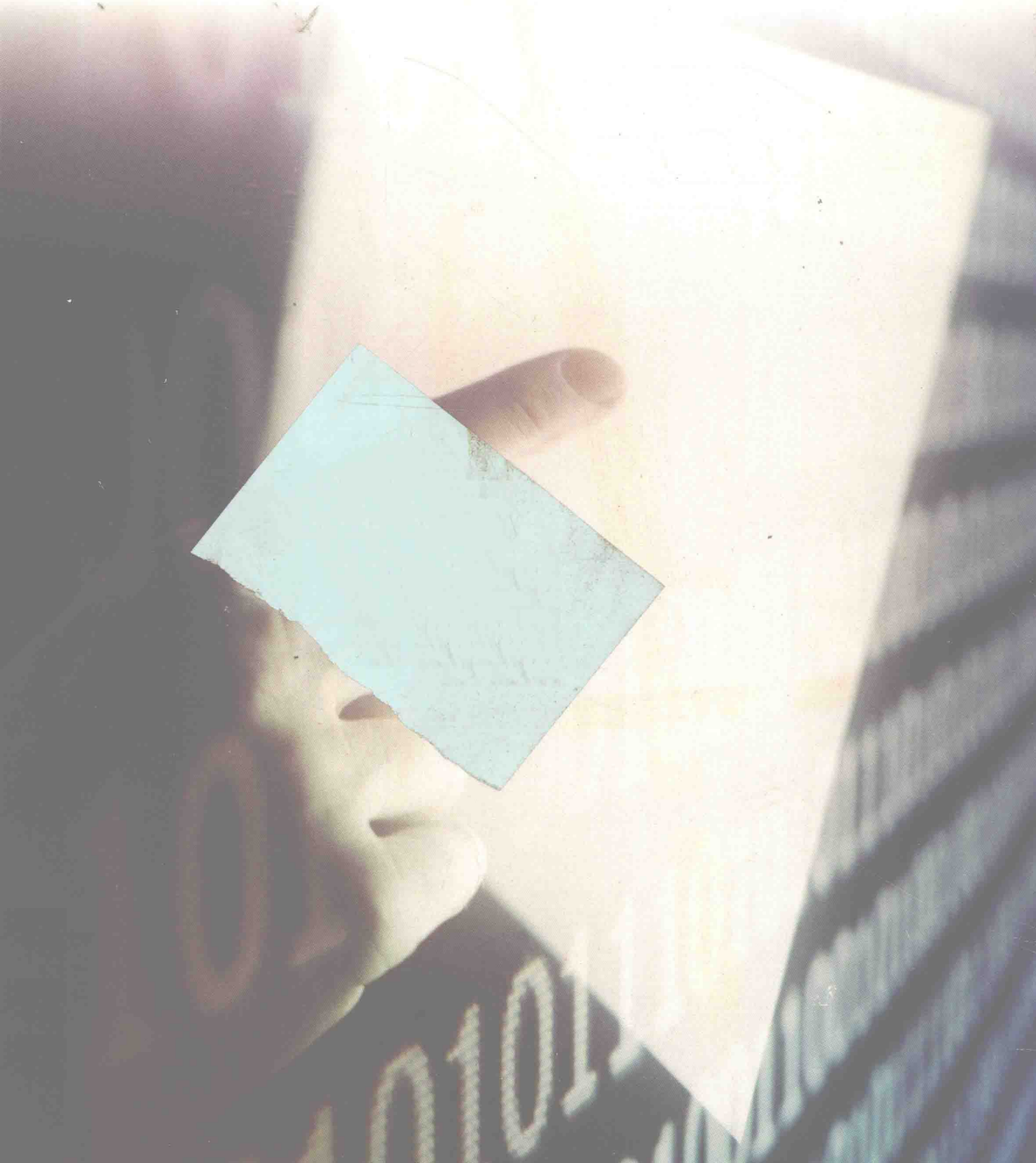
A·N·N·U·A·L E·D·I·T·I·O·N·S

Computers in Society

02/03



Credits

1. Introduction
Unit photo—TRW Inc. photo.
2. The Economy
Unit photo—New York Stock Exchange photo.
3. Work and the Workplace
Unit photo—IBM Microelectronics photo by Tom Way.
4. Computers, People, and Social Participation
Unit photo—TRW Inc. photo.
5. Societal Institutions—(Property) Law and Politics
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6. Societal Values and Risks: Ethics, Privacy, and Preserving the Past
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Ninth Edition

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Members of the Advisory Board are instrumental in the final selection of articles for each edition of ANNUAL EDITIONS. Their review of articles for content, level, currentness, and appropriateness provides critical direction to the editor and staff. We think that you will find their careful consideration well reflected in this volume.

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To the Reader

In publishing ANNUAL EDITIONS we recognize the enormous role played by the magazines, newspapers, and journals of the public press in providing current, first-rate educational information in a broad spectrum of interest areas. Many of these articles are appropriate for students, researchers, and professionals seeking accurate, current material to help bridge the gap between principles and theories and the real world. These articles, however, become more useful for study when those of lasting value are carefully collected, organized, indexed, and reproduced in a low-cost format, which provides easy and permanent access when the material is needed. That is the role played by ANNUAL EDITIONS.

We can only guess at how the ever-increasing power, diversity, and pervasiveness of computers—especially *networked* computers—will affect us as individuals or influence society at large. However, it is hoped that *Annual Editions: Computers in Society 02/03* will complement your technical understanding of emerging technologies by acquainting you with some of the philosophical, economic, political, and social dimensions of the information society.

The contributors to the ninth edition of *Annual Editions: Computers in Society* represent diverse backgrounds and their collective writings highlight a wide spectrum of issues and views about how the information age will or ought to unfold. For the most part, their writing styles are very understandable and devoid of the kind of unintelligible technical jargon that can be a barrier to becoming informed about technological issues.

Because of its social focus, *Annual Editions: Computers in Society* is organized to reflect the major dimensions of society rather than various aspects of computing. The main themes of the book are the economy, social interaction, social institutions, and conflict. Many of these themes are also examined in an international context. The final section looks at some of the philosophical challenges posed by emerging technologies.

Each selection has been chosen for its informational value, but to say that an article is "informative" does not necessarily imply that the information is correct or valid. In fact, some readers may find that they strongly disagree with, or are even offended by, an author's position—I may well agree with you. On the other hand, some readers may feel simply inspired by arguments that make others irate. *Annual Editions: Computers in Society* is meant to generate rather than answer questions on how computers will affect society. Hopefully, such queries will serve to clarify issues, broaden perspectives, provoke curiosity, and stimulate informed discussion of and participation in the computer age.

Readers can have input into the next edition of *Annual Editions: Computers in Society* by completing and returning the postage-paid *article rating form* in the back of the book. Your suggestions and comments are very important to us.

Kathryn Schellenberg
Editor

Contents

Introduction

The lead article presents an overview of the past and future "information revolutions." The following pair of essays offer widely differing views of the computer-networked society.

The Economy

Seven articles examine issues related to manufacturing, distribution, services, the debate surrounding the so-called productivity paradox, and e-commerce.

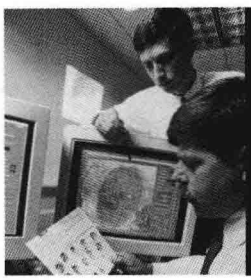
Work and the Workplace

Five articles look at the growing inequality in the "new economy," corporate training, the hiring and management of virtual workers, technological stress, and workplace privacy.

The concepts in bold italics are developed in the article. For further expansion please refer to the Topic Guide, the Glossary, and the Index.

Computers, People, and Social Participation

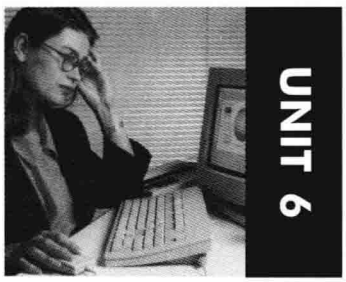
Six selections discuss issues regarding adoption Web sites, children's education, trust in online social relationships, new technologies that help paralysis victims achieve greater independence, and African Americans at the forefront of the "technology revolution."



UNIT 5

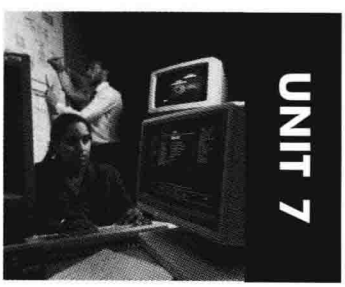
Social Institutions—(Property) Law and Politics

Seven articles examine debates surrounding virtual and intellectual property law and "electronic" democracy and other political implications of the Internet.



Societal Values and Risks: Ethics, Privacy, and Preserving the Past

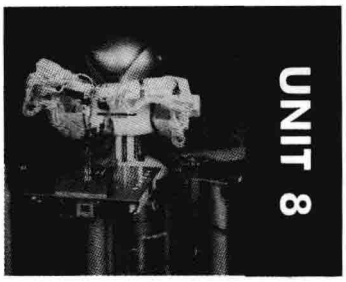
Five selections examine issues related to hacking, the use of technology for persuasion and deception, individual privacy, and threats to the preservation of digital information.



International Perspectives and Issues

Seven articles discuss developments in machine-based language translation, privacy rights versus freedom of expression in the European Union, attitudes toward privacy in less-developed nations, technical education in India, human rights activities in politically repressive nations, and cross-national implications of commercial satellite imagery.

The concepts in bold italics are developed in the article. For further expansion please refer to the Topic Guide, the Glossary, and the Index.



Philosophical Frontiers

Three articles explore issues that pose or may pose philosophical challenges for the future.

The concepts in bold italics are developed in the article. For further expansion please refer to the Topic Guide, the Glossary, and the Index.

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Computers in Society

02/03

Ninth Edition

EDITOR

Kathryn Schellenberg
University of Michigan–Flint

Kathryn Schellenberg earned a Ph.D. in sociology from the University of Utah and is presently a faculty member in the Department of Sociology, Anthropology, and Criminal Justice at the University of Michigan–Flint. One of her areas of scholarly interest concerns the social implications of technology, especially computing. She has published a number of studies on related topics, such as how high-technology workers and firms respond to turbulent change and uncertainty, police information practices surrounding the use of automated police information systems, and the potential impacts of "policing the police" through technological surveillance. She has recently begun to explore issues related to information practices and organizational justice in the academic workplace.

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Topic Guide

This topic guide suggests how the selections in this book relate to the subjects covered in your course.

The Web icon ( ) under the topic articles easily identifies the relevant Web sites, which are numbered and annotated on the next two pages. By linking the articles and the Web sites by topic, this ANNUAL EDITIONS reader becp,es a powerful learning and research tool.

TOPIC AREA	TREATED IN
Adoption	16. Broken Homepage ***11***
African Americans	21. Power Players ***14***
Artificial Intelligence	41. Toy Stories 42. Story of the 21st Century ***34, 35, 36, 37***
Children (and Families)	16. Broken Homepage 17. Growing Up Digital 18. Failure to Connect 41. Toy Stories ***11, 12, 14***
Communication(s) and Networks	1. From Movable Type to Data Deluge 5. Beyond the Bar Code 6. To the Rescue! 8. Myth of "Internet Time" 9. E-Commerce and the Information Market 10. i2i Trust in E-Commerce 12. Click and Learn 13. "You're Hired, Now Go Home" 19. Trust Online 22. Is Virtual Trespass an Apt Analogy? 24. Software Patents Tangle the Web 26. Click to Vote 27. Democracy in an IT-Framed Society 28. Should Democracy Online Be Quick, Strong, or Thin? 29. How Hackers Break In 31. Lying With Pixels 32. Do You Know Who's Watching You? 34. Lost in Translation 35. Is Online Democracy in the EU for Professionals Only? 38. Quiet Revolution 39. Commercial Satellite Imagery Comes of Age 40. Information Warfare ***1, 2, 3, 7, 10, 13, 15, 17, 18, 19, 20, 28, 30***
Crime (and Fighting Crime)	29. How Hacker's Break In 32. Do You Know Who's Watching You? ***22, 23, 24, 25, 26, 27, 29, 30, 32***
Disabled Persons	20. Mind Over Muscles ***15***
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Human Rights	38. Quiet Revolution ***15***

TOPIC AREA	TREATED IN
Inequality	2. Internet & Sexual Personae 3. Internet Produces a Global Village of Village Idiots 11. Great Prosperity Divide 16. Broken Homepage 21. Power Players 36. Privacy Divide? ● ***14, 15, 31***
Information Warfare	40. Information Warfare ● ***17, 30, 31, 32, 33***
Intellectual and Virtual Property	22. Is Virtual Trespass an Apt Analogy? 23. Digital Dilemma 24. Software Patents Tangle the Web 25. Reconciling Research and the Patent System 39. Commercial Satellite Imagery Comes of Age ● ***21, 22, 24***
International Issues	34. Lost in Translation 35. Is Online Democracy in the EU for Professionals Only? 36. Privacy Divide? 37. Boot Camp for Engineers 38. Quiet Revolution 39. Commercial Satellite Imagery Comes of Age 40. Information Warfare ● ***31, 32, 33***
Legal Issues	15. They're Watching You 22. Is Virtual Trespass an Apt Analogy? 23. Digital Dilemma 29. How Hacker's Break In ● ***15, 21, 22, 23, 24, 25, 26, 27, 28***
Philosophical Issues	1. From Movable Type to Data Deluge 2. Internet & Sexual Personae 3. Internet Produces a Global Village of Village Idiots
Privacy	5. Beyond the Bar Code 15. They're Watching You 19. Trust Online 32. Do You Know Who's Watching You? 33. Roundtable: Medical Privacy 36. Privacy Divide? ● ***26, 27, 28, 29, 30***
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Work, Employment, and the Workplace	4. Making the Chips That Run the World 10. i2i Trust in E-Commerce 11. Great Prosperity Divide 12. Click and Learn 13. "You're Hired, Now Go Home" 14. Dealing With Tech Rage 15. They're Watching You 17. Growing Up Digital 37. Boot Camp for Engineers ● ***1, 2, 7, 8, 9, 10***
Toward an Ethics of Persuasive Technology	30. Toward an Ethics of Persuasive Technology 41. Toy Stories 42. Story of the 21st Century 43. Hyperculture—Stress: How Fast Times Are Transforming America ● ***34, 35, 36, 37***

AE: Computers in Society

The following World Wide Web sites have been carefully researched and selected to support the articles found in this reader. The sites are cross-referenced by number and the Web icon ( ) in the topic guide. In addition, it is possible to link directly to these Web sites through our DUSHKIN ONLINE support site at *http://www.dushkin.com/online/*.

The following sites were available at the time of publication. Visit our Web site—we update DUSHKIN ONLINE regularly to reflect any changes.

Introduction

1. Livelink Intranet Guided Tour
http://www.opentext.com
Livelink Intranet helps companies to manage and control documents, business processes, and projects more effectively. Take this tour to see how.

2. Short History of the Internet
http://w3.ag.uiuc.edu/AIM/scale/nethistory.html
Bruce Sterling begins with the development of the idea for the Internet by the cold war think tank, the Rand Corporation, and goes on to explain how computer networking works. There are links to other sites and to further reading.

The Economy

3. E-Commerce Times
http://www.ecommercetimes.com
E-Commerce Times is a gateway to a wealth of current information and resources concerning e-commerce.

4. The End of Cash (James Gleick)
http://www.around.com/money.html
This article, previously published in the *New York Times*, on June 16, 1996, discusses the obsolescence of cash.

5. The Rise of the Informediary
http://www.ait.unl.edu/crane/misgrad/sglee/informediary.htm
The author of this site explains what an informediary is and what an informediary does. He also shows why the informediary is so important in today's business environment.

6. Mersch Online: E-Cash Links
http://www.mersch.com/links/moneyzz.htm
This page has a good series of links to other sources of information about E-cash.

Work and the Workplace

7. Cisco E-Learning
http://www.cisco.com/warp/public/10/wwtraining/elearning/elearning.html
E-learning is Internet-enabled learning. This site explains why e-learning is important. It also contains an E-learning glossary.

8. InfoWeb: Techno-rage
http://www.cciw.com/content/technorage.html
Techno-rage is becoming more and more common. This site provides information and resources regarding techno-rage and techno-stress.

9. STEP ON IT! Pedals: Repetitive Strain Injury
http://www.bilbo.com/rsi2.html
Data on carpal tunnel syndrome are presented here with links to alternative approaches to the computer keyboard, and links to related information.

10. Telecommuting
http://www.sangabriel.com/telecommuting.htm
A list of interesting information regarding concepts, experiences, and the future of telecommuting may be accessed here.

Computers, People, and Social Participation

11. Adoption Agencies
http://www.adoptionagencies.org/mfraim.htm
Here is an example of the much-talked-about new trend of online adoption agencies.

12. Alliance for Childhood: Computers and Children
http://www.allianceforchildhood.net/projects/computers/index.htm
How are computers affecting the intellectual growth of children? Here is one opinion provided by the Alliance for Childhood.

13. The Core Rules of Netiquette
http://www.albion.com/netiquette/corerules.html
Excerpted from Virginia Shea's book *Netiquette*, this is a classic work in the field of online communication.

14. SocioSite: Networks, Groups, and Social Interaction
http://www.pscw.uva.nl/sociosite/topics/interaction.html
This site provides sociological and psychological resources and research regarding the effect of computers on social interaction.

Societal Institutions—(Property) Law and Politics

15. ACLU: American Civil Liberties Union
http://www.aclu.org
Click on the Supreme Court's Internet decision, plus details of the case *Reno v. ACLU* and the ACLU's campaign to restore information privacy; "Take Back Your Data"; and cyberliberties and free speech for opinions on First Amendment rights as they apply to cyberspace.

16. edemocracy
http://www.democracy.org.uk/home.html
Edemocracy provides information, resources, help, and guidance on electronic democracy. Through its resource center it also provides access to data on electronic democracy.

17. Information Warfare and U.S. Critical Infrastructure
http://www.twurl.com
The "twURLed World" contains a pie chart of URLs involved in IW (information warfare) as well as report main pages that list Internet domains, keywords in contexts and by individual terms, and listing of all URLs and links to details.

18. Issues in Telecommunication and Democracy
http://www.benton.org/Library/TeleDemocracy/working8.html
This article, prepared under the aegis of the Benton Foundation, discusses the issues surrounding telecommunications in the twenty-first century.

19. Living in the Electronic Village
http://www.rileyis.com/publications/phase1/execsumm.htm
This site addresses the impact of information in technology on government. Shown is the executive summary, but seven other sections are equally pertinent.

20. Patrolling the Empire
http://www.csrp.org/patrol.htm
Reprinted from *CovertAction Quarterly*, this article by Randy K. Schwartz details the plans of NIMA (National Imagery and Mapping Agency) for future wars by helping to fuse high-tech surveillance and weaponry.

21. United States Patent and Trademark Office
http://www.uspto.gov
This is the official homepage of the U.S. Patent and Trademark Office. Use this site to search patents and trademarks, apply for patents, and more.

22. World Intellectual Property Organization
http://www.wipo.org
Visit the World Intellectual Property Organization Web site to find information and issues pertaining to virtual and intellectual property.

Societal Values and Risks: Ethics, Privacy, and Preserving the Past

23. Antionline: Hacking and Hackers
http://www.antionline.com
This site is designed to help the average person learn how to protect against hackers.

24. Copyright & Trademark Information for the IEEE Computer Society
http://computer.org/copyright.htm
Here is an example of how a publication on the Web is legally protected. The section on Intellectual Property Rights Information contains further information about reuse permission and copyright policies.

25. Dangers of Real-Time Video Manipulation
http://www.indiaserver.com/businessline/2001/03/23/stories/042367md.htm
What threat does real-time video manipulation technology pose? This article explains some of the concerns regarding this new technology.

26. Electonic Privacy Information Center (EPIC)
http://epic.org
EPIC is a private research organization that was established in 1994 to focus public attention on emerging civil liberties issues and to protect privacy, the First Amendment, and constitutional values. This site contains news, resources, policy archives, and a search mechanism.

27. Internet Privacy Coalition
http://www.privacy.org/ipc/
The mission of the Internet Privacy Coalition is to promote privacy and security on the Internet through widespread public availability of strong encryption and the relaxation of export controls on cryptography.

28. Center for Democracy and Technology
http://www.cdt.org/crypto/
These pages are maintained for discussion and information about data privacy and security, encryption, and the need for policy reform. The site discusses pending legislation, Department of Commerce Export Regulations, and other initiatives.

29. Survive Spyware
http://www.cnet.com/internet/0-3761-8-3217791-1.html
Internet spying is a huge problem. Advertisers, Web designers, and even the government are using the Net to spy on you. CNET.com provides information about spyware and detecting spying eyes that will help you eliminate the threat.

30. An Electronic Pearl Harbor? Not Likely
http://www.nap.edu/issues/15.1/smith.htm
Is the threat of information warfare real? Yes. Do we need to be completely concerned? Probably not. This site tries to dispel some of the myths and hoaxes concerning information warfare.

International Perspectives and Issues

31. Encryption in the Service of Human Rights
http://www.aaas.org/spp/dspp/cstc/briefing/crypto/dinah.htm
Here is a briefing paper from the Human Rights Watch concerning encryption in the service of human rights. What role does encryption play in the Human Rights Movement?

32. National Security in the Information Age
http://www.terrorism.com/documents/devostthesis.html
This thesis project by Matthew G. Devost from the University of Vermont explores the new role that national security will play in the information age.

33. Satellite Imagery in Court
http://www.crowsey.com/spacearticle.htm
This article explains how satellite imagery works and predicts that it will be an important tool in the future. The article also asks whether or not satellite imagery technology, as it evolves, will invade our homes and impinge upon our human rights.

Philosophical Frontiers

34. IEEE Robotics and Automation Society Home Page
http://www.ncsu.edu/IEEE-RAS/
You may get information about robotics within the Institute of Electrical Engineers' RAS (Robotics and Automation Society), as well as links to other associations, government, industry, publishing, and university sources and sites here.

35. Introduction to Artificial Intelligence (AI)
http://www-formal.stanford.edu/jmc/aiintro/aiintro.html
This statement describes AI. Click on John McCarthy's home page for a list of additional papers.

36. Kasparov vs. Deep Blue: The Rematch
http://www.chess.ibm.com/home/html/b.html
Video clips and a discussion of the historic chess rematch between Garry Kasparov and Deep Blue are available on this site.

37. WWW Resources
http://alife.santafe.edu/alife/www/
Start here to find links to many alife (artificial life) Web sites, including demonstrations, research centers and groups, and other resources.

We highly recommend that you review our Web site for expanded information and our other product lines. We are continually updating and adding links to our Web site in order to offer you the most usable and useful information that will support and expand the value of your Annual Editions. You can reach us at: *http://www.dushkin. com/annualeditions/*.

Unit Selections

1. **From Movable Type to Data Deluge,** John Gehl and Suzanne Douglas
2. **The Internet & Sexual Personae** Camille Paglia
3. **The Internet Produces a Global Village of Village Idiots,** Richard John Neuhaus

Key Points to Consider

- If we discover that we dislike some of the social changes that result from new technologies, can we discard our inventions or channel their effects to more desirable ends? Defend your answer.
- The ultra-libertarian versus traditional ideals espoused by Camille Paglia (see "The Internet & Sexual Personae") and Richard Neuhaus (see "The Internet Produces a Global Village of Village Idiots") underscore the wide diversity of values that exist in society. If we have a choice about which technologies are developed and how they are used, how could we resolve conflicts between groups with strongly opposing values and objectives?

DUSHKIN ONLINE **Links** **www.dushkin.com/online/**

1. **Livelink Intranet Guided Tour**
   http://www.opentext.com
2. **Short History of the Internet**
   http://w3.ag.uiuc.edu/AIM/scale/nethistory.html

These sites are annotated on pages 4 and 5.