The Internet as Second Action Space

Aharon Kellerman

ROUTLEDGE

The Internet as Second Action Space

One of the most significant and important advancements in information and communication technology over the past 20 years is the introduction and expansion of the Internet. Now almost universally available, the Internet brings us email, global voice and video communications, research repositories, reference libraries, and almost unlimited opportunities for daily activities. Bridging geographical distances in unprecedented ways, the Internet has impacted all aspects of our daily lives – facilitating the running of businesses, the attainment of services and keeping in touch with friends and family. Accessible at any time and for many of us from our mobile phones, the Internet has opened up a world of knowledge and communication platforms that we cannot now imagine living without. This book explores the concept that the Internet has become a second action space for individuals. Coexisting with traditional and "obvious" real space, the Internet serves as a novel spatial platform and action space to its subscribers all over the world. Kellerman expertly discusses this notion and examines the practical integration of cyberspace with real space.

Part I examines the Internet as a platform for action and presents its relations with physical space concerning a range of uses and applications which were traditionally performed in physical space only. It discusses the idea that the Internet has become a second space and explores theoretical perspectives surrounding this notion. The Internet has undeniably made humankind more efficient and connected. Part II explores the Internet as an action space for human life, considering basic human needs, curiosity, identity and social relations. It further considers instances whereby use and application of the Internet cannot be fully performed in real space, mainly regarding people's presentation of identity. Part III explores daily actions over the Internet, such as work, shopping, banking and social interactions. Kellerman also briefly touches on the darker aspects that the expansion of the Internet has made possible – including its role in fraud and other crimes. The concluding chapter discusses people living across the two spaces and identifies potential future developments.

The Internet as Second Action Space will appeal to students across the social sciences, in particular those studying Geography, Sociology, Media Studies, Internet Studies, Business and related disciplines.

Aharon Kellerman is a Professor Emeritus in the Department of Geography, University of Haifa, Israel, and President, Zefat Academic College, Israel. He also serves as Vice-President of the International Geographical Union (IGU), and acts as Honorary Chair of its Commission on the Geography of the Information Society, which he established and chaired. He has published six books; five monographs; over 70 refereed articles; 60 book chapters; numerous conference proceedings and book reviews.

As cyberspace and physical places become ever more enfolded into one another, the Internet has become an increasingly important arena through which social relations and individual identities play out. Aharon Kellerman has long been an astute observer of these trends. This volume artfully charts how many activities once confined to the physical domain have moved steadily online, with surprising and often unintended consequences. Increasingly, many human needs, from the most basic to the most sophisticated, have shifted to the Web, changing identities and interpersonal relations as a result. This volume lucidly depicts the process through which cyberspace and real space act both as complements and as substitutes in multiple domains of daily life. Kellerman avoids the glossy utopianism that pervades many popular depictions of the Iternet to reveal its "dark side," the world of gambling, pornography and hacking that inevitably accompany the gains in productivity that it unleashes.

Professor Barney Warf, *University of Kansas, US*

Aharon Kellerman continues his exploration of cyberspace in The Internet as Second Action Space, his latest expedition and third major book on the geography of our Internet-enabled and mediated world. The book provides a valuable interpretation of human behavior when offered new places and spaces to interact by applying the rigor of geography to a rapidly growing and changing phenomenon. By mapping and framing our use of cyberspace, Kellerman provides a text essential to our understanding of virtual action spaces.

Professor Mark Wilson, *Michigan State University, US*

The Internet as Second Action Space

Aharon Kellerman

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2014
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2014 A. Kellerman

The right of Aharon Kellerman to be identified as author of this work has been asserted by him in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
Kellerman, Aharon.
The Internet as second action space/Aharon Kellerman.
pages cm
1. Internet–Social aspects. 2. Cyberspace–Social aspects. I. Title.
HM851.K446 2014
302.23′1–dc23 2014003121

ISBN: 978-0-415-85871-7 (hbk)
ISBN: 978-1-315-76510-5 (ebk)

Typeset in Times New Roman
by Wearset Ltd, Boldon, Tyne and Wear

Dedicated to my granddaughter Shani-Naomi

This page intentionally left blank

Contents

List of figures xi
List of tables xii
Preface xiii
Acknowledgments xv

PART I
The Internet as a platform for action space 1

1 The Internet as second space 3
Opening background 3
Book objectives and structure 5
Cyberspace: nature, classes and cognition 6
Comparing real and virtual spaces 9
Practical relations between real and virtual spaces 12
History and characteristics of the Internet 14
Mobile communications technologies 16
Auditory geography of the Internet 21
"Action space" and the Internet 24
Conclusion 26

2 Theoretical perspectives on the Internet as second action space 28
Social space attributes 29
Social space experiencing 31
Social forces in the emergence of virtual action space 35
Time geography and virtual action space 37
Building blocks for virtual social action space 38
Conclusion 39

3 Internet operations 41
Where is the Internet located? 41
Operational software for the Internet 46
Operation systems for smartphones 48
Internet service providers 48
International differences in Internet use 49
Societal differences in Internet use 51
Conclusion 54

PART II
Human needs and the Internet 57

4 Human basic needs and their provision 59
An overview of basic needs and space 59
Human needs 61
Real and virtual spaces and human basic needs 63
Complementarity between real and virtual action spaces 67
Competition between real and virtual action spaces 68
Substitution of real space by virtual one 68
Merger between real and virtual spaces 69
Escape from real space to a virtual one 69
Exclusivity: novel human action over the Internet? 70
Space as a human need 71
Conclusion 72

5 Curiosity and its satiation 73
The nature of curiosity 75
Space and place as curiosity triggers 76
Space as curiosity objective 77
Spatial means for the satiation of curiosity 78
Trends in epistemic curiosity and its satiation 81
Wider assessment of contemporary satiation of epistemic curiosity 83
A general framework for the spatial dimensions of curiosity 84
Conclusion 86

6 Personal identity 87
The nature of personal identity 88
Personal identity in social networking 89

Personal identity as information 90
Search for personal information 93
Conclusion 94

PART III
The Internet as an action space for individuals 97

7 Daily activities 99
Daily virtual actions 100
Broadband interaction for daily uses 101
Home-based work 102
Online shopping 104
E-government 109
Online banking 112
Travel online 114
E-learning 116
E-health 120
Comparative features and trends 122
Conclusion 124

8 Social networking 127
The nature and significances of social networking 127
Online social networking systems 130
Real versus virtual social action spaces 132
Country data on online social networking 135
Conclusion 138

9 Darker actions over the Internet 140
Cybercrime and cyberobstruction 141
Surveillance 142
Identity theft 144
Censorship 144
Hacking 145
Pornography 146
Online gambling 146
Country data on cybercrime and cyberobstruction 147
Conclusion 149

10 Conclusion 150
Book summary 150
Real and virtual action spaces 159

Time and virtual action space 162
Future virtual action spaces 163

Appendix 164
References 166
Index 186

Figures

2.1 The three dimensions of social space 32
3.1 Submarine Internet cables, 2013 44
4.1 Hierarchy of human needs 62
4.2 Human needs and “double space” 64
4.3 Hierarchy of needs and “double space” 65
5.1 A general framework for the spatial dimensions of curiosity 85

Tables

1.1 Real and virtual spaces 11
1.2 Mass introduction and penetration of innovations for virtual mobility 17
2.1 Dimensions of real and virtual social spaces 33
3.1 Global digital gaps: world regions by penetration rates 2013 49
3.2 Percentage Internet and social networking users by age in the US 2012–2013 53
3.3 Percentage Internet and social networking users by location type in the US 2012–2013 54
6.1 Personal identity: needs and virtual expressions 94
7.1 Percentage population in EU countries shopping online in EU countries and/or domestically, 2005–2006 and 2010 107
7.2 Percent Internet users purchasing via smartphones, Asia and the Pacific late 2012 109
7.3 Percentage of citizens in OECD (Organization for Economic Cooperation and Development) countries using the Internet to interact with public authorities, 2005 and 2010 112
7.4 Leading countries in percentage Internet users performing online banking 2012 114
7.5 Percentage Internet users in the EU obtaining travel and accommodation services online 2012 116
7.6 Online course learners as percentage of adult learners 2005 118
7.7 Online major commercial activity spaces 2010–2012 by leading percentage actors and countries 124
8.1 Facebook users as percentage Internet users in leading countries (over 90 percent) 2012 136
9.1 Country share in global malicious Internet activity and among Internet users 2009 148
9.2 Global percentages of Internet users under differing levels of press freedom 2011 149

Preface

This book attempts to explore the contemporary daily and routine experiences of individuals, mostly in developed countries, who have positioned themselves and who function within a new arena for human action, that of virtual space. This virtual space of human action has emerged mainly over the Internet, through which it also operates. The contemporary performance of individuals in virtual space has made them function in parallel in two spaces: the real and the virtual. Kinsley (2013, 4–5) has recently argued on the study of life in virtual space that "concerted studies of the evolution and increasing significance of the digital in our lives have waned." This book attempts in some way to fill this lacuna. The book will, therefore, highlight the new virtual space as an action space for individuals, and we are, thus, about to explore in the following chapters the origins of this virtual action space and its relations with real space, and most importantly the rules and the ways and means for its operation in numerous spheres.

For me personally as a researcher, this book on the Internet as second action space constitutes an additional step of my study ladder of virtual space on which I have attempted to climb during the last three decades. This ladder consists of the three components of telecommunications, the Internet and personal mobilities. For all of these three components, which comprise both means and technologies for human action I have attempted at the time to explore their very innovation and development, side-by-side with the study of their societal adoption and their socio-spatial dimensions. I believe that the ability to portray presently, in this book, a widely functioning virtual space for human action, a space that is now available for us through smartphones literally wherever we go within physical space, implies a maturing of the Internet in particular, and of virtual space in general, from the perspective of human users. Thus, in some way this book constitutes a continuation to two of my previous works: *The Internet on Earth: A Geography of Information* (2002), and *Daily Spatial Mobilities: Physical and Virtual* (2012). The first of these two books portrayed a down-to-earth geography of the Internet, and now, slightly a decade later, the Internet has already gained its own virtual geography, as presented in this book. The second book presented virtual mobilities as a family of mobility media emerging next to physical mobility media, and this book will attempt to explore the destination of much of these virtual mobilities, namely virtual space per se.

The very idea that the computerized world is second to the real one in some ways is basically not a new one. Back in 1985, almost a decade before the emergence of the Internet in its current form, Turkle authored a book entitled *The Second Self: Computers and the Human Spirit*. The contemporary Internet actually complements computers as second selves, in its constitution as a second action space, alongside with real space. Furthermore, the very basic recognition of the Internet as a second action space probably dates back to 2008, when Yu and Shaw stated rather generally though that "with both physical and virtual spaces available to us today, individual opportunities for potential activities can exist not only at locations within the individual's physical proximity, but also wherever they can be reached through tele-presence" (p. 410).

I wish to express my gratitude to all those who assisted my writing, directly and indirectly. Thanks are due to all commentators on my paper presentations in numerous conferences over the last few years, notably in the recent Kyoto 2013 Regional Conference of the International Geographical Union (IGU), as well as in the Montreal 2013 World Social Science Forum (WSSF) of the International Social Science Council (ISSC). Thanks are also due to Noga Yoselevich (University of Haifa) and to Moshe Asaf (Zefat Academic College) for the processing of Figure 3.1, and to Kety Gersht (Zefat Academic College) for data preparation for the Appendix, as well as for the integration of the figures with their titles. The Research Authority of the University of Haifa assisted the completion of this book through the funding of index preparation. As always, I owe a great debt to my wife, Michal, whose sharing and patience have made the conception and the writing of this book possible.

December 2013

Acknowledgments

The following previous publications of the author were used for the writing of this book: *The Internet on Earth: A Geography of Information* (London: Wiley, 2002); *Personal Mobilities* (London and New York: Routledge, 2006); *Daily Spatial Mobilities: Physical and Virtual* (Farnham and Burlington, VT: Ashgate, 2012); M.I. Wilson, A. Kellerman and K.E. Corey, *Global Information Society: Knowledge, Mobility and Technology* (Lanham, MD: Rowman and Littlefield, 2013); "The satisfaction of human needs in physical and virtual spaces," *The Professional Geographer*, DOI: 10.1080/00330124.2013.848760.

This page intentionally left blank

Part I

The Internet as a platform for action space

This page intentionally left blank

1 The Internet as second space

> The geography of the Web is as ephemeral as human interest.
>
> (Weinberger 2002: 6)

Opening background

Our discussions in this book will be based, at least implicitly, on the notion that the Internet "links millions of people in new spaces that are changing the way we think, the nature of our sexuality, the form of our communities, our very identities" (Turkle 1995: 9). As such, the Internet has been variously assessed. By its contents, some of which we will review during the course of the book, the Internet has been viewed "as a library, a telephone, a public park, a local bar, a shopping mall, a broadcast medium, a print medium, a medical clinic, a private living room, and a public educational institution" (Biegel 2001: 28). The very human expansion into virtual space has brought some scholars to believe that "this new round of spatial expansion could have far greater economic and social implications than the discovery of America by Columbus. Columbus discovered only one new continent, but many new virtual worlds are being created" (Li, Papagiannidis and Bourlakis 2010: 426). The following discussions should provide at least some food for thought in this direction.

The Internet, as a computerized textual communications system, was originally trialed in the US in the 1960s in the form of an electronic mail network. It was originally developed in order to serve as an alternative security network for the telephone and telex systems in case of a nuclear attack. Its current universal availability is an excellent example for the adoption of a technology for purposes completely different than those envisaged by its developers. Since the mid-1990s the Internet has been stabilized as including two components: a universal and global email system, namely as a communications system, side-by-side with the World Wide Web (WWW), which constitutes the largest library and information storage entity worldwide, dynamic and interactive, thus constituting an information system. The integration of these two Internet components of communications and information into one system has permitted instant and worldwide availability to individuals of both personal and public information, as well as their own contribution to both types of information. By the end of 2011,

one-third of the global population enjoyed access to the system (70 percent in developed countries) (ITU 2012).

The Internet enjoys numerous features and characteristics. It is a free and an uncontrolled medium for personal virtual mobility, so that there are no institutional or governmental laws and regulations for its "driving" or for "passing through" its communications lines. It further provides for co-presence of individuals in both physical and virtual spaces simultaneously. Emailing permits long distance and international messages and calls at no charge per call or by time, and the Web expands the lived-spaces of its users beyond their real locations, since cyberspace represents an additional lived space, as we will see in the following sections of this chapter, as well as in later chapters.

Socially, the Internet has expanded human rights by its very provision of instant written communications, as well as through its provision of access to information. Practically, it has extended people's virtual personal and public expressions to unprecedented levels, through both the Web, notably through social networking over Web 2.0, and obviously through emailing. One basic dimension of these extended mobility and speech expressions have been the emerging virtual communities and networks, which we will discuss in Chapter 8.

The most dramatic trend in information and communications technology (ICT) innovations over the recent years has been the effort to bring about the maturity of the Internet making it become fully mobile and universally available, thus permitting access to both email and the Web at any time and in any place, through wireless fidelity (Wi-Fi) and third generation (3G) cellular modems, both available mainly through smartphones, as well as through laptops and tablets. This universal and instant availability of the Internet in real space has implied a practical integration of cyberspace with real space, as we will see in this and the following chapters (see also Kellerman 2010).

Mobile telephone technology was originally introduced in 1906 by Lee de Forest. The first and rather limited mobile telephone services were introduced in the UK in 1940 and in the US in 1947, followed by the commercial introduction of such services in 1979–1983 through the allocation of wavelengths for its operation (Kellerman 2012a). Since then, the mobile phone has turned out to be the most widely diffused communications device globally, with a global penetration rate of 86 percent by the end of 2011. Some 90 percent of the world population was covered by a mobile phone signal already in 2009. About 14.3 percent of the global population, mainly in developed countries, enjoyed access to mobile broadband services by the end of 2011, with an annual growth rate of this access of 40 percent! (ITU 2012).

The smartphone, originally introduced in 1993 and diffusing widely as of the 2000s, has actually been developed into an advanced laptop, which includes also additional features that used to be available only through dedicated devices, such as Global Positioning System (GPS) for road navigation, and high-quality cameras. Another smartphone feature is a new generation of Location Based Services (LBS), providing commercial local information (e.g., on restaurants) into people's mobile phones by their locations. Furthermore, the availability of