

The Prospect for Geography in the 1990s*

Ronald F. Abler

Association of American Geographers and The Pennsylvania State University

Geography now exhibits a better balance among competing emphases than it has enjoyed at any period since the second world war. The last several decades have witnessed a healthy resurgence of physical geography. Human geography has been enriched by a broad array of methodological tools and innovative perspectives. Both human and physical geographers are reclaiming geography's birthrights of regional expertise and research.

The challenge the discipline faces in the 1990s is the need to increase geography's effectiveness by augmenting the number of geographers obtaining advanced degrees, strengthening undergraduate curricula in colleges and universities, and adopting larger-scale modes for investigating major geographic problems. Substantively, geographers would be wise to give priority to regional approaches, to ecological problems, and to building a corps of practitioners who will address practical problems. A better balance between analysis and synthesis would broaden the discipline's appeal and constitutencies.

I. A Discipline in Balance

I dare to hope that geography as a discipline has matured in many important respects, and that in the 1990s geographers will begin to reap the fruits of that maturation.

The discipline has achieved a better balance between physical and human geography than we've had for most of the period since World War II. The last decade has seen a healthy renaissance of physical geography, which I welcome after the strong postwar emphasis on

*An expanded version of this chapter will appear as "Desiderata for Geography: An Institutional View from the United States," in *The Challenge for Geography*, edited by Ronald J. Johnston, which is scheduled for publication by Basil Blackwell in late 1992.

human geography. We have reclaimed a major intellectual birthright, and are well positioned to address the ecological problems that will continue to demand our attention for the foreseeable future.

Within the human side of the discipline, geographers are addressing a broader set of concerns than the primarily economic and urban topics that dominated much of our literature through the early 1980s. Many human geographers now complement statistical analyses with case studies that explain in behavioral and social terms the decisions that produce the patterns that we map. Human geography has been enriched by young scholars who have directed the discipline's attention to the importance of class, ethnicity, and gender in producing the patterns geographers became so adroit at mapping and analyzing in the 1960s and 1970s.

II. Challenges for the Future

I believe that geography is moving toward balance, and that the maturity we have achieved will position the discipline well to satisfy pressing and abiding ecological and social needs in the 1990s and beyond. Geographers deal with real phenomena and problems in a balanced, informative way. Whether ecological or social issues are in question, geographers offer invaluable insights that are in growing demand at all scales, from the local to the global. This promising picture does not mean geographers can afford to relax their efforts to strengthen the discipline. Indeed, geography faces several major challenges in the 1990s that will require creativity and hard work if it is to prosper.

A. Numbers

First, the world needs more geographers. Geography is a small profession, absolutely and relatively. Graduate departments in the United States are not producing the personnel the nation needs. Consequently, we are importing geographers from the rest of the world, but especially from Great Britain and the Commonwealth nations. Few students who specialize in geography at university maintain professional identity after they take up employment. In many countries, too few take the advanced and terminal degrees that lead to university faculty positions. North America, and the United States in particular, face severe shortages of university faculty in the 1990s. Canada imported geographers from the U.S., the United

Kingdom, and from Commonwealth nations after World War II as its university system expanded.

The United States has now come to rely heavily on imported talent to staff its college and university geography departments. In the late 1980s, 107 of the 660 (16.2%) faculty members holding full-time permanent positions in the 49 U.S. departments offering the doctorate took his or her first (bachelor's) degree in the U.K. or a Commonwealth nation. Imported scholars greatly enrich a domestic discipline, but the global supply of university faculty members is small compared to need. In some places, such as the United States, shortages are likely to become more acute in the 1990s as the large cohort of geographers who began university teaching between 1950 and 1960 reaches retirement age. We know now that the United States will have a shortfall of 400,000 to 500,000 scientists between now and the year 2000. We do not yet know whether the need in geography will be greater or lesser than the overall shortfall, although I suspect it will be greater. Overcoming that shortfall will require that geographers marshal government and private support to produce the educated and trained geographers we need and will need.

B. Curricula

Second, Geography needs a more coherent undergraduate geography curriculum for colleges and universities. American undergraduate geography curricula are rarely progressive and cumulative. Few students matriculate as geography majors; most are captured when they are sophomores or even juniors, as a result of taking service courses. Therefore most geography courses — across the undergraduate curriculum — are introductory courses in that few have meaningful prerequisites that are consistently enforced. Changes in that historic pattern are afoot, largely in response to the programs fostered by the National Geographic Society to improve geographic education in the nation's secondary schools. Penn. State had three freshman matriculate in geography in Fall 1990, matching the number that had done so in the previous 20 years.

Geography departments in large universities could soon face dozens or even hundreds of undergraduates who arrive at the university with some training in geography who want to major in the discipline. Geographers shall have to offer them more than a long sequence of introductory courses. Developing a progressive and

cumulative undergraduate curriculum will be one of the profession's most pressing tasks in the 1990s. Geography needs coherent sequences of courses that build upon one another to move students from introductory courses, through intermediate and advanced offerings for which the earlier courses are meaningful prerequisites, and on to post-graduate training for practice and scholarship. If it fails to meet that challenge, I predict geography will lose many interested and talented students to better structured curricula.

In the United States, I hope the Association of American Geographers can serve as a catalyst for the design, testing, and dissemination of coherent undergraduate curricula. The Association will shortly resurrect its Commission on College Geography and seek resources on the scale of those allocated to the High School Geography Project in the 1960s. The group will focus primarily on the undergraduate curriculum, but it may want address the thorny issues of accreditation and certification. Sooner or later, in one way or another, geographers must grapple with the issue of who can legitimately call himself or herself a professional geographer.

C. Research Modes

Outside East Europe, the U.S.S.R., and the Peoples Republic of China, individual geographers are funded for specific tasks for periods of time that rarely exceed three years; the modal award is for a single year. Exceptions, such as the Regional Research Centres supported by the United Kingdom's Social and Economic Research Council, are rare. Despite exquisite specialization within the discipline, there is little division of labor and specialization of task; therefore geographers realize few economies of scale. Problems are ambushed piecemeal depending upon the vagaries of funding; they are hardly ever subjected to sustained assault let alone besieged.

Geographers must, in appropriate realms, enlarge and expand their approach to research. Geographers have been engaging in artisan science. Individual scholars are funded for specific tasks over short periods of time. That practice contrasts sharply with the way research is conducted in engineering, medicine, and physics, where teams of scholars are assembled for long-term, consistent research on a suite of related problems. Much of the innovative research is conducted by post-doctoral students working with seasoned scientists. Post-doctoral appointments for geographers do not exist in most parts of the world.

To set an example, I hope the AAG can broker a large, cooperative research project which I'm calling *USAtlas 2000*. Like the *Historical Atlas of Canada*, *USAtlas 2000* should be based almost entirely on original research by geographers. It will synthesize what geographers know and what only geographers can say about what the United States is as a place and as a people. The first volume will be a comprehensive statement of the geographic state of the nation as of the year 2000. Volume II will place the United States in the global context by tracing in detail its relationships and connections with the rest of the world. I foresee a budget for the project of \$35-40 million dollars over the course of the decade. I view this as a project that will challenge geographers to create and translate the very best work they can produce into a scholarly, yet accessible synthesis of geographic analysis and exposition.

The Comparative Metropolitan Analysis Project, in which Professors Lee and Park played a key role, drew over 70 of the nation's geographers together in a single effort. It lent American urban geography a sense of common purpose and unity that I have not felt since. I believe American geography needs a similar sense of unity and purpose now much more than urban geography needed it in the early 1970s. The more I reflect on my previous experience with large scale geographic research on the AAG's Comparative Metropolitan Analysis Project and the *Atlas of Pennsylvania*, which a team of Pennsylvania geographers completed in 1989 after a decade of effort, the more I'm convinced that a similar, but more broadly conceived project, drawing on the best work that geographers in government, the private sector, and universities can produce, would be a timely and worthy project for the discipline in the 1990s.

D. Substance

a) Priority for Regions

My generation sold its intellectual birthright for a mess of theoretical and methodological pottage. It strove mightily to distance itself from regional geography, and in large measure succeeded. Most geographers in the generation preceding mine sought expertise in one of the world's regions and in a systematic specialty. My generation commonly cultivated two topical specialties. When we in our turn supervised students, we were uninterested in fostering regional specialization, and most of us would have been incapable of

doing so had we tried. Those chickens have come home to roost. Within the institutional structure of American Science find geography lacks accomplished scholars to represent the discipline in critical and fundamentally geographical enterprises.

Detailed regional knowledge was one of the casualties of the quantitative (r)evolution in some parts of the world. Exciting returns were forthcoming from attempts to formulate theory and apply new methods in systematic specialties. The 1960s and 1970s saw a sharp decline in regional specialization, especially in North America. Students began to cultivate two related systematic specialties, such as transportation and cities, or even on a single systematic specialty such as geomorphology. That change was abetted by reduced funding for foreign research as overseas travel and residence became increasingly expensive. Support expanded for project-oriented science that would improve theory. Those changes reinforced a belief on the part of young geographers that regional specialization was outmoded eclecticism, best abandoned in the quest for the greater scholarly prestige that would accrue to professing systematic spatial sciences.

Can the prodigal discipline now go home, reclaim its patrimony, and partake of a fattening regional calf? Certainly nothing I see in current trends suggests a diminished need for expertise about places and regions. The world's area is fixed, but population continues to grow, as do per capita transaction rates among the peoples of the world. Greater numbers of people and their restless comings and goings put more pressure on space, resources, and natural systems. More human interactions over longer distances foster congestion. Despite the potential for global homogenization inherent in frequent contact with distant places, localism and regionalism flourish in reaction to the crumbling of imperial hegemonies. The world's people face ever more pressing needs to understand how places and regions work — if they hope to keep them working.

b) Priority for Ecology

My generation foreswore physical geography and ecological concerns almost as completely as it abandoned regional geography. Human geography seemed to be where the action was in the 1950s and 1960s. Lingering embarrassment over environmental determinism made it risky for a student in most graduate departments to mention the environment and human activity in the same sentence — or even

in the same term paper. Stalwarts like Gilbert White and his students soldiered on, but they were few in number. Luckily, physical geography has resurrected itself in the last 20 years in the United States. In my current position, I encounter far less difficulty in identifying good geographers to nominate for earth science and ecological posts than I do when regional expertise is called for.

As Robert Kates (1987) has suggested, the ecological road still beckons despite geographers' earlier failure to take it. Sometime during the coming century, world population will likely stabilize at eight to twelve billion people. What geographers know about earth system states and about the flows of energy and materials within and among the earth's great systems can help provide, on a sustainable basis, the fourfold increase in agricultural output and the sixfold increase in energy production that will be needed to support eight to twelve billion people.

Human geographers can also make valuable and increasingly welcome contributions to a sound ecological future. When the International Council of Scientific Unions (ICSU) met in Sofia in October, it elevated its Special Committee for the International Geosphere Biosphere Project (IGBP) to a permanent Scientific Commission. The general assembly gave

strong support to regional approaches within IGBP including Regional Research Centers. ICSU intends to pursue cooperative global change activities with the social science community...

ICSU also asked its Special Committee on Natural Disasters to "identify new interdisciplinary research areas, including joint activities with engineers and social scientists" (ICSU 1990).

ICSU, the International Social Science Council, and the United Nations are now setting the global ecological research agendas for the next several decades. The International Geographical Union (IGU) holds membership in both ICSU and in the International Social Science Council (ISSC). It can therefore play a crucial role in defining and achieving the objectives of these worldwide programs.

Never in my experience have geographers been so well placed to help answer the great ecological questions of the day. As Kates notes, we embrace both physical and social science; we bring useful tools such as geographic information systems (GIS) to the tasks at hand; we know how to conduct field investigations; and we are theoretically eclectic (Kates 1987). Never have earth and physical

scientists been more receptive to collaboration with physical geographers and social scientists, including human geographers.

c) *Priority for the Practical*

Such refocusing will involve more than rebalancing the topics to which geographers address their research. The new worlds we shall brave in the next century demand a complementary redirection of our strategies. Too many geographers still preoccupy themselves with what geography is; too few concern themselves with what they can do for the societies that pay their keep.

Strabo of Amasia, writing in 7 BC, argued in the remarks prefatory to his *Geography* that

The utility of geography is manifold, not only as regards the activities of statesman and commanders, but also as regards knowledge both of the heavens and of things on land and sea, animals, plants, fruits, and everything else to be seen in various regions.

Strabo's *Geography* reveals a tension between practice and scholarship that persists, 2000 years later.

Strabo wrote for a Roman imperial audience. Accordingly, he highlighted information that would appeal to administrators and merchants who conducted affairs throughout the empire. But Strabo also relished knowledge for its own sake. "A work on geography," he noted, "involves theory of no mean value" (I.I. 19). He larded his descriptions of the Roman world with penetrating explanation and pregnant inference, much of which anticipated formal theories developed in our own era. Certainly, no one could mistake Strabo's two books on philosophy and method for anything other than the ranting of a true pedant.

For the last several decades, geographers have reversed the priority Strabo gave to the needs of commanders and statesmen. Too many geography professors write for other geography professors. Too few write for people outside the discipline or the academy. Sadly, if a recent Institute of Scientific Information study applies to geography, not even geographers use most of what most geographers write.

But certainly people listen when we speak, we murmur hopefully, especially our students. I wonder. The year just past saw the award of the 100,000th baccalaureate degree in geography conferred in the

United States since World War II. Almost all those 100,000 individuals who once chose geography remain in the labor force, but few retain any disciplinary identity. What would we have to say to those sometime geographers if we met them regularly? Would they profit from most of the courses we now teach? What would they say about the utility of what geographers taught them?

Twenty years ago, I argued that geography was seriously short of well trained practitioners (Abler, Adams, and Gould 1971, p. 4). We have partially redressed that imbalance in the United States, but we have yet to produce the number of dedicated practitioners I think we should have. Geographers have devoted too much energy and talent to introspection and self-indulgent specialization, and too little to the larger, more general needs of society. Government officials, leaders in business, and the titans of industry need the advice and insights practicing geographers provide, and geography needs more people who can advance the discipline among non-academic decision makers.

E. Analysis and Synthesis

Analysis has dominated geographic discourse since World War II, often at the expense of synthesis. Emphasis on improving analysis was one of the reasons regional geography fell into such disuse during the quantitative-theoretical (r)evolution. But for all its power, analysis tells geographers only how *parts* of the world work. Synthesis reveals how individual parts of the world work or fail to work *together*. Analytic detail is a means to synthetic ends, and regardless of philosophical bent, both human and physical geographers exhibit increasing interest in telling a coherent tale about how a place, a region, or a geographical system works. One need not subscribe to any or all the contending *isms* to agree that the multiplicity of perspectives they create yields more complete accounts of places and regions. I foresee a creative and stimulating blend developing between analysis and synthesis in the near future, a balance and blend that will greatly broaden the discipline's appeal in all quarters of the academy, commerce, government, and society.

I have mentioned geographic information systems, a most exciting and promising development in geography, only in passing, but if my intuitions regarding the importance of GIS are correct, GIS technology and the ways of thinking it fosters will attain their true potential when GIS is used to integrate and synthesize information

about places and regions. Analytic detail is a means to synthetic ends. I should also add that I believe the educational uses of GIS technology will overshadow use of the technology for research in the next century. GIS is a perfect tool for doing what geographers have always done — teaching people about the world.

III. Geography and Education

It is no accident that people say that events “take place.” Where (and why) events take place is a fundamental human concern that will remain the focus of geography in the next century, just as it has been for the previous two millennia. Geographical concern with the human use of places and regions will persist, and global ecology and geographic information systems will rank especially high on geography’s research agenda in the 1990s. Lewis M. Branscomb, the former Chief Scientist at IBM, recently wrote an imaginary retrospective in which he noted that

By 2000, it was recognized that modern geography is the integrated view of man and his planet, the bringing together of ecology, the study of human habitats, geomorphology, social anthropology, and economics — in short, all the tools necessary to understand how human beings should view their fragile planetary home (1986: 652).

Those are my perspectives, my concerns, and my prescriptions for geography in the 1990s. Whether they turn out to be accurate or useful in detail, I’m convinced that they are correct in outline.

Geography stands on the threshold of a new century, and also of a new millennium, the millennium that will be geography’s third as a coherent, persistent community of scholars and practitioners that seeks to understand and explain the world in which humankind lives. I’m convinced the 1990s will be a lively, productive period for geography, that will set the stage for a century and millennium of continued progress for the discipline. We can certainly look forward to the work we must do in the years to come with confidence that we are well embarked on that journey when we consider seminars such as this one, which addresses a topic that is of critical importance to the future of the geographic enterprise. I do indeed look forward to working with Korean geographers and with colleagues throughout the world to seize the opportunities, to solve the problems, and to exalt in the glory, in the sheer joy, of this marvelous intellectual

enterprise in which we are all engaged.

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