Digital Divide

CIVIC ENGAGEMENT, INFORMATION POVERTY, AND THE INTERNET WORLDWIDE

Pippa Norris
Harvard University

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CHAPTER 1

The Digital Divide

The year 1989 dawned like any other but, in retrospect, it witnessed two major developments of immense historical significance. One was highly visible and widely celebrated: the symbolic dismantling of the Berlin Wall sparking the brushfire of electoral democracy spreading throughout the post-Communist world and beyond. The other was less generally recognized at the time, beyond a few scientific and technical cognoscenti: the invention of the World Wide Web. Dispersed computers communicating via packet-switching networks, and hence a rudimentary version of the Internet, had linked scientific elites for two decades. It took the invention of the Web by Tim Berners-Lee in CERN and the launch of a graphical browser, Mosaic, four years later to popularize this technology. Like a stone dropping into a pellucid pond, the ripples from this invention are surging throughout industrialized societies at the core, as well as flowing more slowly among developing societies at the periphery. With the size of the online community doubling every year, few doubt the potential importance of the Internet for transforming the way people live, work, and play. But, beyond these spheres, what are the causes of stratification in the networked world? In particular – the core focus of this book – will the Internet serve to reinforce or erode the gap between information-rich and poor nations? Will it exacerbate or reduce social divisions within countries? And will it strengthen representative democracy, as many hope, or will it buttress the power of established interests, as others fear?

In exploring these issues, this book focuses on understanding the root causes and the major consequences of inequalities evident during the first decade of the Internet age. The term "digital divide" has quickly become so popular as an instant sound bite that it has entered everyday

speech as shorthand for any and every disparity within the online community. In this study the concept of the digital divide is understood as a multidimensional phenomenon encompassing three distinct aspects. The *global divide* refers to the divergence of Internet access between industrialized and developing societies. The *social divide* concerns the gap between information rich and poor in each nation. And finally within the online community, the *democratic divide* signifies the difference between those who do, and do not, use the panoply of digital resources to engage, mobilize, and participate in public life. To consider these matters, this introduction summarizes the contemporary debate about these issues, and then outlines the book's central argument, framework, and organization.

THE GLOBAL DIVIDE AMONG COUNTRIES

Few doubt the potential impact of digital technologies for reshaping the flow of investment, goods, and services in the global marketplace. Like the Californian Gold Rush of the 1850s, dot.coms have scrambled to stake their claims in the virtual frontier. Productivity and efficiency gains from investments in ICTs remain difficult to gauge but the U.S. Department of Commerce estimates that industries producing computer and communications hardware, software, and services have had a major impact on the U.S. economy.[1] These developments fueled an intense flurry of heady speculation about the emergence of a "new" economy breaking the traditional business rules, although, mirroring the fluctuating fortunes of the Nasdaq index and the death of hundreds of dot.com start-ups, more cautious voices have subsequently warned that beyond a few isolated sectors, such as the travel or insurance industries, "bricks and mortar" assets still count for successful business-customer relations, along with old-fashioned notions such as profitability for investors, brand names, sales, and distribution systems.[2]

In the social sphere, few question the significance of cyberculture for transforming leisure hours, community networks, and personal lifestyles.[3] Thousands of Internet sites and over 2 billion web pages cater to every conceivable interest from acupuncture to zoology.[4] Within a decade of its launch, America has become all Internet, all the time. The public has also flooded online in comparable countries such as Canada, Sweden, and Australia.[5] The Internet population surged from about 3

million worldwide users in 1994 to more than 400 million in late-2000.[6] Yet the potential for this medium, currently reaching about 7 percent of the world's population, has only started to be exploited. Despite some indications of a possible slowdown in sales of personal computers in the saturated U.S. market, connectivity seems likely to gain momentum in the near future: Metcalf's law suggests that the value of a network is proportional to the square number of people using it: the more people link to the Internet, the greater its utility, the more it attracts.[7]

But what has been, and what will be, the impact of digital technologies on poorer countries? Surf at random, click on this, click on that, and whose voices do you hear around the globe? There are many plausible reasons why the emerging Internet age may reinforce disparities between postindustrial economies at the core of the network and developing societies at the periphery.[8] As many warn, the basic problem is "To them that hath shall be given". If investment in digital technologies has the capacity to boost productivity, advanced economies such as Sweden, Australia, and the United States at the forefront of the technological revolution may be well placed to pull even farther ahead, maintaining their edge in future decades. A few middle-level economies like Taiwan, Brazil, and South Korea may manage to leverage themselves profitably into niche markets within the global marketplace, servicing international corporations based elsewhere by providing software development or manufacturing silicon chips. But most poorer societies, lagging far behind, plagued by multiple burdens of debt, disease, and ignorance, may join the digital world decades later and, in the long-term, may ultimately fail to catch up.[9]

International organizations have sounded the alarm. The OECD warns that affluent states at the cutting edge of technological change have reinforced their lead in the new knowledge economy but so far the benefits of the Internet have not yet trickled down far to Southern, Central, and Eastern Europe, let alone to the poorest areas in Sub-Saharan Africa, Latin America, and Southeast Asia.[10] The UN Development Report argues that productivity gains from information technologies may widen the chasm between the most affluent nations and those that lack the skills, resources, and infrastructure to invest in the information society: *"The network society is creating parallel communications systems: one for those with income, education and literally connections, giving plentiful information at low cost and high speed; the other for those without connections, blocked by high barriers of time, cost*

and uncertainty and dependent upon outdated information."[11] Echoing these concerns, UNESCO emphasizes that most of the world's population lack basic access to a telephone, let alone a computer, producing societies increasingly marginalized at the periphery of communication networks.[12] Leaders in the World Bank, European Union, United Nations, and G-8 have highlighted the problems of exclusion from the knowledge economy, where know-how replaces land and capital as the basic building blocks of growth.[13] Initiatives have been launched to address this problem but disparities in the distribution of information and communication technologies are deep seated, suggesting that they will not easily be eradicated or ameliorated. The global flow of such traditional media as news, books, or scholarly research has long displayed center-periphery inequalities, with information flowing primarily from north to south; an issue generating heated debate during the 1980s centered on UNESCO's controversial New World Information Order.[14] Technology has always held promise as an engine of economic growth for transforming developing nations – including machines for printing, textiles manufacture, and iron railways in the nineteenth century, and automobiles, oil production, and television in the twentieth – but critics argue that in practice this promise has often mainly served to benefit the industrialized world.[15]

Yet at the same time *if* technological diffusion can be achieved in poorer societies, and it is a big "if," then many observers hope that the Internet provides multiple opportunities for socioeconomic and democratic development. Digital networks have the potential to broaden and enhance access to information and communications for remote rural areas and poorer neighborhoods, to strengthen the process of democratization under transitional regimes, and to ameliorate the endemic problems of poverty in the developing world. With connectivity as the umbilical cord, enthusiasts hope that the Internet will eventually serve multiple functions as the world's favorite public library, school classroom and medical database, post office and telephone, marketplace and shopping mall, channel for entertainment, culture and music, daily news resource for headlines, stocks and weather, and heterogeneous global public sphere. In the heady words of the G-8 Okinawa Charter: "*Our vision of an information society is one that better enables people to fulfill their potential and realize their aspirations. To this end we must ensure that IT serves the mutually supportive goals of creating sustainable economic growth, enhancing the*

public welfare, and fostering social cohesion, and work to fully realize its potential to strengthen democracy, increase transparency and accountability in governance, promote human rights, enhance cultural diversity, and to foster international peace and stability."[16] The Internet may allow societies to leapfrog stages of technological and industrial development. On the production side, if Bangalore companies can write software code for IBM or Microsoft, and if Costa Rica can manufacture chips for Intel, then potentially entrepreneurs can offer similar services from Malaysia, Brazil, and South Africa. The Internet encourages market globalization: small craft industries and the tourism industry in Bali or the Maldives can deal directly with customers and vacationers in New York and London, irrespective of distance, the costs of advertising, and the intermediate distribution chains of travel agents and retail businesses.[17] The Internet also offers promise for the delivery of basic social services such as education and health information across the globe, a function that may be particularly important for middle-level professionals serving their broader community.[18] Local teachers or community officials connected to the digital world in Lagos, Beijing, or Calcutta can access the same electronic journals, books, and databases as students at the Sorbonne, Oxford, or Harvard. Distance learning can widen access to training and education, via open universities in India, Africa, and Thailand, and language websites for schools.[19] Networks of hospitals and health care professionals in the Ukraine, Mozambique, and Stockholm can pool expertise and knowledge about the latest research on AIDS. Peasant farmers using village community centers can learn about storm warnings and market prices for their crops, along with employment opportunities in local towns. Where peripheral regions lack access to the traditional media, the convergence of communication technologies means that the Internet has the potential to deliver virtual local newspapers, streaming radio and television video, as well as other services.

It is hoped that within a few years many of the existing barriers to access will be overcome with the combination of technological breakthroughs, market competition, and state initiatives. Internet has usually been delivered via bulky desktop personal computers tethered to telephone wires, but multiple less expensive devices are rapidly facilitating wireless access, including NTT's DoCoMo mobile phones using I-mode in Japan, Nokia's Communicator using WAP-enabled services in Europe, and handheld personal digital assistants such as

Handspring and Palm Pilots which are popular in the United States.[20] Prototype disposable prepaid cell phones and laptops are under development, along with speech-recognition software and voice-activated Internet services. The price of hardware, software, and services has been plummeting, owing to increased competition in telecommunications combined with computer technologies' falling costs, faster speeds, and smaller microprocessors.[21] In the 1960s Intel founder Gordon Moore predicted that, for the foreseeable future, chip density, and hence computing power, would double every eighteen months while costs would remain constant. During the last thirty years "Moore's law" has proved remarkably prescient. Every eighteen months, you can get twice as much power for the same cost. Telecommunications bandwidth, the speed at which data can be moved through the phone network, is experiencing similarly dramatic improvements owing to high-speed fiber-optic cable, satellites, and wireless communication technologies, all of which can be used on the same network. There have been parallel developments with computer memory and storage devices such as rewritable CD-ROMs. In 1980, a gigabyte of storage cost several hundred thousand dollars and occupied a room. It now fits on a credit-card device that can be carried in your pocket. As well as technological innovations, public-sector initiatives in developing countries as diverse as Estonia, Costa Rica, and Bangladesh have promoted the infrastructure, skills training, and knowledge necessary to widen use of digital technologies.

The implications of these developments promise to sweep well beyond the economic sphere. Observers hope that digital technologies will shift some of the global disparities in power as well as wealth, by fostering a worldwide civic society countering the role of international agencies, strengthening the voice of the developing world, dissolving some of the boundaries of the nation-state, and reinforcing the process of democratization.[22] By directly linking political activists in different countries, and reducing the costs of communication and networking, the Internet may foster new types of mobilization by transnational advocacy networks around the world.[23] By connecting disparate social movements, coalitions can be formed that mobilize a global civic society, such as protestors concerned about the World Trade Organization meetings in Seattle and Washington, D.C., the anti-landmine campaign, the anti-sweatshop manufacture of Nike shoes, and opposition movements in Burma, linking indigenous groups in developing societies with

a diverse mélange of Norwegian environmentalists, Australian trade unionists, and European human rights organizations.[24] The Internet may facilitate the networking and mobilizing functions of NGOs working across national borders, as a countervailing force to the influence of technocratic elites and government leaders running traditional international organizations.[25] The role of the Internet may be even more important as a force for human rights, providing a global platform for opposition movements challenging autocratic regimes and military dictatorships, despite government attempts to restrict access in countries like China and Cuba.[26] Therefore many observers have emphasized that the emerging years of the Internet Age have generated substantial worldwide inequalities in access and use although, if this could be overcome, it is widely believed that digital technologies will provide multiple opportunities for development.

The role of technology has therefore fueled a debate among optimists envisaging the positive role of the Internet for transforming poverty in developing societies, skeptics who believe that new technologies alone will make little difference one way or another, and pessimists who emphasize that digital technologies will further exacerbate the existing North-South divide. This debate generates a series of questions that will be considered in this book. Today which nations around the globe are digital leaders and laggards? What explains variations across countries in Internet use, in particular is it levels of socioeconomic development, investments in human capital, the process of democratization, or something else? Does the Internet create new inequalities, or reinforce existing divisions evident for decades in the spread of old communication technologies? Attempts to move beyond speculative theorizing about these questions face major challenges. The World Wide Web remains in its adolescence; any examination of trends is limited to just a decade. Technology continues to evolve rapidly, along with its social uses, so that projected estimates are often rapidly overtaken by events. Yet, despite the need for considerable caution in weighing the available evidence, if we can establish the main drivers behind the diffusion of the Internet, and if these prove similar to the reasons behind the adoption of older forms of information technologies, then we are in a much better position to understand and predict the probable pattern of future developments, the potential consequences of the rise of the Internet age, and also the policy initiatives most likely to overcome the global divide.

SOCIAL STRATIFICATION WITHIN COUNTRIES

Equally important, many official agencies have expressed concern about the development of a widening digital divide *within* societies. Technological opportunities are often unevenly distributed, even in nations like Australia, the United States, and Sweden at the forefront of the information society. As the Internet has become increasingly central to life, work, and play – providing job opportunities, strengthening community networks and facilitating educational advancement – it becomes even more important if certain groups and areas are systematically excluded, such as poorer neighborhoods, working-class households, or peripheral rural communities. Governments in many countries have recognized this issue and developed initiatives designed to tackle this potential problem. The EU prioritized social inclusion as one of the three key objectives when launching the e-Europe Action Plan in Lisbon in March 1999.[27] In the United States, a series of studies by the Department of Commerce, *Falling Through the Net,* have emphasized lower rates of Internet penetration among the poor.[28] The 1998 survey found that affluent households (with income of $75,000 and above) were twenty times as likely to have Internet access as those at the lowest income levels, and more than nine times as likely to have computer access.[29] In February 2000, President Clinton expressed concern about this situation and proposed a new plan to help bridge the "digital divide," offering private companies a $2 billion tax break, new teacher training programs, and the development of Community Technology Centers in low-income neighborhoods to help close the gap so that the Internet eventually becomes as ubiquitous as the availability of the telephone or television.[30] The Department of Commerce has headed this initiative, emphasizing the role of programs to widen public access, promote digital skills, and encourage content that will empower underserved communities. The most common policy strategy has been to wire classrooms, although some warn that by itself this may be insufficient to close the digital divide.[31] The survey in August 2000 found that many groups that have traditionally lacked digital opportunities have been making substantial gains in connectivity and computer ownership, with the rising Internet tide carrying many boats. Nevertheless notable divides in Internet penetration still exist between Americans with different levels of income and education, different racial and ethnic groups, old

and young, single and dual-parent families, and those with and without disabilities.[32] Many industry leaders in the corporate sector have expressed concern that too many people are being left behind in the Information Age, and multiple nonprofit organizations and foundations have highlighted this problem.[33] Governments in Finland, Germany, Canada, and Sweden have all announced programs to address access inequalities, often blending private and public resources. The British government, for example, has established a network of city learning centers, introduced a scheme to distribute reconditioned computers to homes in poor neighborhoods, and developed a national grid linking all public libraries to the Internet.[34]

Will digital inequalities prove a temporary problem that will gradually fade over time, as Internet connectivity spreads and "normalizes," or will this prove an enduring pattern generating a persistent division between info-haves and have-nots? Again the debate divides cyber-pessimists who emphasize deep-seated patterns of social stratification and the growth of an unskilled underclass in technological access, cyber-skeptics who believe that technologies adapt to society, not vice versa, and cyber-optimists who hope that in affluent postindustrial societies, at least, the digital divide will eventually succumb to the combined forces of technological innovations, markets, and the state. Positive scenarios suggest that inequalities in Internet access may prove a short-term phenomenon, similar to the type of households that could afford to buy television sets when services were first introduced in the early 1950s. In this perspective, the profile of the online community will probably come to reflect society as a whole given the wider availability of simpler and cheaper plug-and-play technologies and faster broadband services, facilitating delivery of popular mass entertainment including streaming video-on-demand. Some suggest that high-tech companies will compete to connect the public with a speed and efficiency that no government program can match, even in the neighborhoods of the urban poor, if there is mass demand for the services.[35] For those with personal computers, free Internet services, email and Web hosting services are already widely available, albeit with advertising strings attached.[36] The market may be insufficient to close the gap but the nonprofit sector has also been active. Major American corporations including Microsoft, Intel, Hewlett-Packard, and AT&T have foundations devoted to expanding access to local communities, most often through donating educa-

tional equipment and fostering training in deprived areas, complementing state initiatives designed to furnish the younger generation with keyboard skills and training in wired schools. Telecommunications policy may play an important role here if the Internet is treated as a public utility, so that access is made widely available through public libraries, community centers, and private homes, much as telephone services were regulated to produce low-cost services and universal access to rural areas.[37]

The interesting question is not whether there will be *absolute* social inequalities in Internet access; of course there will be, as in other dimensions of life. Although Alexander Graham Bell's commercial telephone service was launched in the United States in 1877, today in America, more than a century later, there remain pockets of racial inequality in access to household telephones. Cable TV started to become available in the mid-1960s but today, owing to choice or necessity, only two-thirds of American households are connected, along with about half of all households in industrialized nations.[38] Given substantial inequalities in the old mass media, it would be naive to expect that the Internet will magically transcend information poverty overnight. The more intriguing series of questions addressed by this book concern whether there are special barriers to digital technologies, such as their greater complexity or costs, and whether *relative* inequalities in Internet use will be similar to disparities in the penetration rates of older communication technologies.

THE DEMOCRATIC DIVIDE

The last challenge, and perhaps the most intractable, concerns the potential impact of the digital world on the distribution of power and influence in political systems. Even if we assume, for the sake of argument, that Internet penetration rates will gradually widen throughout society there is growing awareness that a substantial *democratic divide* may still exist between those who do and do not use the multiple political resources available on the Internet for civic engagement. What will be the impact of digital technologies in the public sphere?

The Internet has generated deeply contested alternative visions about the future. Cyber-optimists emphasize the Panglossian possibilities of the Internet for the involvement of ordinary citizens in direct democracy. Digital technologies hold promise as a mechanism facilitating alternative channels of civic engagement such as political chat rooms, electronic voting in general elections and for referenda issues, and the mobilization of virtual communities, revitalizing levels of mass participation in public affairs.[39] The use of the Internet by groups and social movements is often believed to exemplify digital politics. This view was popular in the mid-1990s and the revolutionary potential of digital technologies continues to be expressed by many enthusiasts such as George Gilder.[40] Yet as the Internet evolved, a darker vision has been articulated among cyber-pessimists who regard digital technology as a Pandora's box unleashing new inequalities of power and wealth, reinforcing deeper divisions between the information rich and poor, the tuned-in and the tuned-out, the activists and the disengaged. This account stresses that the global and social divides already discussed mean that Internet politics will disproportionately benefit the elite.[41] In this perspective, despite the potential for technological innovations, traditional interests and established authorities have the capacity to reassert their control in the virtual political sphere, just as traditional multinational corporations have the ability to reestablish their predominance in the world of e-commerce.[42] Finally, cyber-skeptics argue that both these visions are exaggerated, because so far the potential of the Internet has not had a dramatic impact on the practical reality of "politics as usual," for good or ill, even in countries at the forefront of digital technologies.[43] For example, during the 2000 American presidential campaign the major candidates used their Web pages essentially as glossy shop-windows, as fund-raising tools, and as campaign ads, rather than as interactive "bottom-up" formats for public comment and discussion.[44] Technology, in this view, is a plastic medium that flows into and adapts to preexisting social molds. The demise of many dot.coms in the business world has reinforced the skeptical view.

Each of these viewpoints reflects an element of truth depending, like a Rorschach test, on whether studies are focusing on different multifaceted components of digital technologies. As with the blind men of Indostan in Hindu legend, observers touch different parts of an elephant – the tusks, the tail, and the trunk – and report their experience with absolute conviction as though describing the whole of the digital world.[45] Yet it requires a considerable stretch to get our arms around this beast. Multiple warnings should be posted before entering this territory. Deep-rooted hopes and fears about the poten-

tial for technology often outweigh dispassionate analysis. Powerful myths and vivid anecdotes commonly appear as plausible as concrete observations. The best forecasts often seem little more than intelligent guesses. "Facts" commonly exhibit a shelf life of weeks or months. And hucksters in the guise of market research hype the industry's wares.

THE CORE ARGUMENT, CONCEPTUAL FRAMEWORK, AND STRUCTURE OF THE BOOK

How can we move beyond speculative theorizing toward more systematic evidence on these issues? The overall structure of the book can be summarized as follows. Chapter 2 considers approaches to understanding the causes and consequences of Internet access and use, and the major challenges that arise owing to the rapid pace of technological and social development, the limitations of cross-national comparative evidence, and the need for a multimethod research design. The chapter concludes that the most effective way to meet these challenges is to develop a comparative multilevel research design covering a wide range of political system.

In this study, the conceptual framework used to understand these issues distinguishes among three nested levels of analysis, as illustrated in Figure 1.1. The *national* context, including the macrolevel technological, socioeconomic, and political environment, determines the diffusion of the Internet within each country. The *institutional* context of the virtual political system provides the structure of opportunities mediating between citizens and the state, including the use of digital information and communication technologies by governments and civic society. Finally, the *individual* or microlevel of resources and motivation determines who participates within the virtual political system. Most studies are limited to only one level. In contrast the more holistic approach used in this book compares the national context of Internet access in 179 countries around the globe, as well as the virtual political system within these nations, and then explores patterns of online civic engagement among individual citizens in Western Europe and the United States. The nested framework assumes that the national context, such as the process of technological diffusion, influences the development of the virtual political system. In turn, the core institutions of the political system available in the digital world provide the

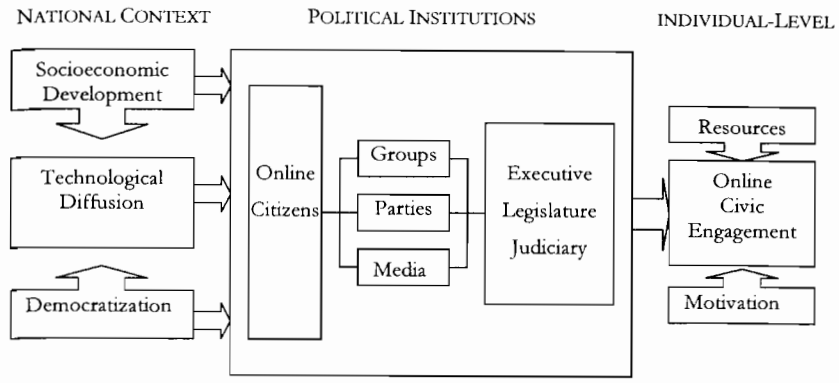

Figure 1.1. The Internet Engagement Model.

systematic context within which individual citizens have opportunities to participate online. Which particular citizens choose to take advantage of these opportunities is determined by their personal resources (like time, money, and skills) and their motivation (like interest, confidence, and efficacy).

Those preferring to go directly to the meat and potatoes of the evidence can turn directly to Chapter 3 which establishes what we know about the global divide in the networked world, drawing upon aggregate indicators to map the spread of digital technology around the globe, and then considers the causes of cross-national differences in Internet connectivity. The evidence indicates that some developing nations such as Malaysia, Brazil, and Taiwan have made substantial progress in the knowledge economy. But average rates of Internet penetration have grown sluggishly, at best, in most developing nations. Chapter 3 demonstrates that the global divide in Internet access is substantial and expanding: About 87 percent of people online live in postindustrial societies.[46] The contrasts worldwide are sharp: More than half of all Americans now surf the Internet compared with 0.1 percent of Nigerians. There are currently twice as many users in Sweden than across the vast continent of Sub-Saharan Africa.[47] In considering alternative explanations of this phenomenon, the evidence strongly suggests that economic development is the main factor driving access to digital technologies, so that the Internet reflects and reinforces traditional inequalities between rich and poor societies. Once we control for levels of economic development, then democrati-

zation plays an insignificant role in the process of technological diffusion. Far from a new pattern, the global spread of the Internet reflects existing patterns of access to the traditional mass media including television, newspapers, and radios, disparities that have existed for decades and that show no sign of gradually closing over time. Striking inequalities are evident worldwide: Half a billion people living in Sub-Saharan Africa share 14 million phone lines, fewer than in Manhattan or in Tokyo.[48] In Sub-Saharan Africa, for every 100 people there are only 17 radio sets, 5 televisions, and 0.5 percent mobile phones.[49] On this basis it seems likely that, despite initiatives by state and international agencies, and despite technological developments in the marketplace, the global digital divide will probably continue in the foreseeable future, driven by world poverty, even if new forms of Internet transmission eventually become inexpensive and as easy as pushing the power button on a radio.

Chapter 4 goes on to analyze the extent and the causes of social inequalities in digital opportunities within different countries, focusing on Internet penetration rates broken down by social class, education, gender, and generation. The composition of the online population is analyzed using representative surveys in Western Europe and the United States. The study concludes that unequal rates of Internet penetration are due to deep divisions of social stratification within postindustrial societies – such as patterns of household income, education, and occupational status – that shape not just digital opportunities but also access to other common forms of mass communications including cable and satellite television, VCRs, and fax machines. Far from narrowing as the information society expands, the income gap in Internet penetration is currently greatest in societies such as Sweden and the Netherlands where access to digital technologies has become most widespread. Of course considerable caution is needed in projecting from current patterns to future trends. The rosy scenario suggests that digital opportunities could eventually become more socially inclusive under certain conditions: if costs continue to fall dramatically in the marketplace, if the technology becomes simplified, and if policy initiatives by the state widen Internet access, training, and keyboard skills. Through inexpensive cell phones or handheld personal assistants, use of a stripped-down version of the Internet, for example just email and some headline news services could eventually become as ubiquitous in postindustrial societies as the availability of household television sets. Genre-scrambling

technologies converging broadband access, the Internet, telephony, and TV entertainment promise to alter conventional forms of content delivery and also inputting devices. The long-term process of generational replacement should eventually lead to greater familiarity with computers throughout society.

But in the short-term these rosy projections, while not impossible, involve multiple "ifs." At present, affluent households with multiple consumer durables designed for traditional forms of home entertainment and communications are also most likely to possess networked personal computers. Poorer families are excluded from digital opportunities, and hence access to online employment vacancies, educational resources, and social networks. Moreover, even if basic access to email becomes ubiquitous, say as common as public telephones in Europe and North America, the marketplace for technological innovations will continue to generate ever faster, smaller, and better machines, spawning new applications and multiple levels of functionality. The chameleon-like capacity of digital technologies to morph, converge, and reappear in different guises, as cell phones can play music files, personal digital assistants can take photos, and computers carry radio waves, makes the Internet dissimilar to earlier machines like television sets. Even if the basic digital divide shrinks gradually over time, it is naive to believe that the virtual world can overturn fundamental inequalities of social stratification that are endemic throughout postindustrial societies, any more than it is likely to overcome world poverty.

THE VIRTUAL POLITICAL SYSTEM

Part II compares the institutional context for representative democracy focusing on three issues: Where and what type of political organizations worldwide have adapted to digital technologies? What are the functions of these websites for maximizing transparent information and interactive communications? And what explains the rise of digital politics, in particular the relative significance of socioeconomic development, technological diffusion, and the process of democratization? Chapter 5 expands upon theories of cyber-democracy and considers the potential capacity of the Internet for strengthening civic society and the institutions of representative democracy around the world. Although many

specific case studies describing cyber-politics in particular nations are becoming available, and a burgeoning literature is developing in the United States and Western Europe, it remains difficult to find systematic typologies and evidence comparing digital politics across a wide range of countries at different levels of social, economic, and political development. Subsequent chapters compare the way that the institutions of representative democracy have responded to digital politics, drawing on evidence about the distribution and function of websites for different types of political organizations from around the world. Chapters 6 through 9 analyze which countries have forged ahead in digital politics, where the Internet has been used for information and communication by governments and civic society, and the socioeconomic, technological, and political factors driving the adaptation of organizations to digital politics. As noted earlier, there are many reasons to be cautious in any analysis. The first decade of the emerging Internet age has seen a process of restructuring and adaptation as political institutions have learned what does, and doesn't, work using digital technologies. Yet precisely because this is a period of experimental transition and institutional change it is particularly important to draw the appropriate lessons based on the available evidence, to map the current state of play, and to consider how the Internet functions in a wide range of political systems, including but also beyond the United States and Western Europe.

The optimistic claims that the interactive capacities of digital technologies will facilitate a new era of direct democracy, characterized by widespread citizen deliberation in affairs of state, like a virtual Agora, while attractive as a normative ideal, is ultimately implausible in practice as soon as we understand who becomes involved in digital politics. As we will see, the cross-national survey evidence indicates that those who take advantage of the opportunities for electronic civic engagement are activists most likely to participate via conventional channels. As a medium of choice par excellence, it seems improbable that digital politics will reach the disengaged, the apathetic, and the uninterested, if they choose to spend their time and energies on multiple alternative sites devoted to everything from the stock market to games and music. In this regard, the Internet seems analogous to the segmented magazine market, where some subscribe to *The Atlantic Monthly, The Economist,* and *Foreign Affairs,* but others pick *Golfing Weekly* or *Playboy.* The available studies of politically oriented discussion groups, bulletin boards, and online chat rooms have found these largely fail as deliberative fora,

instead serving as places to reinforce like-minded voices.[50] Claims for the potential of digital direct democracy to revitalize mass participation can find few crumbs of support from these studies. At the same time, the skeptics' claim that nothing much will change in the political system, as most established political institutions will adapt digital technologies to facilitate existing functions, while admittedly more realistic, overlooks the occasional indications that, here and there, now and then, like a faint sporadic seismic tremor, some disruptive threats to politics as usual are already becoming evident.

Rejecting the view that either everything will change as direct democracy comes to replace representative governance, or that nothing will change as the digital world merely replicates "politics as usual," this book argues that digital technologies have the capacity to strengthen the institutions of civic society mediating between citizens and the state. Established political institutions, just like major corporations, can be expected to adapt the Internet to their usual forms of communication, providing information online, but not reinventing themselves or rethinking their core strategy in the digital world, unless successfully challenged. In contrast, insurgent organizations traditionally have fewer political assets, fewer traditional advantages, but also fewer inhibitions about adapting flexibly to the opportunities for information and communication via the Internet. If this account is essentially correct, digital politics may have most impact in leveling the playing field, not completely but at least partially, for a diverse range of challengers, such as transnational advocacy networks, alternative social movements, protest organizations and minor parties, such as those concerned with environmentalism, globalization, human rights, world trade, conflict resolution, and single-issue causes from all shades of the political spectrum, ranging from genetically modified food and anti-fuel taxes to animal rights and anti-sweat shops. The Internet does not drive these movements – these causes are triggered by deeper passions – but it facilitates their organization, mobilization, and expression.[51]

Information and the mechanisms for delivering it are the lifeblood and sinews of the body politic. Some power comes out of the barrel of a gun. Some power can be bought with the resources of wealth and income. Some may be inherited by sultans and princelings. But in democratic systems the primary coinage of the realm – the resource that persuades, that influences, that swings votes – is information. "Information" comes in all shapes and forms, from the publication of

official documents by government departments to brief news bulletins on the hour, from lengthy parliamentary debates to 30-second campaign ads, and from demonstrations by new social movements to informal conversations over the water cooler. Political organizations are essentially designed as control systems for the transmission of information, binding together the activities of all members within the unit and communicating priorities to the external world. Some information exchanges are brief and transitory; others use rich and well-developed channels. The explosive growth of connectivity via the Internet alters the transmission of information among networks, shrinking costs, maximizing speed, broadening reach, and eradicating distance. Potentially these changes can have profound consequences for altering the balance of resources and power between outsider challengers and established organizations within the political system. Hierarchical communication channels, typical in bureaucratic organizations like government departments and international agencies, are less effective and slower mechanisms of information transmission than horizontal networks shared by informal coalitions of alternative social movements. National boundaries to information flows dissolve, allowing global networks to flourish. Independent upstarts and multiple sources of "news," where immediacy outweighs authority, threaten the legitimacy of traditional journalism in the newspapers and television. Communication costs fall, and information costs plummet even faster. With wider and easier access to official sources, opposition groups and social movements can challenge the authority and expertise of government ministers, civil servants, and elected officials on their own turf.

The main democratic potential of digital information and communication technologies lies in strengthening organizational linkages and networking capacities in civic society. Strengthening these bonds, it will be argued, has the capacity to produce sudden disruptions to politics as usual, especially for flash coalitions mobilizing suddenly like a guerrilla army then dissolving again, exemplified by events such as the anticapitalism violent protest in the City of London in June 1999, direct-action campaigns against the World Trade Organization on the streets of Seattle and Quebec, antiglobalization protests against the World Bank/International Monetary Fund in Prague and Washington, D.C., and the poujadist fuel price revolt by farmers and truckers that swept the European continent in October 2000. Such occurrences remain relatively rare, but they can have immediate impact on the policy process, and they are important as indicators of the disruptive potential of digi-

tal politics. Some flash protests are temporary phenomenon. Other transnational advocacy networks manage to sustain longer-term electronic coalitions, such as the International Campaign to Ban Landmines that resulted in a treaty signed by 122 nations in 1997. Global protest movements and direct-action demonstrations spreading across national borders have existed for decades, such as the antinuclear movement in the 1950s and the anti-Vietnam war protests of the 1960s, or even farther back the antislavery and the suffrage movements in the nineteenth century. The phenomenon is far from new but these movements are facilitated in an environment of minimal-cost instantaneous global communications. Governments, like British redcoats lined up in perfect formations, seem unsure how to respond. They are flustered when suddenly outmaneuvered by the ad hoc coalitions of truck drivers and fuel-tax protestors, the environmental activists and animal-rights lobbies, the anticapitalists and antiglobalist forces. It is true, as cyber-skeptics claim, that most established political institutions prefer to co-opt the capacities of new technologies to preexisting functions, rather than being forced to reinvent themselves in the Internet age. But it is also true that the capacities of the Internet are adapted more easily by smaller, more flexible organizations, a process that is particularly important for the process of democratic consolidation, and for opposition movements seeking to challenge authoritarian rule around the globe.

THE IMPACT ON CIVIC ENGAGEMENT

What will be the impact of this process for civic engagement among ordinary citizens? Part III goes on to examine the nature of the cyberculture and the influence of digital politics on public participation, and then summarizes the core thesis argued in this book. Chapter 10 analyzes political attitudes in the United States and Western Europe. Many have concluded that as the Internet population has gradually normalized in America, the digital world has come to reflect the general population.[53] Nevertheless a more detailed examination of the values and attitudes of the online community in America and Europe, where we have survey evidence, suggests the existence of a distinctive cyberculture, one favorable toward the "new" left on the social agenda and the "old" right on the economic dimension. Just as Internet enthusiasts sympathize with nonregulation in the sphere of personal lifestyles, so they favor freedom from government in the economic sphere. Moreover, this cyberculture is not simply a by-product of the social profile of those who go online,

since this pattern remains distinctive even after controlling for the usual demographic factors such as the age, education, sex, and income of the online population. Such a cyberculture is one broadly sympathetic to the alternative social movements that use digital technology most effectively for direct action and protest demonstrations.

Will the Internet have the capacity to revitalize public participation in conventional politics, such as levels of party membership, electoral turnout, or activism in civic and voluntary organizations? Chapter 11 suggests that digital politics reduces some of the information and communication costs for individual citizens who are interested in public affairs, but at the same time the Internet probably has the least impact on changing the motivational basis for political activism. In this way, digital politics functions mainly to engage the engaged. For those with access and motivation, the Internet facilitates opportunities for civic engagement, increasing the ability to drill down and compare multiple news sources on an issue, to forward articles and clippings to colleagues, friends, and family, to donate funds electronically to causes or election campaigns, to support groups mobilizing around particular issues, to organize within local neighborhoods, and to discuss politics online, as well as to research official documents and legislative proposals, to access government services and download official forms, and to contact public servants about particular problems of health or housing. Reduced information and communication costs lower some, although not all, of the barriers to civic engagement. Costs can only be expected to fall with the expansion of online political resources, giving grounds for optimism about the ability of digital politics to revive activism among the active. Yet the evidence also suggests that, at least in the short term, at individual level, altering the structure of opportunities and the balance of relevant resources probably has minimal impact on changing the motivational basis of political participation and interest among the mass public. Digital politics thereby contributes toward the vitality of representative democracy, but it also largely bypasses the disengaged.

In this regard, the role of the Internet is similar to the impact of traditional forms of mass media. Previous work has established a consistently positive association between use of the news media and indicators of civic engagement in the United States and Europe.[54] Those who watch the news and current affairs on television, read newspapers, and listen to radio news were found to be more politically informed, trusting, and active than average, even with the usual controls for social

background such as age, gender, education, and income. The evidence in this book confirms that, along similar lines, those already most interested and involved in public affairs take most advantage of the new opportunities for information, expression, and political mobilization available via the Web. Environmentalists, for example, are most likely to surf the Greenpeace website, just as Republicans are most likely to check *www.Bush2000.org,* and women are most likely to click on *www.Oxygen.com.* Like discussing gun control or abortion over dinner with like-minded friends, reading liberal op-ed pages on problems of health care or affirmative action in schools, or attending a protest rally about genetically modified food, this experience can be expected gradually to *reinforce* political attitudes and strengthen the involvement of the participants. This process remains important, functioning to encourage the involvement of ordinary citizens in democratic government through representative channels. Yet it disappoints those who hope that the Internet will function as a deliberative public forum, drawing the less engaged into civic life, replacing representative institutions, and thereby strengthening direct, plebiscitory, or "strong" democracy.

Therefore the theory developed in this book attempts to strike a balance between more pessimistic claims that the development of the Internet will serve to reinforce the voices of the powerful, the more skeptical claims that it will merely reflect "politics as usual," and the more optimistic claims that cyber-democracy will transform governance as we know it and restore levels of mass political participation. Instead, the book concludes that the restructured opportunities for information and communication available via digital politics will potentially have positive consequences for civic society, altering the balance of relevant resources and slightly leveling the playing field. The primary beneficiaries are likely to be marginal groups such as minor and fringe parties, loose coalitions of protest organizations, and alternative social movements, particularly those advocating causes that are most conducive to the cyber-culture. Reducing the costs of information and communication minimizes some, although not all, of the significant barriers to effective political participation at individual level; it becomes easier for ordinary citizens to learn about public affairs, if they are so inclined, and to express their views and to mobilize. This process is most important in many consolidating democracies, stranded midway between an authoritarian past and stable democratic future. The wider diffusion of digital technologies can play a significant role in

strengthening civic society in countries such as Taiwan, Brazil, and South Africa if e-governance improves transparency and openness in the policymaking process, if parliaments and parties use new media to strengthen their internal organizations and their links with the public, and if opposition movements develop virtual coalitions to challenge the predominance of the government's message in television, radio, and newspapers. But whether the Internet can ever encourage the less engaged to take advantage of these opportunities at mass level remains doubtful, because as the medium of choice par excellence, it becomes even easier for people to tune out from public life.

Of course, as discussed in the next chapter, there are strong grounds for caution in any prognostication about future developments. This discussion relates to the use of digital technologies during the first decade of the emerging Internet age, and the long-term consequences of these developments cannot be predicted with any accuracy at this stage. History furnishes numerous examples of the failure to foresee the ultimate uses of technologies at the time when they were first introduced. Newfangled telephones were first thought of as channels of musical entertainment, not personal communications. In the nineteenth century, modest electric shocks were believed the novel cure perfect for improving the healthy constitution. When wireless amateurs started broadcasting before World War I, most saw radio as an active medium of communication, a hobby for young boys, not a passive listening experience. Forecasts often fail to predict the weather, the election results, or the stock market for the day after tomorrow, let alone for decades from now. Contemporary estimates for the impact of the Internet may be similarly misplaced. Digital politics has evolved rapidly during the last decade, and multiple developments will probably occur within the next, such as online registration and voting. The long-term impact of digital technologies could ultimately produce different consequences to their effects during the emergent era. But despite the importance of considerable caution, the pattern of global, social, and democratic inequalities described in this study fits what we already know about the impact of traditional forms of political communications, like newspapers, radio, and television, and also receives support from the comparative evidence in the emergent Internet age, so that the evidence deserves to be examined with an open mind to contrary data and countervailing indicators. By systematically comparing the diffusion of digital politics around the world, including both the leaders and

laggard nations, this account can be tested to see whether it provides useful insights into the spread of the Information Society in recent years. In conclusion, Chapter 12 recapitulates and expands on the core theory at the heart of this book, summarizes the evidence for this interpretation, and considers the broader implications for understanding digital politics in the Internet age.