

The Digital Divide

The internet and social inequality in
international perspective

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1 The reproduction and reconfiguration of inequality

Differentiation and class, status and power in the dynamics of digital divides

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Introduction

The development and expanding use of digital technology within economic, political, social and cultural life on a global scale is raising concerns about the emergence of new inequalities and the reproduction of existing inequalities (Wyatt *et al.*, 2000). These developments are part of rapid social change, which is ushering in an information and networked society (Castells, 1996, 2001; Webster, 2004). Some commentators argue that the global informational capitalism underpinning an information and networked society is generating increasingly fragmented and unequal societies (Robins and Webster, 1999; Fuchs, 2008). This chapter draws on the work of the founding fathers of sociology to address inequality in a global information society. To trace this link, the chapter introduces the idea of a digital divide before considering the way technology is situated in socio-cultural change and inequality. It then discusses digital divides in global informational capitalism and the formation of new inequalities. This is followed by the conclusion.

Digital technology, social relations, and the digital divide

For many people across the world the pervasiveness of digital technology – whether experienced as a presence or an absence – is significant. A distinctive aspect to digital technology is that it is both an artifact and a communication medium, which Silverstone and Hirsch (1994) call “double articulation.” This is important in terms of assessing inequality in a digitally enabled network society: it is not only the networked structuring of the technology and the ability to access and use it that are contributing factors in inequality but it also provides access to information and the public sphere, which is a key resource in an information society. In overall terms the significance of the technology lies in the way in which it is embedded within the relations of production; in information flows; and in

the way it underpins participation. The utilization of technology within the economic, political, and socio-cultural processes of society shape inequality.

One can start to assess the significance of exclusion from social networks based on digital technology when one sees that it is the use of technology within social relations that produces inequality. One can see that inclusion into digitally enabled networks is significant in terms of the opportunities people have to engage in economic life and to participate in political, social, and cultural life. The embedding of digital technology in social, economic, democratic process and cultural forms is materializing and is experienced unevenly and differently by people across the globe. The differential development and use of digital technology within contexts of global inequality is creating a dynamic that is generating new forms of poverty and exclusion as well as reproducing existing inequalities and social divisions.

The current inequalities and divisions within information and networked society are often thought about in terms of a digital divide (Norris, 2000). The idea of a digital divide is a useful starting point in exploring the dynamics of inequality within a global information culture (Lash, 1999). Castells (2001) argues that the digital divide goes beyond those who have access to the Internet and those who do not have access. He writes that differing levels of access to, and usage of, digital services “adds a fundamental cleavage to existing sources of inequality and social exclusion in a complex interaction” (Castells, 2001, p. 247). The dimensions of digital divide can be understood as the dynamic of inclusion and exclusion that articulates the levels of digital and other resources that people have available to them within the social divisions of society. This means that people have unequal levels of opportunity to develop digital skills, to participate in democratic process, and enter the labor market (Garnham, 2005). The digital divide involves social, democratic and global divides (Norris, 2000), and is multi-dimensional (Wessels, 2010).

Some of the dimensions of the digital divide are as follows. First, ethnicity, age, gender, levels of education and socio-economic background and status are influential in the dynamics of the digital divide (Wessels, 2010). Second, there is a technological divide amongst world regions with different levels of infrastructure that prevent some regions linking into a global economy. Third, as Zillien and Marr (in Chapter 3 of this volume) point out, there is widening knowledge gap for those with low access, low skills, and little cultural capital to use digital resources. These dimensions configure in different ways across the globe. In the US the ethnic divide is still significant amongst digital inequalities (Wessels, 2010; Witte, Kiss and Lynn, Chapter 4 of this volume). The contributors of this volume show that the digital divide in developing countries is uneven with some cities and regions developing rapidly whilst others are disconnected. There are specific development needs of particular countries and if access and

support is not provided inequalities will deepen, as seen for example in the Latin American context (Horwitz, Chapter 16 of this volume). Status and cultural factors interact with the take up of digital services, which fosters inequalities seen for example in Sub-Saharan Africa (Alzouma, Chapter 19 of this volume) and in Japan (Akiyoshi, Chapter 5 of this volume). Faris (Chapter 13 of this volume) outlines the dynamics of a democratic divide in accessing an online public sphere. The dynamics of these aspects are fostering greater inequality globally as the gap between the wealthy and poor widens around the digital divide (Castells, 2001).

The theoretical insights of Marx, Durkheim, and Weber about inequality are based on greater differentiation in a capitalist economy and its resulting organization of class, power and status in society. These themes can be traced into the current situation of a global networked society, its reconfiguration of class and its inequalities at local, national and global levels (Castells, 2001; Webster, 2004). Inequalities coalesce around the way technology is embedded within social relations.

Situating technology within the dynamics of socio-cultural change and inequality

The social shaping approaches to technology address the way in which technology is embedded in social relations. It argues that technology is shaped by social factors such as economic concerns and gender relations (MacKenzie and Wajcman, 1985). The way in which technology becomes meaningful within social relations is through the culture in which it is produced and consumed. Pfaffenberger (1988), for instance, argues that:

Technology expresses an embedded social vision, and it engages us in what Marx would call a form of life, including political, social and symbolic aspects of social life. It has a legal dimension, it has a history, it entails a set of social relationships and it has meaning (1988, p. 244).

Robins and Webster (1999) follow a similar type of analysis in which they see digital technology as: “articulating the social relations of the societies in which they are mobilized [that includes] power relations” (p. 2). These types of conceptualizations encompass the social relations of digital technology, which address the social, political, and cultural dynamics of inequality and the digital divide.

Durkheim (1984), Marx (1976), and Weber (1922) raise the issue of inequality, and ask:

- Why does the pursuit of wealth seem to generate poverty on an unprecedented scale?
- Why do the principles of liberty and equality appear to go hand in hand with monstrous new forms of oppression? (Abrams, 1982, p. 4).

These classical sociologists address these questions in different ways. Weber (1922) emphasizes the development of bureaucracy, which is related to the increase in scale of organizations and to the division of labor. He sees distinctions between people based on class, status and power. Weber identifies rationalization as a fine calculation of means to ends rather than the value of ends, which celebrates efficiency in a dominant cult of technique. The combination of divisions based on class and status combines with rationalization to create an iron cage that locks people into specific positions and restricted life-worlds. Each of these positions influences the power individuals have to shape their life chances.

Marx (1976; Marx and Engels, 1968) addresses the division of labor and alienation within the capitalist mode of production when he identifies alienation in the labor process and in the productive activity of the worker. Alienation expresses the fact that the organization of productive relationships constitutes a class system resting on the exploitative dominance of one class by another, and the division of labor identifies occupational specialization as the source of fragmentation of work into routine and undemanding tasks (Giddens, 1979). For Marx the hallmark of capitalism is the emergence of a class of producers who own nothing but their own labor-power that they are forced to sell in return for wages paid by the owners of the means of production. The work of Marx (and Engels) highlights the relationships of inequality in a market economy and in political arrangements associated with capitalism (Abrams, 1982).

Durkheim (1984) argues that structural differentiation fosters individualism as he observes that labor is becoming more divided and specialized. The division of labor results from the struggle of individuals to flourish in the face of the increasing volume and density of the population and pressures on resources (Abrams, 1982). For Durkheim differentiation creates inequalities that are part of a larger, more complex social system. Within this system, institutions are important in supporting social cohesion. Thus education is important in supporting organic solidarity and in supporting individuals to develop specialisms so that each could integrate into the labor market. The education system is also significant in sustaining a sense of conscience collective – a collective sense of values and morals – that underpins social order.

Marx (1976), Weber (1922), and Durkheim (1984) identify the emergence of inequalities through increased differentiation in market based economies. These inequalities are about material resources, about personal fulfillment and enchantment, and about senses of belonging to a community or collective. These issues are traced into global capitalism in the following section.

Situating the dynamics of digital divides in global informational capitalism

The innovation of digital technology alongside globalization, neo-liberalism, and consumerism is generating social transformation and is ushering in what some commentators call an “information society” (Webster, 2004) or a “networked society” (Castells, 2001). In changes to a network and information society there is continuity in that the economy is still based on capitalism (Robins and Webster, 1999). The use of digital technology in economic activity is situated within global capitalism that is based on a networked organization of production processes and patterns of consumption (Fuchs, 2008).

This networked organization of social and economic life is facilitated by a digital infrastructure for an e-economy and information society (Castells, 2001). For economies to be competitive in a global market, they need to be connected to the digital infrastructure and they require a labor force that has the education and skills to work in an e-economy. From the point of view of ordinary people their life chances are linked to having the capability to work in the e-economy to ensure employment. The acquisition of the appropriate education and skills to enable people to engage in economic life is differentiated amongst class, cultural capital and status, gender, ethnicity, digital literacy and opportunities across the life course at the local, regional, and national level. Furthermore as digital technology is embedded in political communication, individuals need access and skills to engage in the democratic process (Wessels, 2010). Access to social and cultural networks is highly differentiated along class, status, and ethnic lines in terms of cultural capital, which relates to inequality in participation (Kolko, Nakamura and Rodman, 2000). Age and gender cuts across all of these divisions and undermines older people and women’s ability to engage and participate (Cockburn, 1983; Hacker, 1990).

The e-economy facilitates the agile development of global value chains of production and consumption. Global corporations are able to produce, distribute, and market products and services efficiently and cheaply by taking advantage of national and regional low labor costs and just-in-time production processes. A consequence of this type of networked process is that it dis-empowers nation states and weakens national economies (Castells, 2001; Freeman, 2000). This interacts with the provision of welfare, both for Western advanced economies and for developing countries.

In various corporate settlements after the Second World War, governments in European nation states created types of welfare systems that could mitigate to some degree the inequalities inherent in a capitalist economy by providing basic support for those living in poverty and those unemployed; by providing greater equality of opportunity through education; and providing a universal health care system free at the point

of delivery (Steinert and Pilgram, 2007). Although these settlements varied between nation states, nation states took some responsibility in addressing disadvantage (Roche, 1992). However, with the development of globalization nation states have less power and resource to draw on to fund national welfare support. This has disempowered nation states and is resulting in the retrenchment of state-provided welfare.

Developing countries, each locked into their specific historical trajectory, are experiencing new senses of disempowerment. These countries have been disempowered from colonial and imperial rule onwards. When seeking and being granted self-determination in terms of gaining nation state status, these countries were, and still are, locked into dependencies with the more advanced economies and global multinational companies (Frank, 1969). Very often, these dependencies create the development of underdevelopment, which reinforces poverty and limits the available resource for such countries to develop. These dynamics are still at work and they have an added dimension in that the speed of development and change when harnessed to digital technology is fast and flexible, which makes it difficult for developing countries to catch up (Castells, 2001).

The development of networked production processes on a global scale means that multi-nationals can exploit low labor costs in developing countries often by using their own infrastructures, which means that these countries are locked into dependencies. Another aspect of this is that if countries and regions are not connected to a high quality digital infrastructure and do not have a skilled labor force, they are locked out of the global economy and therefore slip more into poverty. Both of these dynamics point to the way in which neo-liberal globalization and an e-enabled economy either exploit poorer countries or disconnect them. This when taken with the overall rural exodus to urban areas is creating absolute poverty for many people in developing regions, with women and children often bearing the extreme ravages of such poverty (Castells, 2001; Goddard and Richardson, 1996).

One of the defining features of global capitalism with its digital infrastructure is that of the networked organization of social life. In terms of production, the organizational form that underpins is the “network” (Castells, 2001). The network is becoming pervasive across all of social life extending beyond the process of production into the organization of welfare, social movements and into everyday life. Change to institutional arrangements in society based on the network interacts with change in the lives of individuals, as seen in the development of networked individualism (Wellman and Haythornthwaite, 2002). Networked individualism points to the way in which individuals create their own networks of communication and contacts – some being strong ties others being weak ties – whereby they manage their social lives. The transition to networked individualism is characterized as being one that moves from “groups” with “each in their

place” to “networks” involving the “mobility of people and goods.” The rise of networks is in the context of a market capitalist economy with its inherent inequities.

There is continuity with the key themes that Marx, Durkheim, and Weber identified. This is seen in the way in which production networks are structuring work in terms of a flexible highly competitive labor market, whereby politics and cultural life is organized via flows of information within networks shaped by status, class and power; and the differentiation of social life is ongoing and is accelerated with heightened senses of individualism. Alongside these trends the state and the corporate sector are using more and more techniques of surveillance to control populations via rationalization. These trends – as continuations – of processes from market based industrialization into market based networked information society create the new conditions of inequality.

The formation of new conditions of inequality

Given the networked context of inequality, an expansion of the definition of digital divides is one that addresses the multi-dimensional aspect of inequality in a digital age. The multi-dimensional approach includes the dynamics of socio-economic position, geographic location, ethnicity and language, as well as educational capacities and digital literacy. These dynamics are further complicated at the global level, where lower Internet penetration in developing countries (although this can be uneven within these countries), combined with the rapid change of the Internet-based technological paradigm, requires that the less-developed countries have to outperform advanced economies just to stay where they are, thus fostering and reproducing global inequalities (Castells, 2001). Under the current social and institutional conditions of transnational-networked capitalism there is uneven development that is putting many at risk of poverty and social exclusion (Wessels, 2010).

The dynamics of inclusion and exclusion require consideration of the restructuring of the capitalist economy, its networked logic underpinned by digital technology and trends towards post-Fordist welfare. The dynamics of transnational informational capitalism within an ethos of neo-liberalism is interacting with social and economic life at the local, regional, national and global level (Room, 1995). Situations of exclusion are experienced at the local level, which link to regional and national economic conditions and policy, whilst also relating to trends in the global economy (Steinert and Pilgram, 2007; Young, 2000). A phenomenology of exclusion points to different dimensions, such as political exclusion (via citizenship), economic exclusion (through lack of means), social exclusion (through isolation), and cultural exclusion (through deficits in education). Steinert’s (2007) definition captures the dynamics of exclusion, arguing that social exclusion is a:

...dynamic and multi-dimensional process ... as the continuous and gradual exclusion from full participation in the social, including material as well as symbolic, resources produced, supplied and exploited in a society for making a living, organizing a life and taking part in the development of a (hopefully better) future (p. 5).

The dynamics of exclusion are embedded in post-Fordist relations of production and the processes of globalization (Bauman, 1998; Hutton and Giddens, 2001). There is a lack of employment security, with actors having to be flexible to survive in the labor market (Sennett, 2001). There is need for labor with skills to work as symbolic analysts (Robins and Webster, 1999) and as knowledge workers with appropriate skills and education to use digital technology to turn information into knowledge, and knowledge into action (Castells, 2001; Dutton, 2001). There are others who are on the “outside” of these developments, who do not have the necessary skills and resources, including geographical mobility to compete successfully in the market (Bauman, 1998). Very often, these dynamics produce geographical spaces of exclusion in the form of ghettos, run-down estates, with few local services and a general lack of opportunity (Madanipour, 1998).

When post-Fordist trends in welfare are combined with lightly regulated market economies, this triggers remote forms of control that reinforce social exclusion, managed, in part, through various technologies of surveillance. Digital technology is part of these dynamics in two main ways. First, its networking logic makes it a perfect tool for post-Fordist and global production processes. Second, its use within bureaucracies and by the state means it can be used to as a tool of surveillance over the populace. Baggulay (1994) draws these aspects together to state that advanced nations are grouped by the ways their traditional social welfare policies are constructed and how these influence employment and social structure. He draws on Esping Andersen’s (1992) term “regime” to illustrate that the relation between the state and the economy is systematically woven from a complex of legal and organizational features. The way in which situations of exclusion emerge and are managed is, therefore, a result of the ways in which the economy and the state interact to produce either opportunities for participation in open societies or it may foster increasing levels of surveillance in society.

Theories of the way power operates in society vary (Westwood, 2002) from ideas regarding oppression (Freire, 1972), hegemony (Gramsci, 1992), and technologies of power and discipline (Foucault, 1977). However, with regard to digital technology, there are two main dimensions of power and exclusion. First, access to digital technology as it materializes in the relations of production provides the economic opportunity to participate in the labor market and economy and thus for individuals to have some power over their life chances. Second, digital technology gives states and commercial organizations the potential to control individuals through the

information they can electronically gather about them. Any lack of transparency in the workings of the state and the commercial sector is a form of power that can either be used to incorporate or exclude. In this context individuals need access to the data held on them and the skills, education and power to protect their rights and identity (with the state having the responsibility to ensure freedoms are maintained through proper legislation).

The levels of access and the quality of resources are key aspects in enabling individuals and groups to participate in the life of society (Pelikan *et al.*, 2007). The question therefore involves ensuring that individuals and groups have access to the relevant resources to enable them to participate. When digital technology is seen as resource then it can be seen as part of a virtuous circle, where those with access to (fast) Internet (Fox, 2005), good education and socio-economic background are in good positions to take advantage of economic development. Those on the other hand who lack access to any of these resources are at a disadvantage and at risk of exclusion. The allocation of resources is related to positions of power, with those with the least resources having less power in determining their futures, securities, and freedoms to participate. Given the ways in which digital technology is becoming embedded in the relations of production, in working life, in public policy and in everyday life, it becomes a resource for participation – social, economic, political, and cultural. However, this does not reduce exclusion merely to access to digital technology, rather digital-related resources become one aspect embedded within the multi-dimensionality of exclusion and the digital divide.

Conclusion

The key themes that Marx, Weber, and Durkheim identified about inequality are still relevant in the contemporary, digitally enabled, networked society. The relevance of market positions, rationalization, and differentiation are still key in the development of capitalism in a global informational form. In many ways these factors have become heightened because the digital infrastructure of global capitalism is enabling faster and more agile production processes that push for a more individualistic and flexible approach to the labor market. The need to control populations remotely is pushing ever more rationalization through increased surveillance techniques and the pervasive networked organization of social life is undermining strong social ties and senses of community. When these trends are combined with a retrenchment of welfare in the West and an ever-growing gap between developed and developing countries then the risk of exclusion is high, creating greater inequality.

Digital technology is a key resource for accessing resources and for participating in social life. It works in two related ways: one, as a structuring

network for generating production and participation as an infrastructure in global capitalism; and two, as a resource for individuals that enable them to compete to enter the labor market; to engage in politics, culture and education and to participate in social life. It is only one resource amongst others and it cannot be utilized without other resources such as education, language and writing skills, and good socio-economic conditions. The general circumstance of an individual's life is a prerequisite to be able to utilize the potential of digital technology. Therefore, people's living conditions such as housing, health, and access to local resources such as good food, water, transport and public utilities and hygiene are the backdrop for making full use of the Internet. Nonetheless, given that digital services are the vehicle for production and participation the need to be connected is real and significant: being disconnected from digital services pushes people into exclusion and poverty.

These risks interact with existing social divisions such as socio-economic status, class background, gender, age, ethnicity, levels of education, geographical location and cultural capital. These configure in a highly individualized market based society with weak ties and connections. The general condition of a digital divide is one of insecurity and uncertainty for many people. Given the complexity of differentiation in a society organized through networks, the digital divide needs to be considered in terms of the dynamics of inclusion and exclusion in global informational capitalism. The multi-dimensional character of exclusion points to the way barriers to participation configure through the lack of different sets of resources. One dimension of exclusion is people's access and ability to use digital technology to support life chances and to facilitate participation in social life. Digital technology is a key resource for people in a networked society because it provides information and resources, and access to online public spheres. However, the use of digital services coalesces around social divisions, and in situations with low resources, which adds a fundamental cleavage to existing inequalities. Social inequality and disadvantage is being reproduced and reconfigured within the networked society, specifically as digital divides. The insights of the founding fathers about inequality are pertinent in assessing the dynamics of the digital divide because inequality is being reproduced in digital networks through differentiation, rationalization, and individualism.

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