

## Another Closing Frontier?: Observations on Geography in American Academe

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### I INTRODUCTION

The academic discipline of geography focuses on terrestrial space and is properly associated with its expression on maps. Via this medium it is possible to gain insights into this world as well as to locate places and other things. Throughout most of the twentieth century geography flourished in American schools, colleges, and universities, although the last twenty years have seen its existence at the universities questioned. Linked to this is the perennial question of what “geography” is and how contemporary geographers are to fit in within the academic community. For most people in America something along the lines of “the study of the world” would suffice for a definition, but geographers and other scholars seem to feel that many geographers have been only marginally engaged in such an activity. Hence, in a thick survey of American geography at the end of the uneasy decade of the 1980s, the editors were sufficiently comfortable to say that an “easily articulated definition of Geography, consistent with the traditional notions about how the pursuit of knowledge should be compartmentalized, simply does not exist—nor should it.”<sup>1</sup> This may be reduced logically to “geography does not exist, nor should it,” and a recent president of the Association of American

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Geographers (AAG) has noted “the possibility of having the discipline die a natural death,”<sup>2</sup> mainly because of disciplinary inertia.

Such pessimism might seem curious to readers of an interdisciplinary journal that focuses on a geographical region. Geography has a useful role in explaining North America to Japanese students and scholars, and geographers teach things about it that other scholars do not, while two of the non-Japanese and at least one of the Japanese editors to have worked on this journal have meaningful associations with the discipline. Those readers who are familiar with geography in Japan know that it continues to flourish here, while in Britain, for example, it seems to be doing well with only minor distractions. Perhaps it is the adversarial culture of the United States that has magnified the problems of geography there, yet the discipline does face some fundamental problems that have placed geographers in America on the defensive. The present essay therefore discusses these, generally as identified in recent editions of the *AAG Newsletter*, and then gives some examples of maps and models that are questionable as useful interpretations of terrestrial space and could be seen to contribute to geography’s chronic slide toward the endangered list within the American academy.

## II SYNOPSIS OF GEOGRAPHY IN THE AMERICAN ACADEMY

Geography in the United States shares the same intellectual heritage as that in Europe. Although it can be traced to the ancient Greeks and include scholastic Christians, it was the great European voyages, expeditions, and concurrent discoveries from the last quarter of the fifteenth century until around the end of the nineteenth that established the objectives for and expectations of modern geography. Information and ideas about the various parts of the world drifted in to such intellectual centers as Amsterdam, Paris, and London, where governments and businesses manipulated them in their competitive ways. Centripetal were the cartographers who worked the information and ideas into visual impressions of the world and its parts, and in the process they tackled technical problems and quite often supplemented their maps with written passages and even other visual materials. This work, which at its best accommodated contemporary artistic style and conveyed appropriate scientific information, was “geography” as the word came to be understood by intellectuals in the nineteenth century and, it would seem, by most people then and throughout the twentieth.

As part of a British empire and since independence, Americans engaged in such geography to learn about their territory, especially as it expanded to the west. Throughout the nineteenth century in particular, territories and states needed to be defined geometrically, and information on them recorded for a variety of reasons, and by the end of the century this interest had expanded to Alaska and overseas, to the Hawaiian, Micronesian, and Philippine islands in the Pacific and to some of the Antilles and the Panamanian isthmus to the south. The strong connections that were maintained with Europe throughout the century—the cultural heritage, most of the immigrants to the United States, and governmental and commercial relations—supplemented such information with that from elsewhere throughout the world, and it would seem that Britons and Germans were the principal external agents of influence. During this time geography also came to be considered important for educating teenagers, being “commonly taught in America’s schools” and “one of the first new fields to be required for college entrance.”<sup>3</sup>

The last two decades of the nineteenth century witnessed the emergence of academic geography in the United States. At first it was closely associated with geology, the study of the Earth from a purely natural and generally past-tense perspective, but it gradually diversified to incorporate elements from other natural sciences, the social sciences, and history. Integrating whatever might overlap with other subjects or fields of inquiry was how humanity functioned within its habitats, and by the time that the Second World War had broken out, the vanguard of American geography was entertaining itself with theoretical debates about this relationship. This began with the geomorphologist William Morris Davis who perceived “man and his works as part of the landscape, not separate from it,” and who importantly “attempted to rescue the teaching of geography from too much attention to factual knowledge and not enough use of general concepts around which to organize the facts” and was the key figure in organizing the AAG (established in 1904) as “a professional society in which members could present their ideas.” While the AAG became the main forum for intellectual exchange, his students were instrumental in getting geography established in American universities, and one of them, Ellsworth Huntington, promoted the idea that climate influenced human behavior (1915). Such environmental determinism was however challenged, notably through the work of Ellen Churchill Semple who argued “that the environment does not control human action” (1911), and between the two world wars various trains of thought

focusing on such concepts as regions and cultures came into existence, something to have been expected as geography lessened its dependence on the natural sciences.<sup>4</sup>

As specialization set in after the Second World War, it became common for academic geographers to be either a human geographer or a physical geographer and seemingly to demonstrate greater commitment to narrow research themes than to a disciplinary core that would unify the two major branches. Certainly by the 1980s academics were identifying themselves according to their specialties, and it seemed that an economic or a social geographer was not expected to know much about, say, climates and soils, while a geomorphologist or a biogeographer (humans excluded from this “bio”) was similarly presumed ignorant of the likes of political or urban geography. At this juncture, it is possible that the problem was that no great, broadsweeping theories were in the offing, and since a tremendous lot was already known and/or interpreted about the world, the main direction of cutting-edge scholarship lay in such narrowness. To a large extent because of this, and perhaps stagnant careerism inside the discipline, the decision in 1981 to discontinue the department of geography at the University of Michigan seems to have triggered profound anxiety among geographers in the United States. It seems to have been reasoned that if nongeographers could not see the point of a discipline with weak cohesion and no apparent mission, geography would eventually be eliminated from the mainstream academy. Two developments threw a lifeline to geography by the mid 1980s, one being the growing popular concern over environmental issues and the other being advances in computerized mapping, but geography has not managed to take sufficient advantage of either.

What seems to be missing from this unfavorable picture is the fact that geographers have produced useful, interesting work—not all narrow—in the last three or four decades, and that there is still plenty to be done. Within the academic community, perhaps, little value might be placed on general educational materials and books about countries, parts of the world, and the various topical components of geography, but it is clear that other communities do detect value. Among these are the military and intelligence agencies, NASA and companies which put satellites into orbit or use them, governments and other institutions with a need to compile and use diverse information about areas or regions, schools and individuals engaged in education, and the makers of maps and atlases. Instead of producing exciting intellectual theories and outstanding

inventions, the common thread of geography inside and outside the American academy is one of discreet utility.

### III GEOGRAPHY BESIEGED?

In an introductory textbook Harm de Blij and Peter Muller claim that there are “ten-thousand-plus professional geographers [in] North America,” and the AAG membership as of May 2000 was “about 6,500,” practically all of whom were Americans and/or working in the United States.<sup>5</sup> The latter figure has suggested to Reginald Golledge, a recent president of the AAG, that “Geography is a small discipline” and, when combined with other numbers, faces a crisis in population.<sup>6</sup> Yet, 6500 or 10,000-plus need not be “small” numbers, and they certainly cannot reflect the true number of people in the United States who are engaged in work that draws on geographical training or knowledge, and nor need they indicate much in regard to popular geographical interest.<sup>7</sup>

The perception of crisis extends more significantly into the quality and constitution of the discipline, almost exclusively in academic contexts. These run through a spectrum of problems that include disharmony between the physical and human subdivisions, esoteric specialization, disdain for teaching, inappropriate training, practical irrelevance, and even bad attitudes. Certainly apparent by 1980, they are sufficiently germane again today to warrant anxious commentary by the AAG leadership, who, along with others, seem to be determined to rescue geography. Perusal of commentaries, mainly by AAG presidents, in the monthly *AAG Newsletter* for 1999 and 2000 reveals significant consternation on the part of the Association’s leadership, and it may fairly be assumed that this anxiety is widespread and based in reality. Here, some selected statements are arbitrarily compartmentalized and remarked upon.

Judging from comments that indicate a perception of marginality and an image that is not first-class, it is not difficult to detect that geographers in America suffer from an inferiority complex. This must be sufficiently pervasive for Golledge to have entitled his final presidential column “Never Be Ashamed of Being a Geographer,” which includes this insightful passage:

Over the years, I have seen a great deal of denial of disciplinary roots by geographers. Some just refuse to call themselves “geographers” and use titles like “earth scientist,” “statistician,” or “environmental engineer.” Some

refuse to acknowledge their departmental home on their publications, instead citing research units or other institutional bases. Some feel that geography is so poorly regarded by other disciplines that they cannot compete equally for fellowships, scholarships, and research grants and contracts if they identify as geographers.<sup>8</sup>

Behind this would be a perception of diminished prestige, no doubt bolstered by a “lack of formal geography (courses, an undergraduate minor, major, or graduate study) in many of the most prestigious universities in the nation.”<sup>9</sup> For this to have happened, the work of geographers must have come to be seen as insufficiently unique, creative, or intellectually demanding, but it might not be out of place to wonder if the words “geography” and “geographer” do suffer from an uncharitable image. Important is the suspicion that “graphy” (= writing, drawing) is not as intellectually appealing as “logy” (= science, theory, study; associated with “logic”) and “sophy” (= knowledge, thought, wisdom), and that “writing about and drawing the Earth” (“graphy” plus “geo”) in America today does not evoke the impression of strenuous intellectual effort. Related is the allegedly widespread belief that geography is a subject involving “the study of city names and sizes, capitals, and products”<sup>10</sup>—to which might be added countries, states, mountains, rivers, and the like, as well as maps—and associated with memorization, as if it were in the same category as learning the times table and how to spell. This would seem to be a cruel exaggeration, but perceptions can assume the guise of reality.

Several comments in the *AAG Newsletter* support a sense of geography being at best second-rate within the American academic community. Broadly assessed, they appear to be arguing that this “dysfunctional discipline” needs “to convince other disciplines that [it has] much to offer” and “to improve its image among peer disciplines, business, government, educational institutions, and the general public.”<sup>11</sup> Golledge is concerned that “representatives of other disciplines disparage geography,” although “frequently based on ignorance,”<sup>12</sup> but it would seem that this ignorance is a source of power which geographers unwittingly cater to. Will Graf’s assertion, for instance, that physical geographers are “spatial specialists who complement other scientists”<sup>13</sup> smacks of acknowledging an inferior status, it not being unreasonable to suppose that the complementor fills in the gaps after the important work has been done. Although this need not have been meant to be inferred, it is possible that geographers have come to see their discipline in this light, rather than

the other disciplines as complements to geography, and to accept a belief that other disciplines are better.

How this perception of inferiority came about is probably best explained by the longstanding trend toward specialization and its concurrent major (physical/human) and minor subdivisions within the discipline. The resulting hyphenated status (although hyphens are generally not used) of geographers puts them somewhere between two disciplines (e.g. biology and geography, sociology and geography, history and geography) and would seem to contribute to a geographer feeling special among, if not superior to, other geographers yet inferior to scholars in an allied discipline. In theory, this is supposed to be compensated for by an ability to synthesize information into a spatial context—"Spatial analysis . . . has offered a unique contribution that . . . formalizes the idea that geography makes a unique contribution to scientific knowledge"<sup>14</sup>—yet this can be frustrated if the mosaic of information is too complicated to comprehend entirely, if geographers are not keen to put aside narrow research to contribute to something more general, or if scholars in other disciplines can do it anyway. Since "it can be argued that a definite weakness of specialization has been the loss of human/physical synthesis," "that specialization has pitted segments of the discipline against each other," and that many geographers "work at the margins of geography, practicing our craft in consultation with cognate disciplines,"<sup>15</sup> it would be fair to assume that work of an integrative nature is not particularly sought after and that "geographers" would prefer to be something else.

Accompanying the centrifugality of specialization is the tendency of geographers to internalize their affairs. By notably aiming their discourse at each other, geographers exacerbate their problems by distancing themselves from other scholars inside the academy (which implies that they are not well connected with cognate disciplines as critics of specialization seem to suggest) as well as from the general public. Graf, for example and in good intent, wrote

One of the most important things geographers offer to society, government, and other sciences is our perspective on the world. We emphasize space and place, location, patterns, networks, systems with locational characteristics, and the spatial perceptions and behavior of people. We contribute a better understanding of the present world and improved predictions for a future one. We offer clues that other disciplines overlook.<sup>16</sup>

A curious point in this passage is the use of the word “our” in the first sentence, suggesting that whatever “perspective on the world” geographers do have is not shared by nongeographers. If this perspective is broadly defined by the second sentence, it would come as no surprise if it were pointed out that the likes of location, patterns, networks, and associations thereof are not exclusively in the domain of geography. The unique perspective, it would seem, must be defined rather by how geographers categorize such things among themselves than by the fact that they put an emphasis on them. Whether geography does provide “a better understanding of the present” and “clues that other disciplines overlook” surely is debatable, while it is not clear that geography need be the force behind “improved predictions” (e.g. satellites in orbit around the world have contributed more to better weather forecasts than has the ability of meteorologists to reason) or necessarily be able to predict any better than other disciplines (e.g. for earthquakes, agrarian land use, organizing settlements, determining a country’s role in strategic affairs).

Two other exemplary points from the newsletter suggest an unhealthy inwardness. One, in a set of criticisms, asks “How many times do we have to . . . decipher jargon-laden presentations using special language clearly intended only for the ‘in crowd?’”<sup>17</sup> Although this specifically complained about presentations at national conferences, it could be extended to include other meetings, publications, and teaching, and it is obviously linked to specialization and attempted exclusivity. The second example, in an essay wondering why geographers have not been involved in recent high-profile projects, argues that geographers have isolated themselves through their gamesmanship in publications:

for too long the discipline has looked inward rather than outward. We tend to publish most of our scholarship in geographical journals . . . , but many of these outlets are not widely read outside the discipline. So . . . few non-geographers know about it. The reverse is also true—if you publish exclusively outside the discipline, few of your geographical colleagues know about your contributions.<sup>18</sup>

While this does not consider that scholars in other disciplines might be doing exactly the same thing, it does reinforce the idea that geographers have isolated themselves from the rest of the academic community. This can be extended to affairs inside the discipline since geographers tend to separate themselves from other geographers by publishing in journals and books devoted to specialties.



Another area of concern is the training of geographers, especially in regard to the intellectual core of knowledge and skills. The greatest indictment in the *AAG Newsletter*, Graf's "Not Clueless, Just Skill-less," includes several remarks which acknowledge existing problems and their potential to be dragged into the future. These include insufficient knowledge of allied disciplines and relevant techniques for conducting research, as well as insufficient training in analytical skills, writing, and public speaking. Responsibility for improving the quality of geographers is assigned to "the education community," which evidently has been neglecting its duties, and physical geographers are to have "at least [an] introductory knowledge of basic physics, chemistry, and mathematics," while human geographers require the same of "mathematics, statistics, survey research, and the fundamental ideas in related fields," and experts in geographic information systems (GIS, computerized mapping) "need to delve more deeply into the underpinnings of spatial analysis."<sup>19</sup> This is a tall order, in which a well-rounded geographer might be imagined leaving an American undergraduate institution with a substantial increase in general education courses. It is not clear what current academic geographers are supposed to do about their deficiencies, whether from a disciplinary-wide perspective or simply from that of either physical geography or human geography, but Graf's message appears to be that geographers ought to start learning more.

In the domain of skills, a lot of recent attention has focused on GIS, which by now is sufficiently mainstream to be specified as a preference or even a requirement for many entry-level academic positions. Not surprisingly, then, GIS has cropped up in the *AAG Newsletter* as terribly important, there being some merit to Golledge's noting "that Edward Taaffe, former AAG President . . . , has suggested that all geographers should be exposed to GIS as part of a disciplinary effort to make ourselves and our products more competitive in future job markets and more visible in the worlds of academe, government, and business."<sup>20</sup> Although well-intentioned, this is as valid as asserting that all geographers must study Russian or Chinese, the languages of America's main rivals, so that they might be more able to contribute to surveillance and even to potential war-making, an enterprise that geography is well suited for. Regardless, the important point behind Taaffe's remark is that GIS has a sizeable niche—"The number of professionals in the United States using GIS as a part of their jobs is approaching 500,000," of whom possibly "50,000 are doing GIS full time"—but some disturbing statistics indicate that GIS is not necessarily identified with geography:<sup>21</sup>

Currently there are perhaps 50,000 students at universities in the United States getting at least one course in GIS each year, of whom about a third are taking GIS in a geography department. At the bachelors and masters level, geography appears to dominate the delivery of GIS courses, but at the two-year college level geographers provide only about ten percent of the GIS offerings.

Two thirds of those who study GIS do so outside geography, and society at large has clearly placed GIS within the domain of applied computer science, including to the point that a “growing demand for certification programs to undertake GIS training without any ‘academic baggage’” exists and that this demand is being met significantly by “private technical colleges, . . . community colleges, and . . . fee-paid training programs run by private businesses.”<sup>22</sup> Perhaps Taaffe’s “exposure” was not intended to mean the technical competence achieved through such programs, but a reasonable ability to manipulate geographic information onto computerized maps implies sufficient training in computer science, basic cartography, GIS itself, and possibly remote sensing.<sup>23</sup>

Such concerns over knowledge and skills, and how to improve them, suggest a reaction to specialization and a desire for geographers to become latter-day “Renaissance People,” familiar with many subjects, and to be able to manipulate data spatially, especially onto maps and preferably by computer. In a sense, this would be a return to the true spirit of geography, but the upper-crust academy is clearly prejudiced against intellectual handymen and geographers themselves have generally not been inclined to demand such breadth from their postgraduates and colleagues for a rather long time. This has made it necessary for the AAG leadership to float ideas about the purpose, goals, and aims of geography in contemporary academe and for the general public. Important elements include improving the image of geography, its role in education, and its relevance to environmental science and a more integrated world than in the past.

Improving the image of geography seems to be paramount. This has essentially taken on the spirit of self-promotion, and some of the requests for community service are proving to be controversial. It appears that there is substantial anxiety over geography being identified with place-names and map locations, hence a need to emphasize spatial analysis and to outline “a vision (or visions) of geography’s future,”<sup>24</sup> as well as to publicize them, has been recognized. A set of “key concepts that help differentiate geographic research from other disciplinary emphases,”

listed and explained by Golledge, gives a good insight into what ideas are likely to be used to promote a better image: geography as an integrating science, spatial analysis, spatial representation, spatially explicit theory and models, place-based analysis, a unique way of combining knowledge and policy, place-based search, and scale.<sup>25</sup> The key words here are science, analysis, space, and place, and the target of this message appears to be the academic community since it is the most likely to be attracted by the words “science” and “analysis.”

In regard to the public at large, geography has been promoted primarily through its role in education. Included are a Geography Awareness Week, Geography Alliances, and geography competitions, while a National Geography Learning Network which uses advanced technologies has been proposed.<sup>26</sup> Geography Awareness Week is a form of “community outreach” in which geographers can explain the discipline and their research to children in school, and the Alliances are mostly statewide set-ups that enable geographers in higher education “to work with local school teachers to plan ways in which they could help improve geography instruction.”<sup>27</sup> These seem to be steps in the right direction for improving the image of geography, from memorized place-names and map exercises to a subject that investigates and integrates a broad spectrum of topics, but it is difficult to say what effect geography competitions are having. The best known is the annual Geography Bee for schoolchildren, which is modeled on the knock-out spelling competitions that Americans are familiar with and which ends with a final round at the National Geographic Society in the city of Washington. Five of the questions answered by the champion for 1995 were:<sup>28</sup>

1. Russia’s primary space-launch facility, the Baikonur Cosmodrome, is in the desert of which former Soviet republic?
2. In 1993 Tansu Ciller became the first female prime minister of what Muslim-majority NATO country?
3. Porto-Novo is the commercial center of which African nation?
4. The Equator and prime meridian intersect in what gulf?
5. Pashtu and Dari are the official languages of which landlocked country in central Asia?

Clearly and unfortunately, this is a trivia quiz which reinforces the perception of geography as a subject of memorization, of mainly linking things to places on maps and globes, and of general knowledge linked to countries. To improve the image of geography, it would seem that

such a high-profile event should be redirected towards explanation, as in “why do the Russians maintain their primary space-launch facility in Kazakstan?” or “how is it that the equator and prime meridian intersect in the Gulf of Guinea?”

One issue that geography has exploited to create such programs is “geographic illiteracy” among the general public:

A concern was developing [by the early 1980s] throughout the United States that the citizenry and especially the school-age group were growing up with little knowledge of the country or the world in which they lived. Studies were published revealing the extent of American ignorance regarding the location of places and countries. . . .

Geographic illiteracy extended beyond not knowing the location of places. People, now largely removed from the land, had little knowledge of the physical environment.<sup>29</sup>

Needless to say, the “ignorance” was not and is not limited to geography, and nor need it be as important as geographers might fancy it to be. Ignorance is in the eye of the beholder, and for practical purposes Americans seem to be sufficiently aware of the likes of space, place, and location, and can “analyze” them in their own way. De Blij, well known for promoting geography, even referred to “the geographic-illiteracy fiasco . . . in the 1980s,”<sup>30</sup> indicating that the first attempt to educate the ill-informed masses failed, yet Golledge for one continues to envision geographic illiteracy as a disciplinary savior at the turn of the century:<sup>31</sup>

The geographic illiteracy of the US population generally is an established fact. It is also recognized that this illiteracy can be traced to the minor position that geography has played in the K[indergarten]-12[th grade] curriculum over the last 50 years or so.

An information age will require a geographically literate public and the educational system to support it.

Changing the image of geography and increasing the awareness of the nation’s population regarding geography is . . . the first step in what should be a massive attack on geographic illiteracy.

Admirable and certainly useful for promotional purposes, attempting to reduce geographic illiteracy on a “massive” scale does however imply a willingness to exaggerate a problem in the hope that appropriate sympathy will be imparted on geographers.

Another issue that geographers have tried to exploit, within common reason but apparently not as successfully as could have been hoped, is the widespread concern over the natural environment. This started in the

1970s and picked up throughout the 1980s, especially as it became politicized first in Europe and gradually by the two powerful parties in America.<sup>32</sup> Outstanding problems by now include the number of people in the world, threats to and losses of animal and plant species, various forms of pollution, deforestation, desertification, depletion of ozone in the stratosphere, and warming of the lower atmosphere, and conventional wisdom would identify such problems with geography, although not exclusively. Given that the United States has been a major contributor to pollution, especially through massive emission of gases which have been identified with ozone depletion and atmospheric warming, it would seem that American geographers had been offered a blessing in disguise. Susan Cutter, however, has pointed out that they did not respond accordingly:

Almost thirty years ago [ca. 1970], geography was in a position to lead a new interdisciplinary effort called environmental studies. With one of our core traditions focused on nature-society interactions, it seemed like a natural fit and a perfect role for the discipline. Unfortunately, we failed to become the intellectual driving force behind environmental studies as new centers, institutes, and programs were being established in colleges and universities throughout the nation in the 1970s. Unfortunately, many geography programs were weakened . . . in favor of environmental studies. This was not true everywhere, but for the most part, geography missed the environmental studies bandwagon.<sup>33</sup>

How this came to be is not terribly difficult to imagine. If they choose to work on such problems, geographers can collect relevant data, analyze them spatially, compile some maps, offer explanations, make some criticisms, and suggest solutions, but they are not in a position to actually solve an environmental problem. That has to be done by governments, businesses, inventors (associated with the natural sciences and engineering), users of things that contribute to pollution, and makers of babies, and the general thrust of solving environmental problems through improved technology, legal enforcement, and persuasion is not the business of geography. The fact that scholars in other disciplines can and do collect and analyze appropriate data (including spatially), and can prepare relevant maps or have cartographers or GIS technicians do them, furthermore places geographers on a tangent.

Alongside environmental issues, liberalized international commerce and a lot of new-wave machinery are supposed to encourage global awareness, giving geographers another reason to promote their discipline.

Notably, communications technology has made instantaneous or very quick transmission of “information” possible, and transportation technology has reduced the amount of time required for shipping and travel, including to places that differ considerably in regard to nature and/or culture. Therefore, the reasoning would go, “Geographical knowledge is more important than ever in an increasingly . . . interconnected world,”<sup>34</sup> yet the reality for most people is that “globalization” does not incite such curiosity or even require much geographical knowledge. Many Americans, for example, might notice labels that say “Made in China” or “Made in USA,” but these do little for stimulating geographical interest and certainly contain no information about the place(s) of origin and workmanship. The Internet, as another example, seems to lead to a far greater acquaintance with a computer than it does, say, with distant environments to and from which e-mail messages are dispatched. Most passengers in flight seldom, if at all, look out of an airplane window, and even less give much thought to what might be seen, while it is doubtful that most travelers tend to take an intellectual interest in the places they visit. Basic maps and guidebooks can give most computer-users and travelers whatever geographic information they need, and useful guidebooks in particular need not be the work of professional geographers. Those people who do, however, have a peculiar need for or interest in such information can certainly learn from geographers, but they can also learn from other sources.

#### IV OBSERVATIONS ON ILLUSTRATED SPATIAL ANALYSIS

There is actually nothing wrong with geography itself: it is a useful subject, stimulating for some people but not everybody, and there are many ways to apply knowledge and skills that may be acquired from studying geography. It might not seem as adventurous or as prestigious as it might have been in some romanticized past, but information about the world is still required, even if it is mainly updated rather than purely novel, and American society quietly appreciates the maps that come with it. The problem is not the subject of geography, but the “geographers” who do not seem to understand that their discipline is the study of this world, that the practical knowledge and skills to be gained through the study of geography are far more important than searching about for a memorable theory or stretched generalization, and that maps (not esoteric mathematics) are the principal language of geography. That geog-

raphers in America might despair about the future of their discipline, worry about its being disparaged by academic peers, and get themselves trimmed out of universities is a clear message that geographers know that their work has marginalized geography and that they are to blame for its troubles.

America is a worker's society that admires utility, and its universities value breadth of study and social experience at the undergraduate level far more than do their counterparts in Europe. Although these factors are conducive to encouraging the study of geography, geographers seem to shy away from them, perhaps under the assumption that breadth and utility do not quite suit the image of a sophisticated scholar. To a large extent, this image has been fostered by specialization, the general trend in both research and university teaching throughout most of the last half century, so geographers need not be faulted for doing what everybody else has been doing. Their alleged tendency, however, to drift from the spirit of their discipline might be stronger than in other disciplines, and this has made it difficult for geographers to recognize what their own craft is.

By virtue of having made geography an interdisciplinary hybrid, geographers might very well have created the impression that it is a relatively naive, insufficiently deep subject. It might be insightful to note that the basic material covered in introductory geography courses at American universities coincides with what is covered in Japanese secondary schools. This does not mean that the material need be "easy," but it is tempting to wonder if opponents of geography and geographers themselves unfairly view such collegiate courses as below the dignity of university instruction. It is also possible to argue that plenty of the information in introductory human geography courses might be picked up from courses in other subjects, where it might be presented more deeply, and that basic cartography seems to be generally dismissed as insufficiently academic (and it is a conservative guess that more than 75% of the geographers at American universities have never taught such a course). When it comes down to identifying a common denominator for the "spatial analysis" that geographers are likely to agree is what ties the disparate threads of the discipline together, it is of course maps that spring to mind, although they are supplemented by other abstract diagrams often called "models." In this context, then, a brief discussion about maps and models which might commonly be used in introductory geography courses, the principal form of exposure to the discipline for most Americans who have been to college or university, reveals how



basic results of “spatial analysis” might not be very appetizing to the broader academic community, or even how geographers might feel that they have made geography appear naive or unsatisfactory.

Physical geography relies on maps and diagrams to explain things. Among these are illustrations to show the Earth going through its seasons, the atmosphere and its temperature gradients, atmospheric pressure cells, types of clouds, air masses and fronts, the hydrologic cycle, the inside of the Earth, mountain arcs and trenches that delimit tectonic plates, various landforms and processes behind them, stream patterns and dynamics of their flow, waves and their effects along coasts, soil textures and horizons, energy flows in an ecosystem, and ecological succession. Added to these are maps and diagrams to explain predominantly worldwide distributions of weather patterns, climates, landforms, soils, and vegetation. Although they can be overly generalized, including to the point of creating an “idealized continent,” such illustrations are genuinely informative and contribute to an understanding of the world as a unit. An excellent textbook to include such diagrams, relevant maps, and concise explanations is *Modern Physical Geography* by Alan and Arthur Strahler,<sup>35</sup> a recent revision of a similar introduction compiled by the latter in 1965. Anybody consulting this book would appreciate the fact that its illustrations and texts apply to the entire world or in various places throughout it in the case of scattered phenomena, and it is doubtful that such an integrative work focusing clearly on the Earth can be confused with that of another discipline.

If critics of geography were required to complete a challenging introductory course in physical geography with an A or B, and if all “geographers” had to teach physical geography properly and satisfactorily, a lot of misunderstandings about the discipline might start to vanish. The problem is that physical geography is often too difficult or not interesting for students and scholars without a natural-science bent, and it would be no exaggeration to say that most people in the academic community, as well as in the general public, are content to know, for example, that Russia is cold but are not bothered to find out why. Instead, they are more keen to learn about what people do, the essence of human geography and (usually more so than is physical geography) “world regional” geography. It would be reasonable to believe that most people who have taken a geography course at an American college or university took one in introductory human geography, which by virtue of this exposure most likely has shaped opinions of the entire discipline within the academic



environment. Also, it is important to note that human geography accounts for most of the geographers in American universities<sup>36</sup> and that geography is generally treated as a liberal arts subject, meaning that most extradisciplinary contact with geography is likely to come from students and scholars in the social sciences and humanities. When juxtaposed with basic information from such cognate fields, chapters or sections in introductory human geography textbooks can give the impression of naivety or irrelevance, and the same can be said of materials for world regional geography courses. A few examples illustrate that it is easy to see through the veil of the catchy expression “spatial analysis” and to wonder what valid academic contribution human geography and world regional geography have to offer.

Without the accompanying maps, introductory human geography overlaps several other disciplines, notably anthropology, sociology, political science, economics, linguistics, and history. The maps are therefore crucial to avoid insinuating that human geography is a catch-all survey of several fields of study, something that is not lost in such recent textbooks as *The Cultural Landscape: An Introduction to Human Geography* by James Rubenstein and *Human Geography: Culture, Society, and Space* by Harm de Blij and Alexander Murphy.<sup>37</sup> Although many of the maps in these books are devoted to the world, a comparison of them with the maps of the world in *Modern Physical Geography* reveals that, unlike physical geography which focuses on purely natural patterns throughout the world, the fundamental unit for human geography is the country. The logic here is that human geography is not exactly a study of the world as it is, but a collation of generalized information about countries, with the result that the spatial distribution of the subordinated topical information need not be shown reasonably correctly or usefully.

*The Cultural Landscape*, for example, shows Canada, the United States, all of Europe and Russia, Japan, South Africa, Australia, and New Zealand as the “more developed areas” in the world, while the other countries are “less developed,” “development” being “the process of improving the material conditions of people through diffusion of knowledge and technology.”<sup>38</sup> While some of the “more developed” countries might do a reasonably good job of improving material conditions within the entirety of their borders (e.g. Japan, Sweden, Britain), it is questionable that they all do. Some parts of South Africa and Russia, for instance, might be “more developed,” but huge chunks are not, something that is

lost in the map. Similarly, parts of coastal China, the island of Taiwan, parts of Mediterranean Africa and southwest Asia, and cultural centers in "Latin America," for example, are questionably classified as "less developed," so it is very difficult to get a reasonably accurate global impression of "development."

Other examples from *The Cultural Landscape* include maps of population density by total land area and by arable land. Despite pockets of relatively high densities as in the Moscow region, the southern Urals, and the Kuzbass of southwestern Siberia, Russia is shown as one unit and in the lowest category for both. China and the United States are each shown as discrete units while Europe west of Russia, of similar size, is broken up into 33 units with varying densities. Were China, the provinces of which are equivalent to countries in Europe, and the United States similarly broken up, some parts would show higher densities in their eastern thirds, while the western half of China and the bulk of the American West would resemble such low density countries as Mongolia and Chad.<sup>39</sup>

Similar examples from maps of the world can be found in *Human Geography*,<sup>40</sup> but the problem should be clear. Whereas in many cases the maps might be interesting or insightful in a way, far too often they are naive comparisons made by coloring in entire countries from readily accessible, general statistics. Needless to say, textbooks on physical geography could not get away with this: if, for example, *Modern Physical Geography* were littered with world maps of precipitation, climate, landforms, soils, and biomes categorized by statistical averages for countries, nobody would use it. As with this difference in maps, a notable difference exists in the applicability of diagrams or models that appear in textbooks for human geography and physical geography. Those for the latter are designed to explain phenomena and can be applied throughout the world, examples being illustrations of weather fronts, landforms, and soil profiles. In human geography, this is less likely to be true, as demonstrated by the following examples which have influenced the way geographers are supposed to think.

Perhaps the most notorious model is that named after Johann von Thünen to explain the distribution of land-related activities around a settlement. *Human Geography* shows it with four concentric rings of, at increasing distance from the settlement, market gardening and dairying, forest, increasingly extensive field crops and grains, and ranching and livestock, while in *The Cultural Landscape* there are six, being horti-

culture and dairying, forestry, crop rotation, enclosed fields alternating between crops and pasture, three-field agriculture, and grazing; beyond the last ring, as noted in the former, is wilderness.<sup>41</sup> The boundaries of the rings are determined by such factors as perishability, bulk, and distance from the settlement that affect costs for transportation, and the model assumes uniformity in regard to topography (flat), climate, and soil. Although the area around the German city of Rostock, studied by von Thünen in the first quarter of the nineteenth century, came close to meeting these requirements, generations of geographers have known good and well that the model does little toward explaining reality, hence the first protective step in justifying its use is to throw in a river, thereby distorting the rings until they are broken into elongated zones running along either side of the river. Another step or two toward physiographic reality might suffice to dismiss the model as not particularly relevant, and it hardly explains patterns of agriculture, forestry, and animal husbandry distributed throughout most of the world.

Three models are famously used to explain the internal structure of cities: concentric zones, sectors, and multiple nuclei. The first two date respectively to 1923 and 1939 and are essentially interpretations of a modified Chicago, while the third dates to 1945 and takes into account the early influence of suburbanization and locating heavy industry on the outskirts of American cities. Common features of all three are a central business district (in the absolute center for the first two, not far from it in the third) and residential sequences of the poor, middle-income, and wealthy, with the last class the furthest from the central business district and areas devoted to industry, although the sector model has part of it touching on the central business district.<sup>42</sup> The concentric model has some validity because data can be manipulated to give the impression that some settlements conform to it, but as with the von Thünen model, the more that factors from the real world are introduced, the less concentricity resembles reality. Also, even when it is assumed that the parts of the sector and multiple-nuclei models can be rearranged to suit circumstance, it is difficult to see them as true models because both natural and cultural factors easily upset the patterns. Furthermore, all three models are attempts to explain American cities and are very difficult to apply throughout the world.

Other models in human geography can also distract from understanding the realities of this world. Megalopolises (coalescing conurbations), for example, are discovered in such places as peninsular Florida and from

Chicago to Pittsburgh, regardless of the huge chunks of rural countryside within them.<sup>43</sup> Central-place theory, involving overlapping patterns of hexagons and complicated logical patterns based on mathematical formulas and a homogeneous plane,<sup>44</sup> for example, is certainly sophisticated and arguably valid in some areas, yet it cannot explain most spatial patterns of settlement or why cities such as New York, London, Shanghai, and Singapore are very important. People respond to such a variety of conditions (notably topography, climate, soils, wildlife, and existing human-created factors) that perfect-world scenarios contribute little to understanding the reality of human activity throughout the world.

Similar to country-based world maps, however, such models look good, are reasonably comprehensible, and are easy to make, but they are little more than intellectual distractions. Critics surely can see this and might rightly wonder what value human geography has for education and practical use if it depends on misleading country-based maps and relatively simple, idealized models, both of which might easily be falsified by real-world analysis that ignores the boundaries of countries. If cultivating knowledge about the world were to be the purpose of introductory human geography courses, and even those on “world regional” geography, replacing nearly all of the country-based maps with maps that are reasonable approximations of real-world human and/or cultural distributions would seem to be an urgent enterprise, as would eliminating the naive models which have no universal applicability. “Spatial analysis” might be a catchy phrase to identify the unique character of geography, but it cannot help promote the cause of geography when a significant portion of its easily accessible results, used for general education, might not withstand probing questions in regard to fact and validity.

## V SUMMARY REMARKS

Judging from recent comments in the *AAG Newsletter*, it is possible to detect several critical, persistent problems that afflict the discipline of geography in America. These might be generalized as internal fragmentation through specialization into two major subdivisions (physical and human) and several minor ones, insufficient training across the disciplinary board and within a major and even a minor subdivision, an inability to exploit opportunities advantageously (environmental issues, globalization, GIS), and a willingness to emphasize what is not terribly

important (geographic illiteracy). Behind this is an identity crisis which has led to calls for improving the image of geography, identifying its unique position among the sciences, and promoting its importance in general education.

To do all this, geographers in America sense a need to emphasize "spatial analysis" as the key concept to claim a place for their discipline in the academy. Primarily this translates as organizing information into visual impressions known as maps, with relevant verbal and numeric evidence and explanations accompanying them. The long heritage of European geography, to which that in America is an extension, demonstrates this, and it takes no great leap of the imagination to believe that that is what the general public as well as the academic community expects today. Although there is a need for such analysis at the regional and smaller levels, all geographers by definition ought to be able to do it for the world as a whole, physical and human. Introductory university courses are the best measure of this, partly because their scope is worldwide and partly because they provide the greatest exposure to the discipline in an advanced academic setting, and physical geography does a reasonably good job of explaining the world as it is. Human geography, however, tends to cheat by subordinating its spatial analyses to the level of countries and by using models that, while made logical, cannot truly explain phenomena throughout the entire world.

There appears to be a consensus that because of specialization, geographers do not communicate with each other across the physical-human divide, and possibly across the minor subdivisions, and that many have lost contact with the core of their discipline. This is the fault of geographers themselves, and there is an easy solution to this within the American colleges and universities, most of which combine general education with advanced, somewhat specialized study, an approach that is likely to be continued into the foreseeable future. General education courses such as introductory physical geography and human geography are the "meat and potatoes" that contribute to a broadly educated student body, an important goal in most American institutions for higher education since it not only expands individual awareness, considered to be socially and personally good, but also contributes to a rather large (economic) demand for educational services beyond the secondary schools. It is through teaching overviews of both physical geography and human geography that geographers can consolidate the integrative essence of their discipline and the knowledge that used to be expected of them.

Physical geography is the strength of the discipline because its content is very difficult to confuse with that of other subjects, and knowledge in this area is where geographers are most likely to impress their would-be detractors. Explaining the problems of Russia, as an example, in terms of its natural conditions (location on the terrestrial globe, topography, climates and weather patterns, soils, flora and fauna) yields a rather comprehensive understanding of that country since they provide the framework within which its peoples have flourished. Similarly, as another example, to understand desertification, it is very important to know the natural conditions that created deserts, semideserts, and steppes where they are, and this is also within the domain of physical geography. Being able to do these sorts of things would seem to be something to be expected of a geographer by other academics and most people within society at large. If geographers do not demonstrate an ability to handle their discipline in such a special way, opting instead to concentrate their teaching within the same major and minor subdivisions as their narrow research, especially when it assumes the coloration of other disciplines as can a lot within the domain of human geography in particular, it is quite possible that geography will eventually be considered redundant and treated accordingly.

Whereas it is important to conduct research so that knowledge might be expanded incrementally and updated, it is also important to recycle whatever useful knowledge already exists. General society and the academic community might wonder if there is something wrong when the brains of a discipline shy away from this latter responsibility, which some might consider to be the case with geography. In this regard it would seem reasonable to require every geographer in tertiary education to teach, in rotation, introductory physical geography, introductory human geography, a survey of environmental science or ecology, basic cartography, and world regional geography, the first four being semester-length courses and the last yearlong. This three-year cycle, repeated until retirement, would suffice to keep geographers familiar with the breadth of their discipline and to create better bonds with its core. Assuming that the typical geographer would teach five or six courses a year, this sequence would still allow for each geographer to handle three or four other courses devoted to topics and regions of expertise or interest, which must continue lest geography stagnate.

Specialization within geography is not itself a problem, but it would seem appropriate to honor the word "geography" and to write about and

to draw the world and its parts—to show its complicated spatial relationships—in ways that are thoroughly realistic as well as comprehensible for all geographers and, importantly, nongeographers. There is as much dignity to geography as there is to any other subject, and if anxious geographers in America were to consider the existential questions and shortcomings of other disciplines, they might discover some ammunition with which to defend themselves. Inside the American academy it is clear that specialization is more prestigious than general knowledge, that scholars within a discipline seldom interact closely with each other, that images attributable to the general public often do not correspond with insider perceptions of a discipline, and that the question of practical relevance tends to hover as an unwanted specter.

#### NOTES

<sup>1</sup> Gary L. Gaile and Cort J. Willmott, “Foundations of Modern American Geography,” in Gaile and Willmott, eds., *Geography in America* (Columbus etc.: Merrill, 1989), xxv.

<sup>2</sup> Reginald G. Golledge, “What Will the Discipline of Geography Be Like in 50 Years?,” *AAG Newsletter* 35, 3 (2000): 6.

<sup>3</sup> A. David Hill and Lisa A. LaPrairie, “Geography in American Education,” in Gaile and Willmott, *Geography in America*, 2.

<sup>4</sup> Geoffrey J. Martin and Preston E. James, *All Possible Worlds: A History of Geographical Ideas* (New York etc.: John Wiley & Sons, 1993), 305, 311, and 317 (Davis), and 331 (Semple). Chapters 15–17 (pp. 302–86) provide a comprehensive introduction to geography in America from ca. 1880 to the 1990s.

<sup>5</sup> Harm J. de Blij and Peter O. Muller, *Geography: Regions and Concepts* (New York etc.: John Wiley & Sons, 1988), 48; Reginald G. Golledge, “Moving On Up to ‘The Big Time’?,” *AAG Newsletter* 35, 5 (2000): 3 (“6,500”); Will Graf, “Who We Are, and Are Not,” *AAG Newsletter* 34, 3 (1999): 2: “A little more than 1% of our members are from outside the United States.”

<sup>6</sup> Golledge, “Moving On Up,” 3. Also, Golledge, “What Will the Discipline Be Like?,” 3: “the average geography enrollment over the period 1970–73 was 750,000 students, whereas in 1993–96 the average was 550,000. In 1970–73 there were 1,225 programs and 3,600 faculty; in 1993–96 there were 625 programs and 2,400 faculty. This disciplinary-wide loss is serious. And now, in 1999–2000, our AAG membership is declining again after a steady rise in the first half of the nineties.”

<sup>7</sup> Important examples would be geography teachers in the schools, urban planners, military personnel, and mapmakers. There is also the larger, nonacademic National Geographic Society, and literally millions of Americans make good use of maps each year.

<sup>8</sup> Reginald G. Golledge, “NEVER Be Ashamed of Being a Geographer,” *AAG Newsletter* 35, 6 (2000): 3.

<sup>9</sup> Susan L. Cutter, “Bring Geography Back to Harvard and Yale and . . .,” *AAG Newsletter* 35, 10 (2000): 3.

<sup>10</sup> Golledge, “Moving On Up,” 3.

<sup>11</sup> Will Graf, “Three Impertinent Questions about Pertinent Issues,” *AAG Newsletter*



34, 6 (1999): 2 (“dysfunctional”); Golledge, “NEVER Be Ashamed,” 12 (“much to offer”); Reginald G. Golledge, untitled “President’s Column,” *AAG Newsletter* 34, 7 (1999): 1 (“improve its image”).

<sup>12</sup> Golledge, “NEVER Be Ashamed,” 3.

<sup>13</sup> Will Graf, “Not Clueless, Just Skill-less,” *AAG Newsletter* 34, 1 (1999): 1.

<sup>14</sup> Reginald G. Golledge, untitled “President’s Column,” *AAG Newsletter* 34, 9 (1999): 2.

<sup>15</sup> Reginald G. Golledge, “Reuniting the Field of Geography: No Core, No Periphery,” *AAG Newsletter* 35, 2 (2000): 3 (first two citations); Susan Cutter, “Why Didn’t Geographers Map the Human Genome?,” *AAG Newsletter* 35, 9 (2000): 3 (last citation).

<sup>16</sup> Graf, “Not Clueless,” 1.

<sup>17</sup> Will Graf, “At the Circus: AAG Annual Meetings,” *AAG Newsletter* 34, 2 (1999): 2–3.

<sup>18</sup> Cutter, “Why Didn’t Geographers Map the Human Genome?,” 3.

<sup>19</sup> Graf, “Not Clueless,” 1 and (for the citations) 2.

<sup>20</sup> Golledge, untitled (in 34, 9), 2. “All” is emphasized in the original.

<sup>21</sup> The quotations are from Michael Phoenix, “Geography and the Demand for GIS Education,” *AAG Newsletter* 35, 6 (2000): 13.

<sup>22</sup> Reginald G. Golledge, “Geography’s Future: Professional or Academic?,” *AAG Newsletter* 35, 4 (2000): 3.

<sup>23</sup> A useful monograph intended to direct GIS users toward proper cartography (and thus toward geography) is Alan M. MacEachren, *Some Truth with Maps: A Primer on Symbolization & Design* (Washington: Association of American Geographers, 1994). This was published in response to professionally inferior maps being produced via computers, but it might be considered an attempt by the AAG to limit damage by reminding people that geography is useful for making maps. Whether the general public agrees remains to be seen. The following “real-world” advertisement, for example, acknowledges some link to general cartography and clearly indicates that an academic degree, let alone one in geography, is not required:

Associate’s degree [= two years of general study] in GIS related studies or 2 years work experience using GIS . . . Working knowledge of . . . software, computerized file management, map design, map projection, GIS principles and applications. Knowledge of computer programming, web page development, and other GIS related fields such as remote sensing, photogrammetry GPS, and census data would be useful.

See *The Daily Times* [Farmington, New Mexico], March 21, 2001, C5.

<sup>24</sup> Susan L. Cutter, “Strategic Planning and Plastic Pink Flamingos,” *AAG Newsletter* 35, 7 (2000): 3.

<sup>25</sup> Golledge, “NEVER Be Ashamed,” 3 and 12.

<sup>26</sup> For the National Geography Learning Network, see Golledge, untitled (in 34, 7), 1–2 and 10–11.

<sup>27</sup> The experience of one department in Geography Awareness Week is discussed in Reginald G. Golledge, “Community Outreach,” *AAG Newsletter* 34, 10 (1999): 1–2 and 9; for the Alliances (one in each state, the District of Columbia, Puerto Rico, and Canada), see Chester Smolski, “A Report on the Geography Alliances at the Half-Way Mark,” *AAG Newsletter* 35, 3 (2000): 13 (including the citation) and 20, as well as the briefs on individual Alliance activities that are printed in the newsletters.

<sup>28</sup> “Behind the Scenes,” *National Geographic* 188, 4 (1995): no page number.

<sup>29</sup> Martin and James, *All Possible Worlds*, 379.

<sup>30</sup> Harm J. de Blij in Will Graf, “Three Readers Write Back,” *AAG Newsletter* 34, 5 (1999): 2.



<sup>31</sup> Golledge, "Community Outreach," 1 ("The geographic . . ."); untitled (in 34, 9), 8 ("An information . . ."); and "Community Outreach," 9 ("Changing . . .").

<sup>32</sup> The recent presidential candidate Al Gore, at the time a United States Senator, published *Earth in the Balance: Ecology and the Human Spirit* (Boston and New York: Houghton Mifflin, 1992) as an attempt to bring environmental problems into the political mainstream.

<sup>33</sup> Cutter, "Why Didn't Geographers Map the Human Genome?," 3.

<sup>34</sup> Cutter, "Bring Geography Back," 3.

<sup>35</sup> Alan H. Strahler and Arthur N. Strahler, *Modern Physical Geography* (New York etc.: John Wiley & Sons, 1992).

<sup>36</sup> To give an idea, a count based on the topical proficiencies listed by AAG members who appeared to teach at the collegiate level in America in 1996 revealed the ratio to be greater than 2:1 in favor of human geography (approximately 1075 human and 420 physical, while about 60 fell into both and another 70 into environmental science). Although this is not an accurate assessment for all such geographers in America, or even among all those who are in the AAG since many did not list topical proficiencies, it is perhaps a far better statistical sample (1625 of the 2400 mentioned in note 6) than is often the case. For the sample, see *Guide to Programs in Geography in the United States and Canada 1996-97/AAG Handbook and Directory of Geographers* (Washington: Association of American Geographers, 1996), 510-782.

<sup>37</sup> James M. Rubenstein, *The Cultural Landscape: An Introduction to Human Geography* (Upper Saddle River, N.J.: Prentice Hall, 1996); H.J. de Blij and Alexander B. Murphy, *Human Geography: Culture, Society, and Space* (New York etc.: John Wiley & Sons, 1999).

<sup>38</sup> Rubenstein, *The Cultural Landscape*, 349 (map) and 350 (definition).

<sup>39</sup> Rubenstein, *The Cultural Landscape*, 66-67.

<sup>40</sup> Maps of the world with information recorded by country only do not explain, as examples, regional variations of population growth and level of economy in China, where refugees are concentrated in India or Sudan, or whether there are areas inside North Korea and Ethiopia where caloric intake is at least adequate; see de Blij and Murphy, *Human Geography*, 66-67, 286-87, 88-89, and 388-89.

<sup>41</sup> De Blij and Murphy, *Human Geography*, 200; Rubenstein, *The Cultural Landscape*, 408.

<sup>42</sup> Rubenstein, *The Cultural Landscape*, 542-44; de Blij and Murphy, *Human Geography*, 261.

<sup>43</sup> De Blij and Murphy, *Human Geography*, 267; H.J. de Blij and Peter O. Muller, *Geography: Realms, Regions, and Concepts* (New York etc.: John Wiley & Sons, 1997), 169.

<sup>44</sup> Rubenstein, *The Cultural Landscape*, 504-05; de Blij and Murphy, *Human Geography*, 258-59.

Also: a companion essay has been published as Simon R. Potter, "Geography in the American Academy: A Microcosm in Search of a Role That Already Exists," *The Journal of American and Canadian Studies* [published by Sophia University in Tokyo] 19 (2001).