Working-Class Network Society

Communication Technology and the Information Have-Less in Urban China

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1 Introduction

The small connecting cogwheel which revolves quietly is among the most essential parts of the machine.

—Leo Tolstoy

Do information and communication technologies (ICTs) help the poor, or do they promote the interests of the rich? Do they reduce inequality, or make it more acute? In an examination of the uneven development of ICTs and their social consequences, we often immediately think about the digital divide, the great social division between the information haves and the information have-nots. But this is a binary mode of thinking that simplifies things, people, and processes into two basic categories. We either have or do not have the gadget, the skill, or the access. There is either upward social mobility, or people would be "falling through the Net" (National Telecommunications and Information Administration 1995). Since the late 1990s, the concept of the digital divide has dominated many analytical accounts, policy debates, and planning documents (National Telecommunications and Information Administration 1999, 2000; Bolt and Crawford 2000; Norris 2001; Jung, Qiu, and Kim 2001; Murelli 2002). But is this all that is going on?

In summer 2002, I returned to China from the United States to conduct fieldwork. I had done some research on the digital divide and proposed a preliminary idea of informational stratification as a way to understand information inequality in China (Qiu 2002a). I traveled from China's coastal metropolitan areas to remote villages in the high mountains of the Southwest. I was in a high-tech exposition one day, amazed by the marvelous technologies offered to China's new rich; on another day, I set foot in a clay house with no windows, where people had no media access and could barely survive on potatoes.

Between these two extremes, the overwhelming part of my daily observation fell in the vast gray zone in the middle of the great divide, between the haves and have-nots. For the first time, I encountered short-messaging services (SMS) and Little Smart (*Xiaolingtong*), a low-end wireless phone (2007a, 2007b). For the first time, I realized how Internet cafés had penetrated the back alleys of both big cities and small towns, even in the less developed regions inland. For the first time, I witnessed the vulnerability of low-end users, the frustration of working-class service providers, and the myriad ways of ICT appropriation at the grassroots. So many things are quickly happening, but not without their own connections to each other. It took me a few years and more research to piece together the big picture that is the subject of this book (Cartier, Castells, and Qiu 2005; Qiu and Zhou 2005; Qiu 2006, 2007a, 2007b): the rise of working-class network society.

What Is Going On?

Questions about communication technology and inequality are particularly important issues in China because for millennia, elite dominance over ICTs has been a main characteristic in the nation's long history, with the ancient writing, printing, and dissemination systems reinforcing the rule of bureaucrats and the literati. Hence, in the social sciences, since Max Weber's milestone study on Confucianism and Taoism (Weber 1964), China has been the archetype for culturally sanctioned inequality. The Chinese Communist Party (CCP) attempted to end this legacy, but succeeded only partially and temporarily. When modern ICTs like the Internet and mobile phone appeared in the 1990s, they were predominantly for the elite and upper classes (Hu 2001, Qiu 2002a, Giese 2003). But since the turn of the new century, China has become home to the world's largest national population of mobile phone users (547.3 million in December 2007), and its Internet user population has overtaken that of the United States to become the largest in the world by March 2008 (Johnson 2008). By 2005, China also produced more than one-third of all personal computers and mobile phones in the global market (Zeng and Williamson 2007). With further technological diffusion beyond the initial core of highly educated and high-income urbanites, is the historic tendency of elite dominance being challenged? Or is it persisting as the country becomes an engine of growth for the global information technology (IT) industry (Organization for Economic Co-operation and Development 2006) and a pole of market growth for the world economy (Schiller 2005)?

At the global level, the theory of network society was systematically discussed in Manuel Castells's *Information Age* trilogy (1996, 1997, 1998). Using interdisciplinary research findings from around the world, Castells developed a comprehensive framework of network society to understand the informational mode of production, the global space of flows, and the political and cultural transformations of our age. The trilogy highlights inequality as embodied in the "new urban form" of the informational city, with its "distinctive feature of being globally connected and locally disconnected, physically and socially" (1996, 404). It also takes considerable effort to integrate China into the general framework of network society by examining, for example, overseas Chinese business networks, the Chinese developmental state, and the regional formation of the Pearl River Delta in South China as a "representative urban face of the twenty-first century" (1996, 409). Castells's seminal work provides a conceptual basis for our inquiry about ICTs and China, especially urban China, in the twenty-first century.

In the decade that has passed since the publication of the trilogy, the most pivotal change in urban and urbanizing areas of China has been the rise of working-class network society, which consists of three fundamental transformations. First, ICTs are becoming less expensive, more widespread, and more closely integrated with the life of working-class people. In this process, China has been shaping low-end ICTs in previously unexpected ways to meet the demands of domestic and international markets, thus producing a series of inexpensive working-class ICTs on a massive scale. These include informal businesses like the sales of second-hand phones, used computers, and pirated DVDs. They also include more quantifiable ones like Internet cafés, SMS, prepaid mobile service, and the Little Smart low-end wireless phone.

Table 1.1 summarizes the growth of working-class ICTs in China. Between 1999 and 2007, China's cybercafé user population rose from 0.98 to 71.19 million and Little Smart subscriptions from 0.6 to 84.5 million. Between 2000 and 2007, prepaid mobile phone subscription grew from 14.9 to 360.9 million, and SMS traffic volume from 1.4 to 592.1 billion messages per annum. These statistics are partial reflections of the sea change in China's ICT market from elite domination to more dispersed patterns of technology dissemination and grassroots communication involving working-class users and service providers of all kinds. This change also reflects intense competition in China's telecom sector and increasing saturation in high-end markets (Wilson 2004).

Second, the diffusion and appropriation of working-class ICTs have given rise to a new social category of the *information have-les:* low-end ICT

Table 1.1

Growth of working-class ICTs in China, 1999–2007 (year-end data)

	Internet café user population (millions)	Prepaid mobile phone subscription (millions)	SMS traffic volume (billion messages)	Little Smart subscriptions (millions)
1999	0.98	NA	NA	0.6
2000	4.64	14.9	1.4	1.3
2001	5.19	46.2	18.9	6.0
2002	11.47	88.6	90.0	13.0
2003	16.14	124.4	137.1	37.3
2004	23.03	187.8	217.8	65.2
2005	29.97	235.0	304.7	85.3
2006	44.25	290.6	429.7	91.1
2007	71.19	360.9	592.1	84.5

Sources: Compilation based on CNNIC (1999–2007), MII (1999–2007), *China Mobile Annual Reports* (2000–2007) and *China Unicom Annual Reports* (2000–2007).

users, service providers, and laborers who are manufacturing these electronics. I call them "have-less" because, compared to the upper classes, they have limited income and limited influence in policy processes, although they have begun to go online and use wireless phones.

As in the cases of the haves and have-nots, it is not easy to quantify the have-less, but it would be a serious mistake to ignore these people, treat them as exceptions, or equate them with either side of the digital divide. In China, the have-less population encompasses large proportions of the 147 million internal migrants, more than 30 million laid-off workers, another 100 million or so retirees, and a large number of the 189 million youth between the ages of fifteen and twenty-four, including about 30 million students as well as school dropouts, unemployed and underemployed youth.[1]

The emergence of the information have-less has become the definitive feature of informational stratification in Chinese cities, as shown in figure 1.1, which presents findings from an official random-sampling survey in Beijing.[2] Each stratum in the figure stands for the percentage of the total sample ($N = 1{,}722$) belonging to a similar technosocial position, defined by ICT access, ownership, knowledge, and skills, as well as associated ICT behaviors and attitudes. It reflects the general picture that the information have-less have become the largest demographic group in this stratified
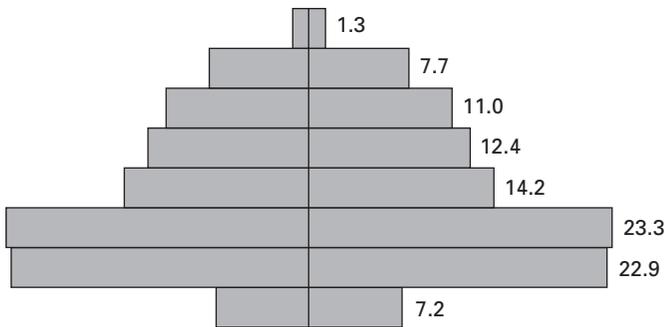
Figure 1.1
Informational stratification of Beijing residents: Percentage of respondents belonging to each stratum. *Source:* Informatization Office of Beijing Municipality (2005).

society: the two lower-middle strata represent 23.3 and 22.9 percent of the total sample, respectively, or about half of all respondents.

People in these have-less strata are typically migrant workers, laid-off workers, senior citizens, and microentrepreneurs with a family monthly income of about $160 to $220. Most of them have begun to use mobile phones or the Internet, but often in distinct ways of ICT connection. Many spend more than ten hours a week online, yet they do not know about search engines or possess personal e-mail accounts because they use the Internet mostly for entertainment. They have mobile phones yet seldom make a phone call because it is perceived as too expensive, so they text. The have-less people are marked by their own modes of networked connectivity, as this book discusses in detail.

Third, a range of political, economic, and cultural issues has emerged on the technosocial basis of working-class ICTs and the information have-less, producing distinct practices, new urban places, and critical events that pave the way for a fledgling working-class network society. Central to this process is the making of a new working class, *network labor*, that is indispensable to China's economic boom and its rise as a global IT power. Although not all members of the have-less population belong to this new informational working class, as this group becomes more organized in ICT-based social networks, the process of class formation has begun.

Most important, the ICT-based class-making process is embedded in ongoing urban transformations, as shown in figure 1.2. In less than thirty years, the majority of the Chinese population has moved from agriculture to the industrial and services sectors, and private sector employment has become the predominant mode of work in Chinese cities. These are crucial
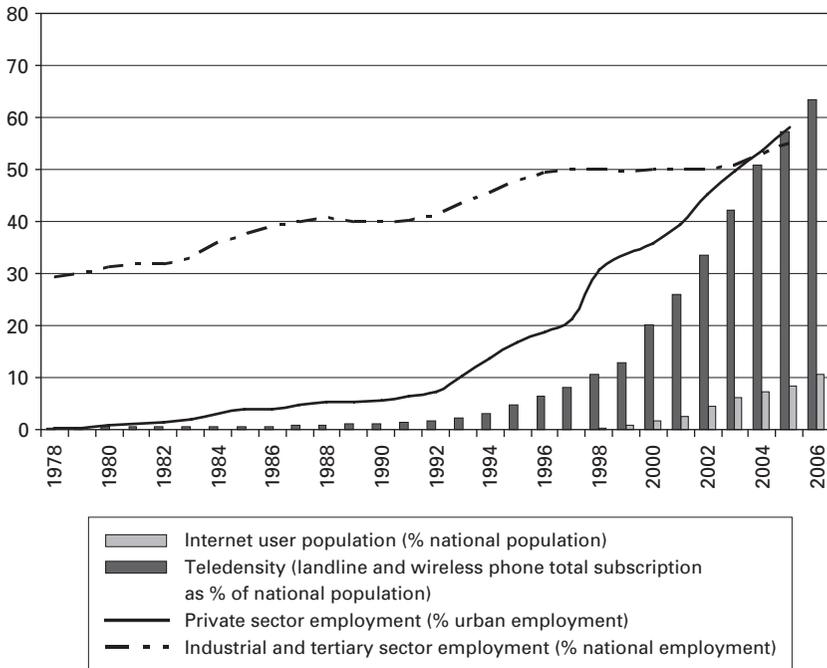
Figure 1.2
Urban transformations and ICT growth in China, 1978–2006. *Sources:* Compilation based on *Almanac of China's Population* (2006), MII (1999–2006), CNNIC (1998–2007).

changes that were well under way before the wide spread of ICTs, which was measured in figure 1.2 by combined teledensity (fixed line, Little Smart, and mobile phone) and Internet penetration per hundred people. With rising mobility, workers and working families have lost much of the welfare that they previously enjoyed, including job security. They have to maneuver to find affordable housing, health care, education, and other necessities of urban life, which are all being increasingly privatized and commercialized. The rise of working-class ICTs and the information have-less in this sense results from microlevel social innovations responding to the challenges posed by large-scale transformations of industrialization, privatization, and globalization in the context of contemporary urban China.

Construed as such, the emergence of working-class network society is about the fundamental enlargement of network society through processes of social differentiation and networked connectivity that crystallize the

issues and questions facing China's new working class. This is a pivotal process through which hundreds of millions of have-less people from diverse backgrounds begin to share common experiences related to digital media—experiences of uplifting, risk taking, community building, and suffering from persistent structural inequality. In so doing, networked communication technologies have become essential to human existence among the information have-less at the lower strata of the Chinese informational city, a fertile technosocial foundation for the rise of working-class network society.

Bring Class Back In

This book provides a panoramic view of working-class ICTs and the information have-less and develops a systematic examination of the emergent working-class network society in urban China. At stake are not only technological and economic issues of network formation, national development, and market competition but also sociopolitical and cultural issues of inclusion and exclusion, institutional reform, and grassroots innovation, along a peculiar trajectory of Chinese informationalism that holds tremendous relevance to developing regions of the world.[3]

This is a worthwhile undertaking because networked communication technologies like the Internet and mobile phone are too often seen as elite privileges, designed for the upper class. The global cyberspace in this sense represents a flat, classless social imagination. Although many scholars devote themselves to studying the uneven development of ICTs, attention is usually paid to social divisions along the lines of age, gender, race, and ethnicity, but seldom to class.

Research about the digital divide, an umbrella term that covers a range of studies about ICTs and inequality, emphasizes a particular social reality: that of a two-tier society (Servon 2002, Van Dijk 2005, Koh 2005). In Western postindustrial societies, this conception correctly captures the polarization of wealth distribution, the decline of manufacturing and the traditional middle class, and the general transformation of the informational city toward a "dual city" characterized by social and spatial schism between the rich and the poor (Castells 1989, 1999). However, this book contends that the binary model is inadequate to reflect the technosocial dynamics in a rapidly industrializing society like China, where the problem is not only about access but also about class formation, collective identity, and political power under the structural parameters of a large, developing country. The metaphor of an overarching divide does not do justice to

the significance and complexity of the Chinese experience, which is emblematic of the new technosocial reality emerging in much of the global South.

Consider small-scale telecom operators (microtelcos) in Latin America (Galperin and Mariscal 2005, Galperin and Bar 2007), community multimedia centers and ICT-equipped fishermen in South Asia (Slater and Tacchi 2004, Jensen 2007), microentrepreneurs using wireless phones in Africa (Donner 2004, 2006), and prepaid mobile phone service in the Philippines (Pertierra et al. 2002, Toral 2003). There is an entire array of low-end ICT uses and applications around the globe, such as inexpensive wireless communication, that has appeared from Asia to Africa to Latin America (Castells, Fernandez-Ardevol, Qiu, and Sey, 2006; Qiu and Thompson 2007). Many of these new users do not personally own any ICT equipment since they depend on Internet cafés or telephone collectives for access. Others may be able to purchase only used phones, thus creating a huge market for refurbished digital equipment, for instance, in Indonesia (Barendregt 2005).

We see a full range of working-class ICTs in China's urban and urbanizing areas that have emerged in recent years to serve the information haveless. The crucial transformation is taking place among ordinary city dwellers and in small towns that have actively engaged in using and appropriating low-end ICTs as tools of individual struggling and familial connectivity, of place making and community building. Are these people already information haves, or are they still have-nots? When the question is posed in this way, it is difficult to talk about the important phenomena and processes with coherence, let alone analyze them systematically with respect to their unique patterns and multifaceted manifestations.

Moreover, is it a single divide or multiple strata in the distribution of ICT resources that serve as a new seedbed for class formation? Is it a single dimension of social differentiation, moving vertically upward or downward? Could there be other ways of movement: horizontal, inclined in different angles, interacting with institutional and cultural factors, or even going astray? Conceptualizing working-class network society opens up these alternative ways of seeing and thinking and, in so doing, developing a more refined and realistic analytical tool. It builds on the recognition of the digital divide but goes beyond. Its goal is not to substitute the binary model with another simplification but to delve into the evolving structures of informational stratification and class formation, into the vast middle ground between the haves and have-nots that is populated by the information have-less.

In discussing the relevance of Castells's urban theory in Third World contexts, Peter Evans maintains that "the network society is more plastic in its potential than it first appears" (2002, 12). In an interview with the *Chinese Journal of Communication*, Castells states, "How applicable my theory (which is a general theory) is to China can only be established by Chinese researchers, by applying it, and modifying it, to the Chinese reality" (2008, 3). This is how and why, in analyzing low-end ICTs in China, we shall bring class back in for a broader understanding of the Chinese experience as well as network society in general.

The most crucial development here is the transformation toward a new working class—an informational working class centered on network labor. This is a dynamic formation of workers, and their relationships with others, under new conditions of industrialization, globalization, and net-worked connectivity. The dichotomous contradiction between "self-pro-grammable" and "generic" labor is a known pattern of flexible capitalism in postindustrial network societies (Castells 1998). However, under the historical and institutional conditions of contemporary China, industrial-ization and informatization (*xinxihua*, i.e., the spread of ICTs throughout the economy and society) are juxtaposed, which entails more complex and multilayered labor formation.

The result is yet another brand of informationalism, *Chinese information-alism* one might call it, whose central components are the network enter-prise, including multinational and domestic IT corporations; the network state, including not only the Chinese government but also the Chinese Communist Party (CCP); and network labor, or the new working class. In other words, a critical result from China's new developmental paradigm is the rise of network labor in relation to network enterprise on the one hand and network state on the other.

Network labor combines self-programmable labor with programmable labor (those who perform simplified skilled tasks in the new information industry) and generic labor, creating the basis for China's working-class network society.[4] This basis draws directly from the social repertoire of the information have-less, a broad category of low-income consumers and providers such as rural-to-urban migrants, laid-off workers, retirees, and youth who have gained access to ICTs since the turn of the century. Defined as such, the creation of working-class ICTs as a growing category of low-end ICT products and services is in itself a necessary though insufficient process for the making of network labor.

To complete class formation in this new development of network society, two additional criteria need to be stressed. First, the goals of

working-class ICTs, working-class connectivity, and working-class net-works are essentially about meeting the basic information needs of have-less people, shaped fundamentally by China's contemporary urban reforms in the commercialization of housing, education, and health care. The wide spread of ICTs is therefore indicative of growing information needs at the grassroots level to deal with this social upheaval. Although consumerism and individualism are popular frames of interpretation, the development of working-class ICTs has to be understood, first and foremost, as resulting from the changing urban conditions that give rise to concrete everyday existential demands of workers, working families, and working-class com-munities for such indispensable needs as employment, child care, and health care.

Second, at both the discursive and practical levels, the making of a new working class is necessarily a process of collective empowerment. Otherwise, it will revert back to the trap of elite domination and patron-client networks that have characterized the past. Empowerment in this case is the process through which the information have-less gain control over the situation around them (Rogers and Singhal 2003) and become members of the newly empowered network labor. This is not only an individual process. Although it often starts as individual suffering and individual struggle, the endeavor has to go beyond the private and enter a public realm. It has to connect scattered clouds of networked individualism and give them solidarity in order to bring about social change at higher structural levels.

Given the above recognitions, this book raises and explores the following questions about working-class network society:

▪ What constitutes working-class ICTs? How widespread are they in China's urban and urbanizing areas? Who belongs to the information have-less? What are the specific goals and distinct social and behavioral patterns of have-less ICT users and service providers? What obstacles do they face in using networked connectivity to meet their informational needs?

▪ How does the spread of working-class ICTs among the information have-less contribute to the making of China's new working class and the forma-tion of working-class network society? Why does working-class network society emerge, and under what sociohistorical conditions? What are its origins in China's economy, politics, and media system? What is the trajectory of Chinese informationalism, seen from a renewed perspective of class analysis, in the broader contexts of industrialization, urbanization, and globalization?

▪ What are the economic, political, and cultural manifestations of working-class network society? How do they reflect, reinforce, and reorganize the fundamental power structures of China? How do they reveal critical issues about network labor, above and beyond what is known about network enterprise and network state? How do they relate to age-old debates on equality and stratification, technology and control, working-class community and informal economy, and the role of traditional social networks?

▪ What are the consequences of working-class connectivity? Does it encourage horizontal communication and bottom-up networking in opposition to the elite domination of the past? Does it empower the information have-less or disempower them? How does this entail new policy, new understanding of the Net and the self, and new perspectives in analyzing ICT and development? What does the Chinese experience tell us about key issues of network society in the twenty-first century—local and regional, national and global?

This book answers these questions on the basis of empirical evidence collected since 2002 in more than twenty Chinese cities in Guangdong, Hong Kong, and Macau of South China; Shanghai, Zhejiang, and Jiangsu of East China; Sichuan of West China; Hubei of Central China; and Beijing, Tianjin, and Hebei of North China (see the methodological appendix at the end of the book). The project connects scattered pieces of information gathered through interviews, focus groups, surveys, participant observation, and sociospatial mapping, and links them with a number of key issues and debates about communication technology, working-class people, and have-less urban conditions, which have so far received little research attention.

Original research findings, official statistics, and archive data are synthesized to construct a broad picture of working-class network society, from its genesis and internal structure to its ongoing transformation and impact on the have-less population, as well as the power dynamics of urban society at large. To gain a deeper understanding, more targeted analysis is carried out to focus on specific working-class ICTs (wired or wireless) and particular have-less social groups (such as migrants, youth, females, and seniors). A series of case studies is then carried out under specific organizational settings (factories, stores, and online gaming companies), in particular urban places (migrant enclaves, university dormitories, and labor markets), and during critical events that provide a window for us to be informed about and understand the suffering, struggling, and social innovation at the grassroots of the Chinese network society.

Confronting a Technosocial Emergence

The reality that confronts us cannot be clearer: hundreds of millions of have-less people have gained access through low-end ICTs. The Internet and mobile phones are no longer luxuries. With the newly available working-class connectivity, local, translocal, and regional networks have sprung up to become the substance of new urban places, which seek to resist, supplement, and even thrive on the basis of the global space of flows in such realms as the financial market, international trade, and digital content. In this reality, the technological and the social are two parts of the same puzzle that merge into each other as working-class innovations emerge from networking and problem solving among the have-less. To China and the rest of the world, this is a definitive transformation, the beginning of an era.

However, we must exercise caution because the process has just begun. In any examination of this technosocial change, it is important to refrain from oversimplification and hasty conclusions. For example, the existence of the information have-less as a broad social stratification category should not be equated with the rise of a new working class. That is, the information have-less may be seen as a "class in itself", defined by similar technosocial positioning in the marketplace of ICTs, but it is not yet a "class for itself", which requires more organizational, cultural, and political processes that produce collective identity, class consciousness, solidarity, and empowerment. Creating such a social class in the full sense is particularly complicated in China given the rule of Chinese authorities that has combined the world's largest Communist party with one of the world's most successful developmental states since the end of the Cold War.

Similarly, it is far too early to predict that the ascendance of working-class network society will cause a social revolution comparable to Mao's attempt to systematically erase elite domination. This is particularly so because the stage of technology diffusion we are in now seems at first glance to be apolitical and asocial, because it is often interpreted only in frameworks of the market economy, commercial culture, and technology. So far, the technosocial emergence has only created openings for social change, whose realization is not predetermined. Instead, it is contingent on many other factors in the real world at both the grassroots and structural levels, whose outcome may also be the unmaking of class, depending on how the ICTs are put to use, by whom, and for what goal.

This technosocial emergence is full of potential, with opportunities for both progressive change and regressive control. There is indeed a chance

that the emergence of network labor as a process of class formation may never be fully complete. Even if a new working class finally rises, it may or may not coexist harmoniously with upper-class network society. It is therefore important to exercise prudence in research. A more suitable way to do so is to adopt a neo-Weberian approach and conceptualize this class formation process as a stratified distribution of life chances, whose consequence and broader social impact can be found only in concrete institutional and cultural settings.

Despite the uncertainties, we can be relatively confident in disentangling three crucial processes of emergence that can serve as basic coordinates for our discussion. First is the fundamental process of informational stratification in network society. Second is the central problematic of class emergence on the technosocial basis of working-class ICTs and the information have-less. Third is the key development of network formation and its empowerment or disempowerment effect on network labor.

Informational stratification has increasingly occurred in the enlarged network society, meaning that different social strata, including the information have-less, are capable of interacting with digital media and integrating them into their modes of communication and ways of life. This is a key transformation as the Internet and mobile communication are being transformed from elite privilege for the upper classes into basic instruments necessary to human existence itself. Migrants, laid-off workers, retirees, and students from low-income families are, in this sense, not merely vulnerable groups (*ruoshi qunti*), as they have been called in China's mass media and policy circles. The official term downplays the agency of the have-less and sees them as passive and weak, itself a problematic assumption. On the contrary, this book emphasizes the potential role of the information have-less as agents of social change—not only individually at the microlevel but also collectively through the networking of their families and communities—albeit under structural constraints.

Meanwhile, in the context of a vast industrializing society like China today, class and class differentiation need to be viewed as a primary aspect of social research (C. K. Lee 2002a, 2002b; Sun 2006), in this case, from a perspective of media and communication. The central problem is the making of a new working class on the technosocial basis of the information have-less. The specific constitution of the have-less people is contingent on economic structure, institutional setting, and the demographic makeup of a given society. But "less" does not necessarily imply inferiority; it could also mean less information overload or less commitment to the status quo.

Recent social transformations in China have disproportionately inflicted the have-less. Rural-to-urban migrants and laid-off workers have been uprooted from agricultural and industrial production systems. The lack of social welfare has left many retirees with little or no pension, and college students from working families have been forced to deal with skyrocketing tuition and plummeting prospects for employment. It is in this merciless process of structural transformation that the have-less people are gaining access to ICTs on an unprecedented scale—in order to cope with the tremendous uncertainties of the world they are thrown into—precisely because their right to communicate and their needs for information, entertainment, social support, and social services in general have been systematically underserved by the media—public and private, old and new.

The rise of the new working class is therefore above all a social and historical process. It consists of countless daily struggles at the grassroots that give rise to a new category of not only end users but also ICT manufacturers and providers, all of whom we call the information have-less. And this is not to mention the massive army of laborers behind the burgeoning electronics industry; members of the have-less working in Internet cafés, second-hand equipment markets, and stores selling prepaid phone cards and pirated DVDs. New forms of entrepreneurship are taking shape along with new ways of exploitation and alienation. Innovative modes of technology appropriation emerge, sometimes of questionable legality and almost always dependent on the discourse of the rich and the powerful. It is hence not unimaginable that the consequence of this technosocial emergence may work against the interests of the have-less and against the making of the new working class. This is a crucial paradox that this book revisits.

Finally, the emergence of the new working class is about the formation, evolution, and impact of networks. These are social networks that materialize through working-class ICTs, whose popularity results from their low cost. Their quality may not be guaranteed, which is quite different from high-end services that emphasize signal reliability and channel "redundancy" (Graham 1999). Despite the limitations, working-class ICTs are tools of networking, facilitating information exchange, grassroots coordination, and mutual support, particularly important in places where unions are weak and families are far away.

These working-class social networks existed before. But with the help of digital media, they have expanded locally and translocally; their networking process has accelerated, with an increasing transnational reach. The nature of these networks depends on who is using the technology and

under what conditions. A factory, a school, a residential community, or a prison cell: through the intermingling of people and place, the information have-less and working-class ICTs reconfigure each other in complex ways, giving rise to infinite variations and producing a kaleidoscope of communication patterns. While these network dynamics may serve as a fertile seedbed for the fostering of network labor, it remains an open question whether the informational tools for the lower class to deal with issues of existence (e.g., housing, employment, and senior care) can also facilitate independent solidarity and political mobilization, or whether they will become networks of class reconciliation, even ways of disempowerment. Whatever the outcome, working-class ICT networks have been, and will continue to be, central to the unfolding answer.

At stake is the making of China's new working class, economically, politically, and culturally, which, in important ways, parallels the "making of the English working class" (Thompson 1966). The differences are that the Chinese process is of a larger scale and is changing faster as it relies on ICT-based network connectivity. Due to the persisting power of the CCP in China and that of neoliberal doctrine worldwide, this new Chinese working class in the making probably will not assume the same organizational and cultural characteristics of the old industrial proletariat. It would be also erroneous to postulate the simple return of Maoist class politics. Rather, this is a new period of class formation with distinct elements, dynamics, and points of engagement, many of which, as will be discussed in this book, are built on the basis of working-class networks that have expanded into a most critical technosocial issue today.

Structure of the Book

This book is divided into three main parts. Part I, "Networks Materialized," discusses diverse forms of working-class ICTs—their patterns of diffusion, transformation, and the broader implications. Part II, "The People of Have-Less," examines different groups of the information have-less—their informational needs, the way they use and appropriate communication technologies, and the dilemmas they face. Part III, "Working Class in the Making," investigates how the have-less people and their technologies come together to produce concrete urban places and critical events that mark the beginning of a new class formation process in the enlarged network society.

We start with a discussion on China's cybercafé, or "Net bar (*wangba*)," business in chapter 2. Despite repetitive crackdowns, a defiant upsurge of

cybercafé continues to occur throughout the country, giving rise to a unique collective space for Internet access. How does this shared mode of access (as opposed to individually based modes of access at home or at work) evolve? What are the different types of cybercafés and their characteristics? What are the forces shaping this particular informational commons of the have-less people, revealing what issues and challenges in the coevolution of market dynamics and state regulation, with what potentials in grassroots network formation?

Chapter 3 is about the historical trajectory of wireless phone or *shouji* ("hand-phone" in Chinese) from an elite device to a common component of everyday life. This change has happened as a massive IT industrial complex emerges to include China's domestic mobile handset manufacturing sector and a number of low-end wireless services such as SMS, Little Smart, prepaid services, and pagers (which have almost disappeared), all of which hold important lessons about working-class connectivity. Like chapter 2, chapter 3 seeks to piece together the basic policy environment and labor conditions for each working-class ICT as well as the processes of bottom-up networking.

Chapters 4 and 5 concentrates on the have-less people: how their informational needs are shaped, neglected, or satisfied in processes of structural transformation and the subsequent problems and dilemmas. Mobility is the central organizing concept of chapter 4, which provides an overview on the basic conditions of have-less migrants under conditions of industrialization and urbanization in a global context. It discusses how migrants use and appropriate ICTs, for what purpose, and with what empowerment effect, drawing on six survey groups that combine qualitative and quantitative design with action research. Have-less migrants are heterogeneous on the basis of their gender, ethnicity, and regional identity. These groups are extending their traditional translocal networks while also forming new cultural communities of bloggers, Internet poets, and art troupes. They are being transformed into network labor under the new organizational settings of cost innovation, a definitive feature of the up-and-rising Chinese informationalism.

In chapter 5 we look at two lower-mobility social groups: youngsters and senior citizens, particularly those in have-less families, who have also begun to turn to Internet and wireless service. These groups of people, young or old, have to cope with the fundamental changes triggered by the one-child policy and neoliberal reforms of education and health care, which have had a profound impact on the family unit. They face formidable issues that create motivations for adopting and appropriating

working-class ICTs to meet their increasing needs for information, communication, and networking. These bottom-up informational needs have led to innovation at the level of local state behavior and the marketing strategy of some firms, especially in the wireless business, making it imperative to rethink the notion of welfare in a new era of networked connectivity.

Part III deals with concrete urban places, specific institutions and networks, and the central problematic of class formation. Chapter 6 provides an overview on the making of working-class communities where the information have-less and working-class ICTs are most concentrated, for example, factory dormitories and the migrant enclaves known as urban villages. While new technologies facilitate the new process of place making within and beyond the global space of flows, they also expose old conflicts between migrants and long-term residents, between labor and management, between bottom-up forces of change and top-down means of control. The process of class formation is molded in the seesaw battle between power domination and power contestation, when active members of the new working class struggle to play a decisive role in the making of their own places of living and the shaping of the Chinese informational city.

Chapter 7 addresses the serious consequences of the technosocial emergence if we fail to understand and act on the vital issues facing the information have-less. Already the new means of communication have been used to assist the informal economy, due to long-standing problems of unemployment, organized crime, and official corruption. This chapter develops a critical appraisal of three new media events: the Lanjisu cyber-café fire in 2002; the killing of a migrant, Sun Zhigang, in 2003; and the Ma Jiajue dormitory murder case in 2004. Why did these tragedies happen? What did they reveal about deep-seated social problems in working-class network society? How did they trigger reactions in public opinion, the escalation of urban control policy, and cross-class ties? In a comparative light, this chapter contends that death is not only the ultimate expression of systemic suppression and the despair they inflict, but also a powerful way of struggle for equality and dignity in the "city underneath." It highlights concrete working-class efforts to create history and collective memory outside "timeless time" as network society is enlarged to include more marginal social groups.

Finally, the book closes with a summary on the main lessons set out here. It reflects on the complex role of working-class ICTs and the resilience and vulnerability of translocal networks among the have-less in a larger historical and transnational context. From stratification to equality to

network labor, from sustainability to community building to social innovation, the ramifications of working-class network society are numerous and profound for the future of Chinese informationalism and a new class analysis of the twenty-first century.

Diverse as they are, the information have-less—their working-class ICTs, their families and communities, their daily struggles and participation in the class-making and history-making process—are the silent cogwheels of the enlarged network society. For too long they have been overlooked. It is time to scrutinize their trajectories of transformation; their social, economic, political, and cultural dynamics; and their consequences, intended or unintended. From this working hypothesis, we embark on the intellectual journey of this book.