4 *Non-specialised training.* Bureaucratic organisation in Europe is based on specialisation; many people spend their entire working life at a single task. From the outset, a Japanese organisation trains employees in all phases of its operation, again with the idea that employees will remain with the organisation for life.

5 *Collective decision-making.* In Europe, important decisions fall to key executives. Although Japanese leaders also take responsibility for their organisation's performance, they involve workers in 'quality circles' that seek employee input in any decision that affects them. A closer working relationship is also encouraged by greater economic equality between management and workers. The salary differential between executives and lower-ranking employees is much less.

These characteristics give the Japanese a strong sense of organisational loyalty. The cultural emphasis on *individual* achievement in our society finds its parallel in Japanese *groupism*. By tying their personal interests to those of their company, workers realise their ambitions through the organisation.

Stuart Clegg (1990) has taken this argument further, suggesting that Japanese firms approximate to what he calls the postmodern firm. Such organisations are much more flexible and fluid than firms of the past. Strict demarcations are weakened, and they employ the 'Just in Time' (JIT) system of production. Here, goods are produced as required – there is no mass stocking of parts. And this in turn makes the system more adaptable and flexible.

'Social networks' and the rise of the network society

Groups and organisations have proved to be very useful concepts for sociologists to develop. But as relationships change – from primary groups to secondary groups, from secondary groups to formal organisations, from formal organisations to postmodern organisations – so sociologists keep refining their language. Currently, more and more sociologists are finding the idea of 'network' an attractive one to use to understand shifts in society.

Formally, a **social network** may be seen as *a web of social ties that links people who identify with one another*. Think of a network as a 'fuzzy' group that brings people into contact without a group's sense of boundaries and belonging. If we consider a group as a 'circle of friends', then we might describe a network as a 'social web' expanding outwards, often reaching great distances and including larger numbers of people. The most basic pattern of a network – between only two people, such as two people who are merely standing in the same room – can be represented as in Figure 6.3.

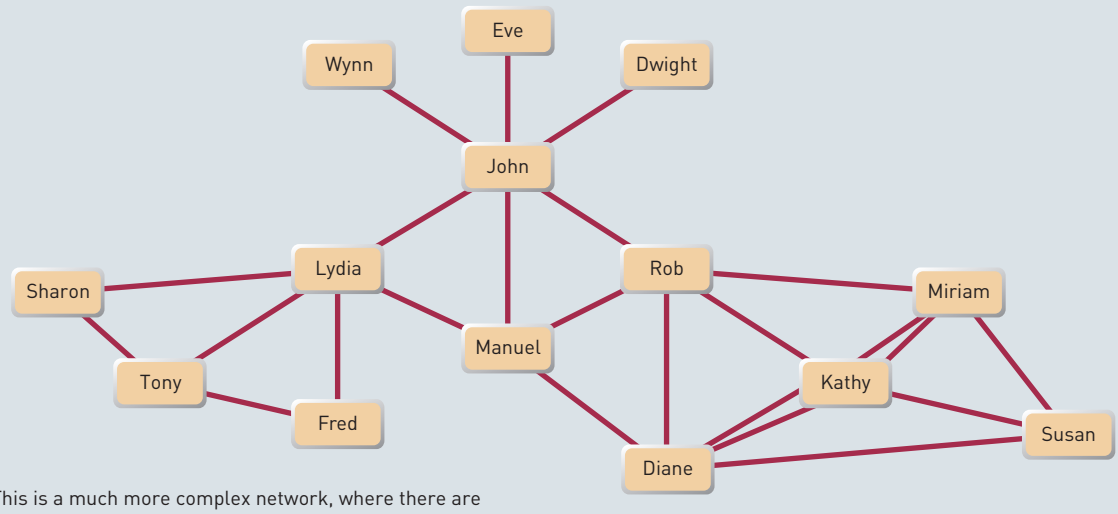
Social networks go beyond ideas of groups, or even organisations. Groups and organisations usually presume some kind of boundary, often with face-to-face interactions going on within them. Networks, by contrast, envisage a field of connections and relations: a set of *nodes* (key points) and a set of *ties* (or links) that connect some or all of these nodes. The nodes could be people, or groups, or even nation states. A more complex social network is represented in Figure 6.4. Here there are some central people – John, Rob and Lydia, for example – but they have different positions and access to different people (Kadushin, 2000).

Social network analysis, then, looks at underlying patterns and links that shape such social networks. For example, we could look at the *number* of ties, the *diversity* of ties, the *frequency* and *intensities* of interactional ties, the *directions* of interactional ties, the *content* of the ties, and the *quality* of ties. We could build up maps of friendships which interconnect; see how bounded communities or families relate beyond themselves; or even locate patterns of people who have been part of the same network of sexual partners (an area of research that has been of value in studying AIDS: see Chapter 21).

Some such networks may then be seen as densely knit (most nodes are connected) and tightly bounded (most stay within the same subset of nodes). Or by contrast they may be seen as very thin and loose (Wellman, 1999). 'Contemporary Western communities rarely are tightly bounded, densely knit groups of broadly based ties. They usually are loosely bounded, sparsely knit, ramifying networks of

This could be a very basic relationship between two people – maybe both standing in the same room

Figure 6.3 A basic social network



This is a much more complex network, where there are some central persons: John, Rob and Lydi, for example. They do clearly have different positions and access to different people.

Figure 6.4 A more complex social network

specialised ties' (Wellman: 1999: 97). From this, we can now talk of network communities. Living in a specific geographical area or space no longer defines your community of personal interactions – instead now it is defined through phones, cars, the Internet, public transport systems and the like. These can connect you to a wide range of people. Living in a residential community may now mean that you are not really living in a specific, geographically bounded community but in an altogether wider network community! As you connect more and more through your network, so the older style of direct face-to-face communications ceases to have the same kind of meaning. And as a result of this, each of us may well come to live in our own network. We come to live with our own personal maps of the spaces we inhabit.

All this may signify important changes in patterns of contact and communication, which we discuss further in Chapter 22. Some network contacts are solid, traditional and regular, as among college friends who, years later, stay in touch (by personal contact, or mail and telephone). But, more commonly, a network includes people we *know of* – or who *know of us* – but with whom we interact infrequently, if at all. Social networks amount to 'clusters of weak ties' (Granovetter, 1973).

Network ties may be weak, but they serve as a significant resource. For example, many people rely on their networks to find jobs. Even the scientific genius Albert Einstein needed a hand in landing his first job. After a year of unsuccessful interviewing, he obtained employment only when the father of one of his fellow students put him in touch with an office manager who hired him (Fischer, 1977: 19). This use of networks to one's advantage suggests that, as the saying goes, *who you know* is often just as important as *what you know*.

Networks are based on people's colleges and universities, clubs, local communities, political parties and informal cliques. Some networks encompass people with considerably more wealth, power and prestige than others do, which is the essence of describing someone as 'well connected'. And some people have denser networks than others – that is, they are connected to more people, which is also a valuable social resource. Typically, the most extensive social networks are maintained by people who are young, well educated and living in urban areas.

Gender, too, shapes networks. Although the networks of men and women are typically the same size, women include more relatives in their networks, while those of men are filled out with more co-workers. Women's networks, therefore, may not carry quite the same clout as the 'old boy' networks do. Even so, research indicates that, as gender inequality lessens, this difference is diminishing over time (Moore, 1991, 1992).

Technology and networks: from telephones to mobile phones

Technologies have played a major role in the changing shape of networking. Just how has the telephone, the email, mobile phones and texting shifted our networks and communication styles?

Take the telephone as an example. To appreciate networking, just consider that any one of the millions and millions of phones in the world can connect anybody, within seconds, to any other phone – in homes, businesses, automobiles, even in the middle of a football field. Such instant communication is beyond the imagination of those who lived in the ancient world. Of course, the telephone system depends on technological developments such as electricity, fibre optics and computers. But the system could not exist without the organisational capacity to keep track of every telephone call – noting which phone called which other phone, when and for how long – and presenting all this information to hundreds of millions of telephone users in the form of regular bills. So it is connected to bureaucracies too. But it starts to enable a very different mode of building up relations. Of course, access to phones differs significantly in different parts of the world.

Mobile phones make for even more complex networks and they are the fastest spreading technology of all time. Within just a few years, many people have come to take them for granted. Mobile networks in 2007 covered 80 per cent of the world's population; double the level in 2000. There were 1 billion users by 2004, 2 billion by 2006 and the numbers rise rapidly. Around a third of the world's population now use them. It has been suggested that by 2010, 90 per cent of the world will be covered by mobile networks (*GSM World*, 2007).

Consider the case of the UK. According to official statistics, in 2005, 82 per cent of children aged 12–15 had their own mobile phones (the most popular reason for having a phone was 'texting'); and some 85 per cent of adults now used mobile technology regularly. (*Social Trends*, 2007: 172–3). A survey conducted in 2006 suggested that in fact some 90 per cent of children now have a mobile by the time they go to secondary school at 12, and it 'provides them with a social network, a sense of security and access to entertainment. But most importantly it provides them with a sense of belonging to their peer group' (*Mobile Life Youth Report*, 2006). 'Texting' is a major activity: the average 11 to 17-year old receives or makes an average of 9.6 texts a day (in contrast, for adults the figure is 3.6). Mobiles are now embedded in the lives of the young, and are not likely to go away in their lifetimes unless a new technology replaces them (which, of course, probably will happen.)

Mobiles signify a shift in patterns of contact and communication. We can now have relationships on the phone anywhere, anytime. Of course, it depends a great deal whether you carry the phone around with you all the time, and whether it is switched on or off! But when it is both these things (on and with you), we shift to a new mode of contact probably unique in our history: that of *perpetual contact*. Slowly, new rules for conducting phone

Mobile phones can be used anywhere – even in the most surprising places

Source: © Al Rod/Corbis.

calls are emerging. Just as you have access to all on the phones, so they have access to you. This means that several things have happened in networking contacts. First, there has been a breakdown of the old split between home and street, etc. – people can now talk anywhere. Second, it is intrusive – it can interrupt other streams of life. Thus going shopping, being in lectures, eating in a restaurant, having sex, or simply while talking with someone else, the mobile can ring or you can ring it and the network of interaction abruptly shifts. New rules are having to be evolved as to how we can manage this perpetual contact. (Katz and Aakhus, 2002)

Contemporary Social Thinkers

Manuel Castells: The network society and the information age

Manuel Castells is Emeritus Professor of Sociology at the University of California, Berkeley. Born in Spain in 1942, he studied law and economics at the University of Barcelona from 1958 to 1962. He was a student activist against Franco's dictatorship and had to escape to Paris, where he eventually gained his PhD in Sociology from the University of Paris in 1967. His first book, *La Question Urbaine*, was translated into ten languages, became a classic around the world, and he became known as one of the intellectual founders of the 'New Urban Sociology'.

Castell's trilogy, *The Information Age*, is considered to be one of the most sustained and readable accounts of the rise of the information society and the new networks that come with it. He analyses the ways economic and social transformations in capitalism connect to the information technology revolution, and have brought about a new world social order in the twenty-first century. His three books look at the rise of new communications, the creation of new identities, and the shifting political contours of the world in the twenty-first century – especially the role of social movements. Long and detailed as the books are, Castells tries to make himself intelligible (he does not use incomprehensible jargon) and provides much data, evidence and illustration for his arguments (it is not a work of abstract theory). The volumes have come to be regarded as one of the major statements of changing times and what sociology in the twenty-first century should have to deal with. Unlike Marx's view of the mode of production, for Castells it is the new telecommunications – the informational mode of development – that is reordering our very sense of time and space. It creates a capitalist network economy.

Manuel Castells (1942–)

Source: Permission from Manuel Castells.

Crucial to Castell's work is the idea of networks and flows. Networks provide a series of hubs and points – people, cities, businesses, states – connected by flows of different sorts – information, money, people. With these 'flows' time changes: there is a speeding up of time but also a lack of standard sequencing. Time becomes a 'perpetual present' – the past comes back to us in sound bites, and the future arrives almost before we've experienced it. In this new world, our sense of space and time becomes dramatically reordered: the local now goes global; the past and the future are the present. We can be everywhere and nowhere at the same time – sitting at our computers. All this has great importance for the way we think about ourselves (our identities), our political actions (through social movements), and our ways of living through work and families. International forms of money, international forms of crime, environmental issues – all change under this new order and Castells discusses each. The Information Age touches all globally.

A very useful guide to all this can be found in David Bell's *Cyberculture Theorists* (2007).

The network society

New information technology has generated a global network of unprecedented size in the form of the Internet. Its origins seem right out of the 1960s Cold War film *Dr Strangelove*: its character demonstrated in the 1990s trilogy *The Matrix*. Five decades ago, US government officials and scientists were trying to imagine how to run the country after an atomic attack, which, they assumed, would instantaneously eliminate telephones and television. The brilliant solution was to devise a communication system with no central headquarters, no one in charge and no main power switch – in short, an electronic web that would link the country in one vast network. But by 1999, when the first part of *The Matrix* was released, this vast network has indeed taken over. The machines now run every thing and use humans merely as an energy source. An illusory simulated reality constructs the world of 1999 and all people can do is try to resist it, or 'unplug' it.

By 1985, high-speed data lines were being installed and the Internet was about to be born. Today, thousands of businesses and government offices, as well as colleges and universities across the world, are joined by the Internet. Millions of other individuals connect their home computers to this 'information superhighway' through a telephone-line modem and a commercial 'gateway' (like British Telecom).

No one knows precisely how many people make use of the Internet. But a rough 2007 estimate puts the total at fast approaching 20 per cent of the world's population – over 180 countries around the world, and still growing. And this, of course, gives a whole different meaning to the idea of network. Table 6.3 shows the scale of the Internet in 2007 and Figure 6.5 illustrates its usage by world region.

What is available on the Internet? Far more than anyone could ever list in a single directory. Popular activities include email (start a cyber-romance with a pen pal, write to your textbook author, or even send a message to your favourite 'celebrity'), creating blogs, participating in discussion groups or receiving newsletters on a wide range of topics, or searching libraries across the campus or around the world for books or other information. Because the Internet has no formal rules for its use, its potential defies the imagination.

Looking ahead: the network society

Spanish sociologist Manuel Castells (1996) uses the term 'network society' to capture the new kind of society we are moving into – one based on computers and information technologies, and characterised by new networks of relating (see Box above).

Table 6.3 World Internet usage and population statistics

World regions	Population (2007 est.)	Population % of world	Internet usage, latest data	% Population (penetration)	Usage % of world	Usage growth 2000–2007
Africa	933,448,292	14.2%	33,545,600	3.6%	2.9%	643.1%
Asia	3,712,527,624	56.5%	418,007,015	11.3%	36.2%	265.7%
Europe	809,624,686	12.3%	321,853,477	39.8%	27.9%	206.2%
Middle East	193,452,727	2.9%	19,539,300	10.1%	1.7%	494.8%
North American	334,538,018	5.1%	232,655,287	69.5%	20.2%	115.2%
Latin American/Caribbean	556,606,627	8.5%	109,961,609	19.8%	9.5%	508.6%
Oceania/Australia	34,468,443	0.5%	18,796,490	54.5%	1.6%	146.7%
World total	6,574,666,417	100.0%	1,154,358,778	17.6%	100.0%	219.8%

Source: www.internetworldstats.com/stats/htm.

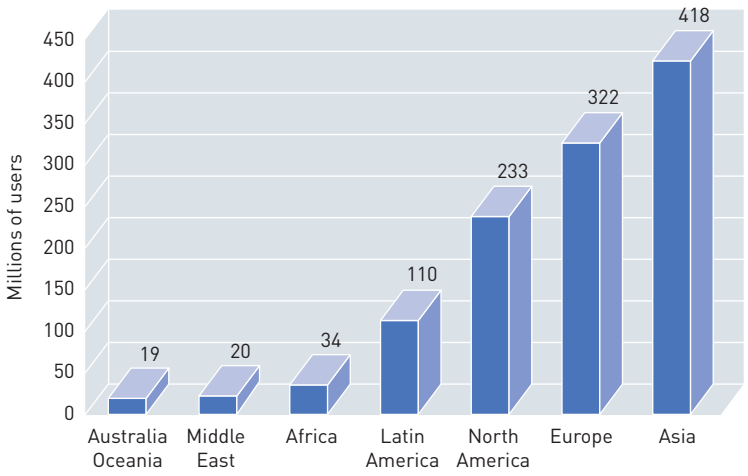


Figure 6.5 Internet usage by world region

Source: Adapted from www.internetworldstats.com/stats/htm

In the twenty-first century, we can clearly see how older patterns of group life and communication are being partially replaced by 'networking'. This brings with it a potential for self-expansion and a new logic of thinking (think of how you read a book and how you search the Web to capture the different logics at work here). It also, of course, means that life gets lived at a faster pace and in a more fragmented way. Real changes in our ways of relating to each other may be taking place. For Castells the new information technology brings five features:

- Information as the raw material to act on: our access to information and our use of it starts to change.
- The pervasiveness of information technologies: scarcely an item in daily use is not touched by it – from hand-held 'palm top' computing to automobile satellite technology mapping. Every institution – from medical recording to educational processes – requires the new technologies.
- The network logic of any system using them: no longer simply linear and straightforward.
- Flexibility: open to rapid changes and adjustments.
- Convergence of technologies: the ways in which computers etc. can now connect to photo, sound, time and personal technologies. Complete interconnected systems may soon scan whole bodies, settings and areas. (Castells, Vol. 1, 1996: 21).

Power is no longer concentrated in institutions like the state: it now diffuses through global networks. We shall return to this regularly and in more detail in later chapters (see Chapters 8, 15 and 23 especially). All the themes touched upon in this book must now be placed alongside this new 'culture of virtuality' in a globalising world. Thus, we shall see in later chapters how this is shaping the economy, power, all forms of media, and even issues like class, gender and education. We will take stock of this idea of a 'network society' in the closing chapters of this book.