 he accepted directorship of the university’s new Center for Urban and Regional Affairs. He served on numerous committees of the Association of American Geographers, served on its council and assumed its presidency in 1968 during the worst of the Vietnam War years, just in time to deal with controversy over the annual summer meeting of the association, that year scheduled for Chicago in the immediate aftermath of the Democratic National Convention. Amid hue and cry on several sides of the issue John ordered the meeting moved to Ann Arbor.

He served generously and effectively on scores of local, national, and international committees, commissions, and boards concerned with transportation, natural resources, land management, and pollution control. Notable professional service and recognition included chairmanship of the U.S. National Committee for the International Geographical Union and chairmanship of the National Research Council’s Transportation Research Board and the Earth Sciences Division, as well as membership on numerous National Research Council committees; Social Science Research Council; National Science Foundation Social Science Advisory Committee; Science Advisory Panel, U.S. House of Representatives Com-

mittee on Public Works; American Academy of Arts and Sciences; and Commission on Environmental Problems of the International Geographical Union. The American Geographical Society awarded him the Eugene van Cleef Gold Medal for Outstanding Contributions to Urban Geography, and the Association of American Geographers awarded him the John Brinkerhoff Jackson Publication Award for his book *America's Northern Heartland*.

In the last decades of his life John remained an active scholar, teacher, and public citizen. At the end he was close to finishing a book on the expansion and eventual contraction of the Pennsylvania Railroad system, using records of postal receipts as indexes of the functional importance of each urban node on the lines as they were laid down, used, and eventually abandoned. The method? What else? A series of meticulously constructed maps of lines and urban nodes.

When in his office, John's door was always open and the phone usually ringing, but he welcomed students and colleagues in with a smile, sat back in his chair with a foot on a desk drawer, hands behind his head, and gave us his full attention as we settled in for a chat. A question would elicit a story, a problem a thoughtful frown, followed by helpful advice or offers of help. Unopened mail and a backlog of reading were neatly stacked on his desk, alongside the picture of Jane, the love of his life, his financial manager, travel companion, square-dance partner, full-time homemaker, and mother of their four children, Dianne, William, Robert, and David.

NOTES

1. Several years before John Borchert died he began a memoir, a task he was unable to complete due to his abrupt death on March 30, 2001, following surgery to repair an ailment linked with an earlier health problem. Portions he finished appear on a family

Web site at <<http://www.borchert.com/john/>>. We have drawn extensively on this material in preparing this memoir. One of us (J.A.) was a student (1960-66) and later departmental colleague (1970-2001); the other (V.R.) was a university colleague (1965-2001) and is a fellow member of the National Academy of Sciences.

2. Adams, J. S. 2001. The quantitative revolution in urban geography. *Urban Geogr.* 22:530-39.

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