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ISBN 3-540-67492-6 Springer-Verlag Berlin Heidelberg New York

Library of Congress Cataloging-in-Publication Data applied for
Die Deutsche Bibliothek – CIP-Einheitsaufnahme
Information, place, and cyberspace: issues in accessibility; with 27 tables/ed.: Donald G. Janelle; David C. Hodge. – Berlin; Heidelberg; New York; Barcelona; Hong Kong; London; Milan; Paris; Singapore; Tokyo: Springer, 2000
(Advances in spatial science)
ISBN 3-540-67492-6

Springer-Verlag Berlin Heidelberg New York
a member of BertelsmannSpringer Science+Business Media GmbH

Printed in Germany

Cover design: Erich Kirchner, Heidelberg
Typesetting: Camera ready by editors
SPIN 10733972 42/2202/xz Printed on acid-free paper 5 4 3 2 1 0

Foreword

The use of the term *the information age* to describe the period that we now find ourselves living in is open to misinterpretation. Society has always been based on exchanging information, and our libraries have long been rich sources of vast quantities of readily available information; it is information technologies that have changed rapidly since the invention of the digital computer. These technologies are themselves products of long-term societal processes: The economic desire to shorten the time that lapses between production and consumption of commodities, annihilating space with time; the political desire to control such large-scale systems as commodity chains, nations, and the military; and the human desire to liberate ourselves from the constraints of our local daily lives. They also have had profound effects on societal processes. One of the most widely discussed effects, and a consistent theme of this volume, is that the information age is bringing about the end of geographical distance as a significant barrier of human interaction.

This claim underlies prognostications about the information age: That this will be the age of globalization; of the global village; of the liberation of human interaction from the tyranny of space; of the dissolution of cities and workplaces; of the plugged-in society; and of the surveillance society. If these prognostications were true, then the topic of accessibility would indeed be a disappearing research program and this book a marker of its disappearance. Yet, things are much more complicated than this; the demise of distance has been greatly exaggerated. While there is a germ of truth to these prognostications, as there must be for them to resonate as they do, they often disguise more than they reveal. Flows of information are possible almost immediately over distances of arbitrary length, but this does not mean that everyone is equally accessible to everyone else. Rather, the geometry of the information age approximates the hypothesized wormholes of quantum physics – instantaneous connections between those who are plugged in to the right equipment, while neighbors remain off-line and inaccessible. Geographic and non-geographic information are available in unprecedented quantities, but they accumulate in the hands of certain social actors whereas others are excluded – creating black holes where information seems to disappear from social view. Even the ultimate distance-less society, cyberspace, becomes un-navigable without using spatial metaphors to make sense of it, and is connected in complex but predictable ways to the differentiated material spaces of society.

This collection of essays takes up the challenge of rethinking what accessibility means and how to measure it in the information age, with particular attention to geographic information. It addresses not only accessibility between those who are plugged in, and the geography of cyberspace, but also differences in accessibility to information technologies and the relationship between cyber-accessibility and accessibility on the ground. In doing so, the authors revive what has been an im-

portant but theoretically moribund concept; breathing new life into the concept of accessibility, and challenging preconceptions about its demise. They also move beyond attempts to equate accessibility with an exogenous Newtonian metric of Euclidean distance to unpack how accessibility is a construct of social practices.

The conversations that lie behind this book were catalyzed and made possible by a conference organized under the auspices of the National Center for Geographic Information and Analysis. This conference, *Measuring and Representing Accessibility in the Information Age*, was held in November 1998, at the Asilomar Conference Center in Pacific Grove, California. It was one of a series of nine meetings organized by NCGIA between 1997 and 1999 to advance the research agenda of geographic information science, under the Varenius Project (funded by the National Science Foundation, NSF Grant SBR-9600465). These nine meetings were equally divided among three areas of focus: Geographies of the Information Society; Cognitive Models of Geographic Space; and Computational Implementations of Geographic Concepts (http://www.ncgia.ucsb.edu:80/varenius). The accessibility meeting was held within this first area. The Geography of the Information Society Panel, chaired by Eric Sheppard and including Helen Couclelis, University of California at Santa Barbara, Stephen Graham, Newcastle University, UK, J.W. Harrington, Jr., University of Washington, and Harlan Onsrud, University of Maine at Orono, also organized meetings on *Place and Identity in an Age of Technologically Regulated Movement*, and *Empowerment, Marginalization and Public Participation GIS*. The Panel conceived the topic of measuring and representing accessibility, but the success of this meeting was due to the efforts of David Hodge and Donald Janelle in bringing the idea to fruition. Under their exceptional organizational skills, together with those of NCGIA staff LaNell Lucius and Abby Caschetta, a stimulating three-day meeting occurred at which preliminary versions of the chapters that follow were presented. This book is exemplary of how the Varenius Project is catalyzing and making available new research within areas central to geographic information science.

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Preface

The objectives of this book are to broaden understanding of conceptual and analytical approaches for accessibility research appropriate to the information age, and to demonstrate possible contributions for geographic information science in representing the geographies of the information society. In seeking to meet these objectives, the editors and authors highlight significant linkages among information resources, traditional places, and cyberspace, and focus on expanding models of space (and time) that encompass both the physical and virtual worlds.

The origins of this book stem from two multi-disciplinary conferences sponsored by the National Center for Geographic Information and Analysis (NCGIA). The first was the September 1996 conference in Baltimore on *Spatial Technologies, Geographic Information and the City*. The second, from which the chapters of this book originate, was the November 1998 conference at the Asilomar Conference Center in Pacific Grove, California on *Measuring and Representing Accessibility in the Information Age*. This book is structured around the primary themes of that meeting. Part I explores the conceptualization and measurement of accessibility; Part II focuses on the visualization and representation of information space within Geographic Information Systems (GIS) and other computerized display systems, and Part III considers the social issues that should inform the measurement and representation of accessibility. Each of these parts is preceded with an integrative essay that links the individual chapters to the broader literature on accessibility – primarily from geography, regional science, and planning. In Chapter 1, the Editors offer an explanation for the book's title, casting a wide perspective that focuses on the resource role of information, the importance of accessibility in the everyday life of places, and the co-adaptation of societal structures and cyberspace.

Special recognition is given to Helen Couclelis, who inspired the proposal for a Varenius initiative on accessibility in the information age. She organized the conference in Baltimore and was instrumental in placing accessibility on the agenda of the Varenius project. In Part IV, the Conclusion, she broadens the scope of this collection, raising issues regarding the sustainability of current societal accessibility practices in the interrelated realms of transportation and communication.

We thank those who made this book possible, beginning with Michael Goodchild (Director of the NCGIA's Varenius Project); he orchestrated the preconditions for sponsoring a broad range of research and conference initiatives. Members of the Varenius Panel on Geographies of the Information Society accepted a proposal to foster research on issues relating to accessibility, and we owe special thanks to the Chair of the Panel, Eric Sheppard, for support and advice at all stages of this project. The Steering Committee for organizing the conference at Asilomar – Michael Batty, Helen Couclelis, Arthur Getis, Harvey Miller, and