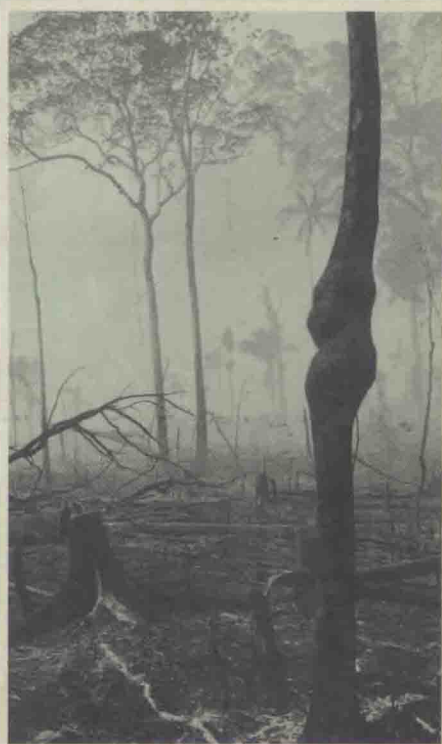


# THE CHALLENGE FOR GEOGRAPHY

*A Changing World:  
A Changing Discipline*

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Edited by R. J. Johnston



# The Challenge for Geography

A Changing World:  
A Changing Discipline

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# A Changing World: A Changing Discipline? An Introduction

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R. J. Johnston

Geography is pre-eminently an empirical discipline, concerned with understanding the world and transmitting that understanding to a wide audience. It is also a practical discipline, for its transmitted understanding is of value to those who would change the world – at all scales. Thus change in the external world is one of the major stimuli to change in the discipline – in the theoretical apparatus on which it draws, in the research methodologies its practitioners employ, in the content of its educational curricula, and in its contributions to influencing change.

Change is continuous, though its rate and direction vary over time and space. Geographers have long been charting, understanding and creating changes; their educational mission to enhance individual and collective awareness of the world means that many geographers believe that they must continually respond to external forces if their discipline is to remain relevant and vital. To a large extent, therefore, the title of this book is no more than a statement of the obvious. The world changes: geography changes with it (as numerous historians of the subject have argued: Freeman, 1961; Taylor, 1985; Johnston, 1991).

So why have a book on that symbiotic relationship? Over the last two decades a number of volumes have appeared with titles that suggest an evaluation of geography's present and future content: they include *Directions in Geography* (Chorley, 1973), *Geography Matters!* (Massey and Allen, 1984), *The Future of Geography* (Johnston, 1985), *Horizons in Physical Geography* (Clark, Gregory and Gurnell, 1987), *Horizons in Human Geography* (Gregory and Walford, 1989), *New Models in Geography* (Peet and Thrift, 1989), *Remodelling Geography* (Macmillan, 1989), *The Power of Geography* (Wolch and Dear, 1989) and *Remaking Human Geography* (Kobayashi and Mackenzie, 1989). Surely we have had enough,

and geographers would be better expending their energies ‘doing geography’ rather than ‘writing about what geography is and what it ought to be’?

Those books have not addressed the issues tackled here, however. If the world that geographers study is changing fast – perhaps faster than ever before – then how should they respond? Can we just assume that they will, because they always have, or ought we to focus some of our attention on how they might, perhaps should? The context for that last question is crucial: formerly – when change was in general slower – the need to respond, positively and with some unity, was not as pressing as it is now. But some of those with political and economic power in the currently changing world question the need for many academic disciplines and the qualifications gained from their study, and so those disciplines’ continued strength is increasingly predicated on their ability to meet external demands. They must be ‘sold’, though not necessarily in a crudely materialistic way: students must want to study them; funding agencies must want their research skills; and so forth. Geographers must demonstrate that their understanding of the world is knowledge that others need; people must be convinced that they want geography – that indeed they cannot do without it.

This book is built around the two main themes of its subtitle. Its first concern is to appreciate how and why the world is changing. From that appreciation stems the second concern – to evaluate whether and, if so, how the academic discipline of geography needs to be altered to accommodate that changing world. The tasks are massive, of course, and the following chapters provide only outline sketches accompanied by in-depth explorations of a few themes. The two introductory chapters (1 and 8) introduce the changes that pose the challenge; the remaining nine chapters are detailed examinations of specific salient points.

The origins of this volume are a session that I organized at the 1991 Institute of British Geographers’ annual conference, under the title which is this book’s subtitle. I am grateful to the conference organizers for including the session in the programme, to the ten individuals who accepted my invitation to contribute to the session and to stimulate discussion of the theme, and to the members of the audience who participated in the discussions then and afterwards. Nine of the ten contributors agreed to develop their arguments into written essays for this book, and I am extremely grateful to them for the quality of those essays and their willingness to work to the timetable set. I am particularly indebted to Peter Jackson, Ian Simmons and Susan Smith for their

thorough critiques of my chapters – and totally absolve them from any responsibility for what remains. Finally, my thanks to Nigel Thrift who, as editor, has guided this volume through the procedures which govern the operation of the Institute's Special Publications series.

REFERENCES

- Chorley, R. J. (ed.) 1973: *Directions in Geography*. London: Methuen.
- Clark, M. J., Gregory, K. J. and Gurnell, A. M. (eds) 1987: *Horizons in Physical Geography*. London: Macmillan.
- Freeman, T. W. 1961: *A Hundred Years of Geography*. London: Gerald Duckworth.
- Gregory, D. and Walford, R. (eds) 1989: *Horizons in Human Geography*. London: Macmillan.
- Johnston, R. J. (ed.) 1985: *The Future of Geography*. London: Methuen.
- Johnston, R. J. 1991: *Geography and Geographers: Anglo-American Human Geography since 1945* (fourth edition). London: Edward Arnold.
- Kobayashi, A. and Mackenzie, S. (eds) 1989: *Remaking Human Geography*. Boston, MA: Unwin Hyman.
- Macmillan, B. (ed.) 1989: *Remodelling Geography*. Oxford: Basil Blackwell.
- Massey, D. and Allen, J. (eds), 1984: *Geography Matters!* Cambridge: Cambridge University Press.
- Peet, R. and Thrift, N. J. (eds) 1989: *New Models in Geography*. Boston, MA: Unwin Hyman.
- Taylor, P. J. 1985: The value of a geographical perspective. In R. J. Johnston (ed.), *The Future of Geography*. London: Methuen, 92–110.
- Wolch, J. R. and Dear, M. J. (eds) 1989: *The Power of Geography*. Boston, MA: Unwin Hyman.

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PART I

# A Changing World

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# A Changing World: Introducing the Challenge

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R. J. Johnston

The axiom of the case for geographical study is the vast and complex mosaic comprising the earth's surface. Places differ, in a myriad ways. For several of the early decades of this century geographers ordered that diversity through the concept of the region (Johnston, 1984), using what became to some an increasingly tired and stereotyped methodology that added volumetrically to information but much less so to understanding (Johnston, 1991b). There are occasional calls to revive that approach (Hart, 1982); more common are arguments either for a 'new regional geography' (Gilbert, 1988; Pudup, 1988) or for an approach to geography which recognizes the particularities, if not singularities, of places (Entrikin, 1991; Johnston, 1991a). The framework for studying a changing world employed here is set within the last of those genres.

The outer structure of the framework comprises three components which encompass geographers' main topical interests: the physical environment; the created environment; and society. Each has many subcomponents, all of which interact both within components and across component boundaries. All vary spatially in their characteristics, and those variations produce the rich mosaic and its myriad different places whose understanding occupies the heart of geographical scholarship. In some cases, one component (or even one subcomponent) dominates in providing the defining parameters of a place, but the components' interaction is crucial in the great majority.

## THE PHYSICAL ENVIRONMENT

Traditional regional studies had the physical environment as the base on which all other aspects of geography are built. The case that nature is the foundation of human survival cannot be countered, for in most places the local physical environment underpinned its inhabitants' quality of life. Unfortunately, the intellectual base for much of the work was deeply rooted in environmental determinism, a belief that nature was not just a major constraint to human activity but very largely its determinant. This naive conception of the interrelationships between humans and nature led to a very sterile, descriptive regional geography which the majority of academic geographers had disowned by the 1960s. They preferred to focus on topical specialisms, which led to a fragmentation of the discipline, not only between physical and human geography but also within each.

Much effort has been expended by physical geographers on research into how 'nature works' in the production of landforms, climates, and faunal and floral assemblages. This has largely involved separate activity by groups looking at the atmosphere, the land surface, plant and animal life, the soil, and the oceans. Stoddart (1987:329–30) has criticized this division in writing about all, and not just physical, geography:

We call ourselves not just physical or human geographers, but biogeographers, historical geographers, economic geographers, geomorphologists. We each develop our own expertise, our own techniques, our own theoretical constructs. Necessarily so, if we are to make our mark in scholarship. It is not the fact of this specialization within the field that I object to . . . but its consequences. And the chief of these is that for too many of us the central idea of geography . . . has disappeared.

Thus although there have been major advances in understanding the parts (Gregory, 1985), there has been less achievement in assembling the whole. Some of the parts studied are very small; there are substantial subdivisions within geomorphology, for example, generating a myopia linked to a relative absence of synthesis and vision. A few have countered by inventing 'macromorphology', and Summerfield (1989:431–2) contends that 'In the context of increasing integration in science, the world of earth surface process geomorphology linked to hydrology but

simultaneously semi-detached from the main body of earth science research seems out-dated and in need of revision': he has sought to link physical geographers with geologists and geophysicists, in order to promote the former's appreciation of the macroscale tectonic processes involved in landform development.

The study of wholes – sums of interacting parts – has been promoted through the concept of the system. Its basic conception and representation for didactic purposes are readily undertaken and appreciated – through 'box and arrow' diagrams, for example (Huggett, 1980) – but formal modelling of the myriad interactions within most systems is a mathematical task that few geographers have tackled (see Goudie in chapter 6 below). For those who have, the difficulties of appreciating how the environment works have become increasingly apparent. Advances in mathematical modelling have shown that what appear to be relatively simple relationships are actually far from that: population change within a constrained environment (a maximum food supply, for example) is not only nonlinear but is also chaotic (where chaos is defined as a sequence of values for population size which contains neither pattern nor order: see Johnston, 1989a). If the apparently simple relationship between the population of an area at one time and the population at the next, up to a prescribed maximum, is chaotic, then the multivariate interactions among many separate factors – as in the general circulation of the atmosphere and its relationships with local climate and weather patterns – provide massive challenges to understanding and its transmission, let alone to attempts at predicting the future.

Those challenges must be met, however, because of the rapidly expanding need to appreciate how nature works. But the presence of chaotic relationships and 'bifurcations' within the environment calls for sophisticated scientific skills, allied to a fertile imagination. (Bifurcations are discontinuous changes brought about because a crucial threshold is crossed – as in the transition between meandering and braiding states of rivers: see Curry's 1962:24 contention that climatic change, of the magnitude of the onset of an ice age, could have resulted 'purely from random events'.) The importance of developing those skills and of fostering those imaginations is growing because change in the physical environment is accelerating, largely, it seems, through the increased impact of human activity. As Simmons and Goudie make clear (chapters 5 and 6), although we are in no doubt that human activity is altering the physical environment at a growing rate, as yet the full extent of those alterations and their potential future impact (which may already be

set in train and irreversible) cannot be judged. Some writers are thus harbingers of doom, whereas others are relatively optimistic about the future of life on the planet. The major difficulty posed by these alterations is that we may not be able to determine who are right until too late; can we afford to wait, trusting in the optimistic view? Given the predictions and forecasts that have been produced in recent years – from sober analysts, not from sensationalists – then greater efforts are needed to understand how the physical environment works (in parts and, especially, as a whole) and how those workings are influenced by what people do, so that we can be prepared for the worst-case scenarios of our potential environmental futures.

This potential focus is linked to the study of self-regulating systems referred to by Simmons in chapter 5. Such systems are characteristic of a cosmos which is far from thermodynamic equilibrium; they are open to evolutionary change at all temporal scales. A key element within them is their feedback loops. Human presence reinforces some of those loops, while removing others: both the physical-ecological and the intellectual-symbolic characteristics of *Homo sapiens* are brought into play. The variety of temporal scales involved in the accounting reminds us that *Homo sapiens* is a product of organic and cosmic evolution and is therefore both created by the past and a creator of the future (as is made clear by Marx's classic phrase that people make history, but not in conditions of their own choosing, and, more recently, by Giddens's concept of structuration: Giddens, 1984). Further, variation in temporal scales is associated with variation in spatial scales, so that the processes of creating futures in the context of the past have a range of local influences impacting on local outcomes in both time and space – though in the physical environment local impacts may spread very widely, perhaps more so than in the human.

Human activity is having a greater influence on the physical environment now than in the past, as Simmons, Goudie and Parry all make clear (chapters 5, 6 and 7) – because there are more people in the world, who want to live at ever-higher material standards, and thus are making increased demands on the earth as their resource base. Their demands and how they are expressed – in ever-wider urban sprawl and greater air and water pollution, for example – may be triggering new bifurcations and stimulating chaotic trends which fluctuate ever more widely and wildly. Investment in research into the changing physical world, the transmission of its results, and translation of their implications into policy recommendations are crucial to the changing world of the next few decades.

THE CREATED ENVIRONMENT

Investigating the created environment in this context encompasses all aspects of human modification of the environment in town and countryside. (The term 'created environment' is slightly clumsy, but it more exactly conveys the role of human creation than does either the concept of 'landscape', which carries other connotations, or the more narrowly focused term 'built environment'.) Arguments continue to rage regarding the destruction of the 'natural environment': is there any of it left, or has everything been significantly altered (indirectly if not directly) by human activity? A more important question, however, is whether current changes are more rapid than, and differ in their intensity and effects from, those which have gone before. Goudie (1986:1) placed 'whether, and to what degree, humans have during their long tenure of the earth changed it from its hypothetical pristine condition?' as one of the three basic questions concerning the people–environment relationship: his book assembles a great deal of evidence that can be used in framing an answer.

Histories of the interrelationships between humans and their environment (such as Simmons, 1989) indicate that what is often identified as 'progress' – the movement towards societies built on mass consumption of material goods – has been accompanied by greater investment in the created environment. (Harvey, 1978, argues that investment in the created environment for its own sake, rather than as part of the productive process, has become a central component of capitalism.) What are termed relatively 'simple' societies may not have always lived in a short-term symbiotic equilibrium with their physical surroundings, however. Blaikie, Brookfield and Clarke (1987:143) argue for New Guinea/Irian that:

During this [last] 3000 years, and especially during the past 2000, we find some remarkable examples of the interplay between a land management that degrades, particularly by causing severe soil erosion, and adaptive land management, actions that adjust land use toward viable, sustained-yield agro-ecosystems. The evolutionary term 'adaptive' is used to call attention to the uncertain, halting and sometimes unexpectedly advantageous process that enables human and other organisms to move toward their future.

In the so-called 'developed industrial' societies, however, there is little doubt that 'sensitive ecosystems and fragile soils have been degraded as

an interactive consequence of the witting and unwitting short-term social priorities of individuals, corporate and state institutions, and the general society' (as the situation in Australia has been described: Messer, 1987: 238): the environment has fared no better in 'socialist' countries, where the recent political changes have brought firmly to outsiders' attention the scale of the ecological disasters created during the attempts to increase the local supply of material goods both rapidly and cheaply.

Farmed land is the most extensive portion of the created environment. As pre-capitalist modes of production have been infiltrated and eventually replaced, so farmers have been impelled to increase the intensity of their demands on the land – and often not to their own medium- and long-term advantage (Watts, 1983). Goudie (1986), for example, has illustrated how interactions of population growth and the sedentarization of nomads, leading to overgrazing and increased demands for fuel and building materials, thereby stimulating tree and shrub destruction, soil erosion, and the modification of microclimates, have generated desertification in northern Kenya.

The most intensively used portion of the earth's surface is the townscape. Rapid urbanization has been a particular feature of the last two centuries only, but big cities are not recent phenomena. As Taylor (1989a) has argued, population estimates for the past seven centuries indicate how many very large cities there were prior to the period that we call the 'industrial revolution' – most of them outside the capitalist economy focused on northwestern Europe.

Cities are internally organized in a variety of complex ways: there are many differences in the details of that ordering, but also many cross-cultural similarities. The main land uses tend increasingly to be segregated, with clearly defined areas of commercial, industrial and residential land; that segregation is virtually imposed in most places today, by planning regulations designed to minimize the potential nuisances from land-use intermixture. Each of those component areas may be internally differentiated too, especially the most extensive – the residential – with its separate areas housing different socio-economic, migrant, life-style and other cultural groups. In all but a few cases residence in particular parts of a city is not prescribed to certain groups, but economic, social and cultural sorting processes interact to encourage inter-group distancing. (Apartheid in South Africa provided the best counter-example to this generalization, for there strict legal controls rigidly separated the four largest ethnic groups.) The result is a 'ghettoized' society with different groups living apart in separately defined territories and developing separate visions of society accordingly



(Johnston, 1989b, 1991a). Recent changes in society have not reduced these trends: indeed, Susan Smith (chapter 3) suggests that they may have been accentuated.

Study of land use and its spatial organization is one of the long-term strengths of human geography. As populations continue to grow rapidly, so land-use practices are altered to meet the demands for food and raw materials and to provide housing and jobs, places for interaction and areas in which to enjoy leisure-time. Many of those accommodations are relatively short-lived, as economic change makes some uses, and even some places, redundant and new layers of investment are put down. Uneven development is a characteristic of the capitalist mode of production at all spatial scales: both theoretical (Harvey, 1982; Smith, 1984) and empirical (Massey, 1984) investigations have indicated its necessity, and also the need for its spatial parameters to change. Some analysts suggest that those parameters are changing more rapidly today: what might have had a life of 50 years as a thriving industrial region a century ago may now only achieve a decade of prosperity. The intensity and pace of change are thus important foci for geographical work, as the 'created' environment is continually 'recreated'.

This rapid pace of change is both quantitative and qualitative according to some: a new era, termed either 'flexible accumulation' (Harvey and Scott, 1989) or 'disorganized capitalism' (Lash and Urry, 1987), has been inaugurated, it is claimed. The capitalist world-economy is now so integrated that events in one place rapidly resonate elsewhere; goods, people and, especially, capital are being moved rapidly from one place to another to capitalize on immediate potentials but with little intention of making long-term commitments. Harvey (1985) argued that this hypermobility requires an enhanced response by the state to promote and defend the interests of local people, and Dicken (in chapter 2) identifies trade and investment as two of the three major forces of change in the contemporary global economy.

## SOCIETY

Geographers have turned their full focus on to this third component only recently: whereas most traditional regional studies concentrated on population numbers, economic activities and aspects of the created environment, few explicitly referred to the myriad ways in which a place's population both is internally differentiated and also differs from other places on the same criteria. Some recent works have corrected that