# The space of flows and timeless time

## Manuel Castells's *The Information Age*

### Simon Bromley

Manuel Castells's trilogy *The Information Age*[*] has been widely heralded as one of the most significant works of substantive social theory to appear for several decades. Its three volumes have been described by Anthony Giddens as 'perhaps the most significant attempt that anyone has yet written to come to terms with the extraordinary transformations now going on in the social world', and the work as a whole has been compared favourably to the great achievements of nineteenth-century social theory – Marx's *Capital* and Weber's *Economy and Society*. It will take some time to digest and fully assess this vast work; whether or not these commendations and comparisons are justified remains to be seen, but Castells surely deserves praise for the sheer ambition, scope and imagination of the enterprise.

Castells believes that we are witnessing a fundamental transformation in the nature of modern societies – the emergence of the network society – and *The Information Age* seeks not only to provide a theoretical account of this new, global order but also to substantiate this argument by means of a concrete examination of the main social processes and institutions which comprise the network society and to investigate these developments on a worldwide basis.[1] The network society is a social order embodying a logic which Castells characterizes as the 'space of flows' in contrast to the historically created institutions and organizations of the space of places which characterized industrial society in both its capitalist and statist variants.[2] The central focus of the work is thus the organizational logic of society, understood primarily in terms of the spatial and temporal patterning of social practices. Of course, this argument is not new. Giddens, for example, has argued that the world is increasingly moving towards a situation where 'the consequences of modernity are becoming more radicalized and universalized than before', and in both *The Consequences of Modernity* and *Modernity and Self-Identity* he has attempted to trace the institutional, cultural and personal consequences of these dramatic changes.[3] Similarly, Scott Lash and John Urry have charted the disorganization of capitalism as it becomes ever more global, increasingly organized in networks of electronic flows, and the rise of individual and institutional reflexivity in response to this.[4] Likewise, Ulrich Beck has examined the reflexive modernization within contemporary societies that brings about a transition from the industrial to the risk society.[5] Castells draws freely on these (and other) contributions, but, as we shall see, he develops the argument in novel directions.

A second major theme of *The Information Age* concerns what Castells refers to as the 'power of identity'. For alongside the rise of the network society, partly in response to it and partly constituted by a logic that is external to it, Castells argues that there has also been a 'widespread surge of powerful expressions of collective identity that challenge globalization and cosmopolitanism on behalf of cultural singularity and people's control over their lives and environment'.[6] Once again this is not a particularly original argument in itself: there are obvious parallels (as well as contrasts) between Castells's counterposing of the old and new social movements and Giddens's treatment of 'emancipatory' and 'life' politics, not to mention the ever growing literatures on reflexivity, new forms of identity and the cultures of social movements. But the

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[*] Manuel Castells, *The Information Age: Economy, Society and Culture*, Basil Blackwell, Oxford. Vol. I, *The Rise of the Network Society*, 1996; Vol II, *The Power of Identity*, 1997; and Vol. III, *End of Millennium*, 1998. Hereafter cited as Vols I, II and III, respectively.

detailed nature of Castells's treatment of new social movements, his attempt to relate their development to the new logic of the network societies, and especially the scope and depth of his empirical investigations into such a broad range of social and political developments represent a major achievement.

Finally, Castells has important things to say about the relationships between globalization and the nation-state. Broadly speaking, he endorses what is probably now the conventional wisdom: namely, that both the legitimacy and the power of nation-states are being eroded and undermined by processes of globalization. Many others have also suggested that if industrial capitalism was basically *organized* and *national* in form, then post-industrial capitalism is essentially *disorganized* and *global*.[7] But Castells casts his diagnosis within the terms of his theses on the rise of the network society and the power of identity, seeking to show, through an impressive global comparative analysis, the different ways in which the nation-state is transformed in different contexts. Caught between the global if uneven logic of the network society, on the one hand, and the local and particularistic assertion of the power of identity, on the other, he argues that the dominant institution of industrial society – the nation-state – is called into question, as are those social movements – most notably the labour movement – which once organized on its terrain in order to occupy and control it.

## Informational capitalism and the origins of the network society

Castells begins his account of *The Information Age* with his theory of *The Rise of the Network Society.* In fact, two rather different discussions of the network society can be found in Castells's work, and these are not always differentiated from one another, and then related to each other, as clearly as they might be. Castells offers both a genetic account of the origins and social causes of the rise of the network society and a structural examination of the new social logic which its emergence instantiates. Let us consider, first, the genesis of the network society. The historical and social development of the network society, according to Castells, is rooted in a new, global socio-economic structure of *informational capitalism*. To characterize this socio-economic structure, Castells argues, we must focus on both its (capitalist) mode of production and what he terms its (informational) mode of development or technological system. In this respect, Castells's work can be read, in general, as an attempt to integrate the insights of Marxist theory with the

work of such theorists of (post-) industrial society as Daniel Bell and Alain Touraine. In particular, in his account of the economy, Castells seeks to combine an account of capitalist restructuring since the 1970s with a focus on the simultaneous emergence and consolidation of a new information technology paradigm as formulated by the (Schumpeterian) theorists of technological innovation.[8]

In the modern world there have been two major modes of production, capitalism and statism. Castells understands capitalism in broadly Marxist terms. Considered as a mode of production, capitalism is based on the commodification of labour power, the private ownership of the means of production and hence the private appropriation of the surplus, with production organized for exchange subject to the demands of accumulation. Statism (Castells's term for the mode of production dominant in the state socialist or communist bloc) is based on the partial decommodification of labour power and state control over the means of production and appropriation of the surplus, with production oriented towards maximizing the power of the state over society and the determination of social objectives by the state. Castells takes for granted that much of the logic of contemporary global society is capitalist: capitalist restructuring in response to the worldwide economic crisis of the 1970s played a central role in shaping the development of societies, both nationally and globally, including the formation of the informational mode of development itself; the purpose of this capitalist restructuring at the most general level has been to escape from those social, cultural and political controls placed upon the economy in the era of essentially nationally based industrial capitalism; and

> the linkage path between information technology, organizational change, and productivity growth goes, to a large extent, through global competition.… [Such that] a new, global economy … may be the most characteristic and important feature of informational capitalism.[9]

That said, Castells is insistent that the new global economy is capitalist *and* informational. This claim is important for two reasons. First, and most obviously, Castells argues that much of the capitalist restructuring that has taken place over the last several decades, and especially the organization of units of the world economy on a global basis in real time, either directly within firms or through networks between them, has only been made possible by the informational mode of development: 'networks … could not exist on such a large scale without the medium provided by new

information technologies.'[10] Building on his own earlier work, as well as on Lash and Urry's study of the *Economies of Signs and Spaces* and David Harvey's delineation of *The Condition of Postmodernity*, Castells claims that contemporary global capitalism in the information age is increasingly characterized by significantly extended scales of organization, much more rapid processes of circulation, and a new centrality of information to processes and products. In all of these respects, the media of information technology play an indispensable role.

Second, and more importantly for the overall direction of the argument, Castells claims that the new *informational* mode of development of global capitalism derives in part from a revolutionary technological system that emerged in the 1970s from 'autonomous dynamics of technological discovery and diffusion'.[11] According to Castells, a 'mode of development' consists of the 'technological arrangements through which labour acts on matter to generate the product'.[12] Castells suggests that there have been three main modes of historical development: agrarian, based on quantitative increases in the application of labour to land; industrial, based on the ever wider and more efficient use of inanimate energy sources; and informational, based on 'the generation of new knowledge as the key source of productivity'.[13]

Now, while all modes of development involve the application of knowledge to production, and knowledge was arguably central to the achievements of industrial society, what is distinctive about the informational mode is

> not the centrality of knowledge and information, but the application of such knowledge and information to knowledge generation and information processing/communication devices, in a cumulative feedback loop between innovation and the uses of innovation.… [And] this system has its own, embedded logic, characterized by the capacity to translate all inputs into a common information system, and to process such information at increasing speed, with increasing power, at decreasing cost, in a potentially ubiquitous retrieval and distribution network.[14]

More specifically, the informational mode of development consists of technologies that act on the generation and processing of information, are pervasive throughout the economy and society, embody a networking logic of prodigious flexibility, and have converged into a single integrated system. As such the informational mode of development exerts a logic on the organization of social arrangements in tandem with that given by the dominant mode of production.

## The logic of networks and social disjunction

In order to get a clearer idea of the 'new morphology' of our societies – network societies or the global network society – it will be helpful to compare Castells's argument concerning the impact of the informational mode of development upon the social organization of space and time, and the nature of culture and communication, with Giddens's theses on the radicalizing and universalizing of modernity. This is appropriate not only because of the obvious general affinities between Giddens's theorization of the dynamic character of 'late' or 'high' modernity and Castells's logic of the network society, but also because Giddens's specific treatment of time and space in social theory forms a backdrop to Castells's more concrete discussions of the space of flows and timeless time (Vol. I); Giddens's discussion of reflexivity and self-identity is the explicit point of departure for Castells's study of the power of identity and the new social movements (Vol. II), and Castells's treatment of the nation-state is 'theoretically continuous' with Giddens's formulations (Vols II and III).[15] In all of these cases, Castells draws upon a much wider range of theorists than just Giddens – Touraine and Bell on informationalism; Lash and Urry and Harvey on space and time; Touraine and others on social movements; Poulantzas on the state, are some examples. Moreover, since *The Information Age* is 'not a book about books', and since Castells's aim is to 'construct a discourse as autonomous and nonredundant as possible', the general theoretical framework is rarely on display. That said, however, a comparison with Giddens's formulations does help to show the originality of what often remains only implicit in Castells's discussions.[16]

In *The Consequences of Modernity* Giddens further clarifies the multidimensional institutional specification of modernity that he introduced in his critique of historical materialism.[17] Four basic sets of institutions are said to define modernity: the capitalist organization of production and distribution; the industrial character of the built environment; the focusing of information through surveillance to generate administrative power; and the monopoly over the means of coercion located in the hands of the modern state. In practice, these four analytically distinct clusters are reduced to two: 'If capitalism was one of the great institutional elements promoting the acceleration and expansion of modern institutions, the other was the nation-state.'[18] The reasons for this reduction are twofold. In the first place, Giddens has consistently argued that industrialism 'carries no inner dynamic of the sort associated with

capitalist enterprise.… [And] it is not at all obvious that industrialism carries any definite implications for the wider social totality that would place it in a particular type *sui generis*.'[19] And second, while Giddens argues that all forms of modern organization involve 'surveillance' (the coding and retrieval of information and the use of this in the direct supervision of some by others), his principal concern has been the ways in which the modern nation-state has heightened its command over administrative power, based on its historically unprecedented monopolization of the means of violence. Thus Giddens's institutional depiction of modernity maintains a critical distance from the claims of the theorists of the industrial, post-industrial and information societies, as well as the Foucauldian notion of the rise of a disciplinary society.

However, at another level, Giddens argues for the relevance of the contrast between 'traditional' and 'modern' (or 'post-traditional') societies, for the central theme of *The Consequences of Modernity* was the radicalization of universalization of those 'facilitating conditions' which 'are involved in, as well as conditioned by, the institutional dimensions of modernity'.[20] These facilitating conditions are threefold: the potential separation of the timing and spacing of human activities and their recombination in forms stretched across time–space; the disembedding of social systems as local practices are linked with global relations through the media of abstract systems; and the fundamentally recursive character of (always conditional) knowledge in the production and reproduction of social and material life, leading to self- and institutional reflexivity. Overall, then, Giddens avers that 'high' modernity represented a universalization of modernity understood in institutional terms and a radicalization of the consequences of modernity in so far as its facilitating conditions had developed a self-sustaining dynamic character. But in the absence of any detailed discussion of the actual mechanisms involved in the universalization of modernity, the specific content of its radicalization remained opaque.

If capitalism and the nation-state – the defining economic and political forms of modernity – have dominated the world since the late nineteenth century, then what accounts for the specific and distinctive features of 'late' or 'high' modernity at the end of the twentieth? Giddens is not alone in his failure to face this question squarely. Read against this background, Castells's notion of an informational mode of development can be seen as an attempt to provide an answer, for the central thesis of *The Information Age* is that the new media of computer-mediated communication

and the technology of information generation and processing provide a material basis for the recursive development of the facilitating conditions of modernity – distanciation, disembedding and reflexivity – and thereby promote the radically new social logic of the network.

The informational mode of development, while having its origins in the combination of capitalist restructuring and an autonomous technological dynamic, provides a generic and transferable material base for a new organization of social practices in space and time, a template that can serve to reorganize not only economic practices and structures but all other areas of social and indeed personal life. This argument was already the major theme of *The Informational City*, where Castells claimed that

> the emergence of a *space of flows* … dominates the historically constructed space of places, as the logic of dominant organizations detaches itself from the social constraints of cultural identities and local societies through the powerful medium of information technologies.[21]

In *The Information Age* this claim takes centre stage and its implications are developed in some considerable detail.

The character of the new social logic applies to a wide range of social organizations and institutions:

> Networks constitute the new social morphology of our societies.… Furthermore … this networking logic induces a social determination of a higher level than that of the specific social interests expressed through the networks: the power of flows takes precedence over the flows of power.[22]

That is to say, whereas Giddens argued that industrialism (and by implication post-industrialism) had neither an 'inner dynamic' nor 'any definite implications for the wider social totality', Castells argues forcefully, first, that informationalism *does* have its own logic as technology is brought to bear on the recursive generation and processing of knowledge, and second, that this dynamic has an elective affinity with a new logic of society-wide organization – the logic of networks. This latter argument develops the idea formulated by Scott Lash and John Urry that the 'structured flows and accumulations of information [and images] are the basis of cognitive [and aesthetic] reflexivity'.[23] Equally, whereas Giddens tended to see the generic features of administrative power as having their most consequential effects in relation to the rise of the modern nation-state, Castells takes a more Foucauldian line when he claims that 'we are witnessing in fact the

diffusion of the power of surveillance and of violence … into society at large', such that the authority of the state becomes simply one node in a wider network of private and public, legal and illegal, powers.[24]

For Castells, then, the new material basis provided by the informational mode of development both transforms the nature of the institutions of modernity, imposing a thoroughgoing logic of network organization upon their ever more universal development, and produces an autonomous dynamic of emerging new technologies, modes of behaviour and social arrangements, which is becoming in some important ways discontinuous from the central institutions and agencies of modernity. As a consequence, the very form of collective agency, of social power, is transformed from that which is possessed by place-bound actors to a property of the flows within networks.

In developing this argument, Castells pays particular attention to the emergence of a new culture of 'real virtuality' based on the transition from print to electronic media. Indeed, Castells suggests that just as the advent of informationalism may be as consequential for social organization as was the industrial revolution, so the development of computer-mediated communications represents a 'technological transformation of similar historic dimensions' to the invention of literate cultures.[25] (Again, the contrast with Giddens is instructive: 'As modalities of reorganizing time and space, the *similarities* between printed and electronic media are more important than their differences in the constituting of modern institutions.'[26]) The pervasive diffusion of information technologies throughout society facilitates the emergence of real virtuality as all messages become capable of being encoded into the same digital form, as computer-mediated communication becomes the dominant medium of social communication, such that all messages have to conform to its codes in order to gain public accessibility, and as the social organization of space and time are radically recast on the basis of the new culture. (Again, these theses may be seen as an elaboration of Lash and Urry's claim that global information and communication structures form the basis of new forms of reflexivity.[27])

Castells argues that, socially speaking, 'space' can only be defined in terms of the material [and symbolic] practices which organize it: space is 'the material support of time-sharing social practices … space brings together those practices that are simultaneous in time.'[28] So while space may have been traditionally assimilated to notions of contiguity (the space of places), this is no longer the case as the space of flows – described in terms of the electronic flows between nodes in a network and between the elites that control these – is now the material support of social practices increasingly stretched across the globe yet organized

in real time. This emergence of the space of flows does not mean that organizations and elites become placeless. On the contrary, the command-and-control functions of the new, global informational capitalism are, if anything, increasingly centralized and hierarchically ordered, especially in the 'global cities' (Sassen) that form the administrative and financial command and control centres of global capitalism. At the same time, most people continue to live and work in the space of places. What is crucial, so Castells avers, is not the irrelevance of place but rather that a disjuncture opens up between the meaning and experience generated in specific, local places, on the one hand, and the constitution of power and knowledge increasingly configured in the space of flows, on the other. Combined with the social and spatial segregation of the professional and managerial elites (who function in the space of flows) from the majority of the population (confined to the space of places), this disjuncture results in the 'breaking down of social communication with other communities and among different positions in the work process'.[29]

The new informational mode of development and its culture of real virtuality have radical implications for the social organization of time. If the social organization of time in agrarian societies was dominated by the rhythms of nature,

> the industrial revolution, the constitution of medical science, the triumph of Reason, and the affirmation of social rights [have] altered this pattern in the last two centuries, prolonging life, overcoming illness, regulating births, alleviating death, calling into question the biological determination of roles in society, and constructing the lifecycle around social categories, among which education, working time, career patterns, and the right to retirement became paramount.… Now, organizational, technological, and cultural developments characteristic of the new, emerging society, are decisively undermining this orderly lifecycle without replacing it with an alternative sequence.[30]

Timeless time (time without socially meaningful ordered sequence and subject to individually random perturbations) comes to characterize the space of flows, while (bio-) socially constituted time continues to govern life in the space of places. The space of flows and timeless time operate through the new cultural-communication complex of real virtuality, thereby solidifying the social differentiation between the interactive and interacting elite, on the one hand, and the 'interacted' mass of the population enclosed in the fragmented space of places, on the other.

## Constituting subjects: politics and social movements

In his account of the self and society in 'high' modernity, *Modernity and Self-Identity*, Giddens draws a contrast between 'emancipatory' politics and 'life politics', where the former involves an attempt to transform social arrangements in the direction of greater justice, equality and participation, and the latter 'is a politics of self-actualization in a reflexively ordered environment, where that reflexivity links self and body to systems of global scope'.[31] Emancipatory politics is very much a characteristic of modernity and opens up the scope for life politics to emerge in late modernity, but the latter does not supersede the former since 'virtually all questions of life politics also raise problems of an emancipatory sort'.[32] Substantively, Giddens claims that social movements (old and new) combine both forms of politics, even if there is a close association between old social movements and emancipation, on the one side, and the new social movements and life politics, on the other. Castells develops this line of thought in great empirical detail – ranging from religious fundamentalism (Christian and Islamic) and nationalism to feminism and environmentalism, through the American Militias, the Zapatistas and Aum Shinrikyo in between – but he gives the argument a sharp, critical twist.

We have already seen that for Castells the disjuncture between the space of flows and the space of places renders social communication problematic. At the same time, the disjuncture between experience and meaning, on the one side, and power and knowledge, on the other, changes the context of the formation of self- and collective identities. At the level of the individual self, Castells suggests that the maintenance of a coherent self-identity through the reflexive monitoring of the body and the self is called into question 'except for the elite inhabiting the timeless space of flows of global networks'.[33] And at a collective level, Castells suggests that these developments shift the balance of power away from movements (old or new) which proactively seek to contest the prerogatives of the space of flows in the name of an external, oppositional logic and those which are reactive 'defensive, protective, territorially bounded, or so culturally specific that their codes of self-recognizing identity become non-communicable'.[34] Proactive movements seeking to transform social structure embody what Castells calls a 'project identity' and where successful constitute social 'subjects'. By contrast, 'resistance' identities merely seek to survive and constitute 'communes' or 'communities'.

On this basis, Castells suggests that there is a fundamental difference between the self- and collectively reflexive projects typical of modernity and those of the network society:

> civil societies shrink and disarticulate because there is no longer continuity between the logic of power-making in the global network and the logic of association and representation in specific societies and cultures. The search for meaning takes place then in the reconstruction of defensive identities around communal principles … *subjects, if and when constructed, are not built any longer on the basis of civil societies, that are in the process of disintegration, but as prolongation of communal resistance.* While in modernity (early or late) project identity was constituted from civil society … in the network society, project identity, if it develops at all, grows from communal resistance. This is the actual meaning of the new primacy of identity politics in the network society.[35]

Not only are the civil societies of the modern epoch being eroded by the growing disjuncture between the space of flows and the space of places, but also the nation-state – the predominant site and source of legitimating identities in the modern period – is fading away under the pressures of the irreversible need to share sovereignty with other sites of power, the onslaught of the global economy and global communications on its former capacities, and the growth of global criminal networks with their perverse connections to the new, global informational economy. Finally, the credibility of the (democratic) political system is challenged by the media-based informational politics that develops hand-in-hand with the culture of real virtuality. In short, trapped between the global powers of the space of flows characteristic of the network society and the localized experiences of identity, 'the nation-state is called into question, drawing into its crisis the very notion of political democracy'.[36]

In these circumstances, resistance to exploitation, inequality and domination (the agenda of emancipatory politics) does not disappear but comes to be rooted primarily in the space of places, bypassing the institutions of civil society and the framework of the nation-state. At the same time, resistance is more likely to take a defensive form – religious fundamentalism, cultural nationalism and territorial communalism – than such liberatory, expansive and potentially universalistic forms as feminism or environmentalism. In order to constitute themselves as social subjects and pursue a project of emancipatory and life politics, new social movements must engage with the logic of the network society. And Castells maintains that while the logic of

successful social movements in the Information Age (feminism and environmentalism) is external to that of the network society, since they seek to reintegrate experience and knowledge, identity and power, their gains have been won in large part because they have contested that logic from within and have themselves taken on the reflexive form of a network.

The decline of the nation-state itself is explored by Castells in a discussion of exemplary global and comparative reach: statism as a mode of production and the Soviet order based upon it foundered because it exhausted the possibilities of extensive growth in the industrial mode of development and couldn't master the transition to the informational mode; a Fourth World is emerging in large parts of what was the Third World, and in the most disadvantaged space of places in the developed world, because the logic of the global network society is profoundly uneven and exclusionary; organized global crime has emerged as a systematic and chronic feature within the interstices of the network society; a multicultural world economy is developing on the basis of the rise of Asian-Pacific (including Chinese) network capitalism, pioneered by, but then undermining, the developmental state; and the constitution of the European Union represents the most advanced example of the rise of the 'network state' as authority is increasingly shared on a regional basis in response to the competitive pressures of globalization. In each case, the state of the modern epoch is in a condition of crisis, in many cases collapsed or visibly disintegrating, in still others an increasingly empty shell, and in some hesitantly learning to share sovereignty with the powers of the network society. These, in brief, are the themes and variations explored in Castells's diagnosis of the *End of Millennium*.

## Genesis and structure

*The Information Age* is such a vast work that it is easy to find gaps in the argument, point to relevant contributions to the thematic discussions that have been overlooked, and challenge the particular, substantive interpretations offered. But such a response, while necessary, would be inadequate and not just because an undertaking of this scope deserves a more generous response. (Would anyone else have done it better? Who else would even have attempted it?) More importantly, the central question we need to ask would still be there if, *per impossible*, the gaps were filled, the discussions were complete and all the interpretations valid: namely, does it succeed, in its own terms, in 'understanding our new world on the basis of available evidence and exploratory theory'?[37] Throughout Castells bravely

holds firm to his belief that 'all major trends of change constituting our new, confusing world are related, and that we can make sense of their interrelationship'.[38] This is the terrain on which his argument must be engaged. What follows must be subject to all kinds of qualification of detail, because in addition to its many virtues *The Information Age* is also a huge, sprawling work, full of digressions, making copious reference to frameworks and ideas which are not then employed in the text. It is thus not always a simple matter to pin down Castells's theoretical position with real accuracy. We can make a start, however, by noting some basic features of the architecture of the work.

The timbre of Castells's evocation of contemporary societies is perhaps best captured in the 'Prologue' to *The Rise of the Network Society*, where he states his central thesis that societies are now 'increasingly structured around a bipolar opposition between the Net and the Self':

> identity is becoming the main, and sometimes the only, source of meaning in a historical period char-acterised by widespread destructuring of organisa-tions, delegitimation of institutions, fading away of major social movements, and ephemeral cultural expressions.… Meanwhile, on the other hand, global networks of instrumental exchanges selectively switch on and off individuals, groups, regions, and even countries, according to their relevance in fulfilling the goals processed in the network, in a relentless flow of strategic decisions. … The infor-mational society, in its global manifestation, is also the world of Aum Shinrikyo, of American Militia, of Islamic/Christian theocratic ambitions, and of Hutu/Tutsi reciprocal genocide.[39]

Against this somewhat apocalyptic background, Castells attempts to steer a course between a reduc-tive technological determinism, on the one side, and a postmodern celebration of our inability to 'understand and make sense, even of nonsense', on the other. How far does he succeed? The distinguishing and most important feature of our increasingly global societies is that they are 'network' societies. But what does this mean? Given its centrality to the work as a whole, Castells says remarkably little about the nature of networks.[40] He suggests that the nature of a particular, concrete network (say, the network of global financial flows or the network that governs the European Union) is in part defined by the kinds of social actors, prac-tices and institutions concerned: there are economic networks among globally organized firms; political networks in the multi-level polity of the EU; cultural networks in the new media of public opinion forma-tion and expression; criminal networks from the fields

of Colombia to the streets of New York, and so on. But while each different network has its own specific features, in general,

> The inclusion/exclusion in networks, and the archi-tecture of relationships between networks, enacted by light-speed operating information technologies, configure dominant processes and functions in our societies. Networks are open structures, able to expand without limits, integrating new nodes as long as they are able to communicate within the network … the network morphology is also a source of dramatic reorganization of power relation-ships. Switches connecting the networks … are the privileged instruments of power. Thus, the switchers are the power holders.… The convergence of social evolution and information technologies has created a new material basis for the performance of activities throughout the social structure.[41]

In over 1,200 pages of text, that is about it. In itself this need not be a problem. After all, Marx doesn't spend much time defining capitalism and Weber nowhere offers a perspicuous account of rationalization. But the three volumes of *Capital* do constitute a sustained, theoretical account of the capitalist mode of production and Weber's work provides a brilliant set of medita-tions on the theme of rational and other forms of social action. Does Castells do the same for 'networks'? Unfortunately, in the end the answer must be 'no'.

In practice, two closely connected manoeuvres are fundamental to Castells's ambition to comprehend the network society. In the first place, the balance maintained in the account of the *genesis* of the network society between the determining effects of the capitalist mode of production, on the one hand, and the informational mode of development, on the other, is not carried over into the theorization of its *structural* logic. Against his expressed intent, some-thing like a form of technological determinism creeps into the account. Second, the singular logic of the network society is conceptualized for the most part in contradistinction to, and as discontinuous from, that of industrial capitalist society. In registering the scale of Castells's achievement, these moves need to be kept clearly in focus.

The first manoeuvre occurs as much by neglect and default as by design. Castells may have come a long way from his former Althusserian Marxist self, but he still insists at many points that the network society is *capitalist* as well as informational and that, for the first time, the whole world economy is now dominated by a capitalist logic. Moreover, notwithstanding his concern with culture and identity, Castells's method remains resolutely materialist in grounding his dis-

cussion of these in an account of socio-economic institutions and structures. However, when Castells comes to theorize the reorganization of social practices within the global network society, he does not employ any substantive theoretical accounts of the capitalist mode of production, he systematically neglects the relationships between the capitalist economy and the other institutional orders of modernity, and he has no determinate specification of the character of *global* capitalism considered as a worldwide economic system. The literatures exploring these issues (both Marxist and others) are almost totally overlooked.

A social theory of a network society that is apparently rooted in a global, informational capitalism can scarcely dispense with economics, but this is just what Castells attempts to do. The reader of *The Rise of the Network Society* will find much descriptive, economic sociology on the rise of the network organization and networking as a mode of economic co-ordination; considerable treatment of the role of various states in shaping particular trajectories of economic change; and a balanced discussion of the development of forms of competition and multinational corporations. But these contributions, valuable and informative though they undoubtedly are, do not add up to a theory of the new economic order. The increased salience of networks, including IT-mediated ones, does not dispose of the questions of how property and markets are organized and of what determines the pattern of production, distribution and exchange on either a national or a global scale. Many of the questions that Castells addresses – what determines the relative competitiveness of the advanced economies, what regulatory powers do states have in relation to the world economy, why ultimately did the planned economies fail, what accounts for the differential performance within the former Third World, and why has the new economic order been marked by rising inequality and insecurity both nationally and globally – cannot be explained in terms the logic of networks. Perhaps we should not judge this failure too harshly since this aspect of Castells's work mirrors that of social theorists who have offered rival accounts. Castells pays a heavy price for this neglect, however, because of his otherwise laudable insistence that social theory must attempt to maintain contact with the concrete realities of our global condition. Castells is not content to operate at the level of generality of, say, Giddens, and he wants his theory to engage with the substantive explanation of socio-economic change. But you cannot have a theory of the economy without an economics.[42]

Castells's second manoeuvre in part follows from the first. We have seen that as the argument shifts from a genetic account of the development of informational capitalism to outlining the structural logic of the network society, the dual logic of capitalism and informationalism collapses into the singular logic of the space of flows. Given that the capitalist character of the new society is not specified theoretically, it is then inevitable that any conceptualization which seeks to compare the logic of the old and the new will stress the discontinuities since the continuities imposed by the logic of capitalist institutions (and indeed any other ones) have been arbitrarily ignored. There is, however, another reason why Castells stresses the contrasts and the discontinuities. We saw above that Castells argues that the informational mode of development produces a dynamic of technology, social action, relations and institutions which is set off from modernity by the emergence of the culture of real virtuality. Finding a material base in informationalism for the culture of real virtuality, together with its associated transformation of the organization of space and time in the space of flows, enables Castells to argue that a fundamental shift in the nature of power is taking place.

Power is no longer possessed by actors rooted in particular places but becomes a property of the flows between spaces, or rather, as Castells put it in answer to a question from Christopher Freeman, power is both but 'the power of flows prevails over flows of any specific power'.[43] Moreover, in societies characterized by the informational mode of development, power migrates to '*the cultural codes through which people and institutions represent life and make decisions*', such that '*Cultural battles are the power battles of the Information Age.…* Culture as the source of power, and power as the source of capital, underlie the new social hierarchy of the Information Age.'[44] But the establishment of these kinds of claim would need a clearer account of 'power' and considerably more evidence than Castells provides. Analytically, it is not at all clear that the 'power' can be divided into two kinds – that possessed by place-bound actors and that instantiated in the flows between them – since power is generally a capacity of some exercised in relation to others (or the rest of the natural world). Power almost always and everywhere exists both in the space of places and in the space of flows. Nor is it obvious that power has shifted to the realm of the symbolic, to the cultural domain, as if the materialities of class and state no longer mattered. The end of the millennium may well be marked by the power of identity, but that does not mean that the material bases of power in the

means of production and destruction are no longer operative. I doubt that Castells believes this, but it is a symptom of his inadequate treatment of the idea of the network and its powers that he writes as he does.

## A system of states?

These problems undermine the case for a radical separation between the time–space organization of industrial and informational societies. For, once we see that the organization of social power within modernity was always multifaceted and multidimensional, it is difficult to argue that the logic of the old and the new are substantively dichotomous. A contrary reading, which attempts to focus on the continuities between modernity and the network society, might note that the development of industrial capitalism and the rise of the nation-state system already effected a massive distanciation of social arrangements in space and time, up to and including the global level; pre-digital, literate cultures (print capitalism) were quite capable of mediating large-scale disembedding, such that both a space of places and a space of flows have been complementary features of modern societies from the outset; and pervasive institutional reflexivity has always been central to modernity, even if its contemporary extension into the realms of nature and the body are taking somewhat new forms. Does IT really make *that* qualitative a difference?[45] Only a much sharper and systematic comparison of the old and the new, and one which didn't prejudge the issue by selective contrast, could hope to answer the question.

These analytical problems come together in Castells's treatment of the state. At the most abstract level, Castells argues that the logic of the network society confronts that of the nation-state. If the power of the nation-state is rooted in a fixed territory, then it is inherently susceptible to being outflanked by new forms of power located in the mobile space of flows. More substantively, Castells suggests that since the new informational economy is globally organized and the state is national, since technological change cannot be controlled by the state, and since an increasingly flexible capitalist logic resists the imposition of all political (and cultural) restraints, state power is progressively undermined. This is not the place for a detailed discussion of how best to conceptualize social power, but we have already said enough to suggest that Castells's contrast between the power possessed by place-bound actors and the power which inhabits the space of flows is too roughly drawn and insufficiently discriminating to provide a rigorous assessment of the changing balance of power between states, economies and societies.

Castells quotes Poulantzas to the effect that the specificity of the capitalist state lies in its monopolization of the organization of space and time through the control of territory and the nationalist invention of tradition. Things are no longer so:

> State control over space and time is increasingly bypassed by global flows of capital, goods, services, technology, communication, and information. The state's capture of historical time through its appropriation of tradition and the (re)construction of national identity is challenged by plural identities as defined by autonomous subjects.[46]

But Castells has misread Poulantzas's argument here, and we might pause to get it right since it still offers a more cogent basis for examining the contemporary transformation of the state than any other. Poulantzas argued that the specific forms and functions of the capitalist state, its 'institutional materialities', are based upon the reorganization of the social division of labour grounded in capitalist relations of production. The reorganization of the spatial and temporal matrix of the nation was just one example Poulantzas gave of this process – the others being the role of the state in relation to the division of intellectual and manual labour, the individualization and disciplining of the population, the monopolization of the means of violence, and the development of modern law. The relation of the state to bureaucratic administration, to social classes and to the economy must also be understood in the context of the relative separation of the economic and the political characteristic of developed capitalist relations of production. The space/place of the 'political' within capitalist societies, Poulantzas insisted, could not be grasped as somehow external to the economy. What is new in the development of the capitalist state is not a retreat of state power in relation to the economy – Poulantzas spoke of the economic functions of the state being incompressible and rigid – but rather that the 'totality of [its] operations … are currently being reorganized in relation to its economic role' and this role is increasingly defined in a disciplinary, neo-liberal mould.[47]

Thus the relationship between the capitalist economy (along with its informational mode of development) and the state is more complicated than Castells avers. Partly because of his oversimplified account of 'power' and partly because he doesn't provide any theoretical specification of the relationship between the institutional order of the capitalist economy and the state, Castells too often treats their interrelations

in constant-sum terms, assuming that any increase in power in one sphere implies a diminution in the other. But such a view does not begin to do justice to the mutually constitutive relations between economic and political power in capitalist societies. Social power is, after all, only an aspect of the expression of collective human agency, and there is every reason to suppose that it is both a constant-sum phenomenon in some respects and a positive-sum one in others. To focus on those areas where power is competitive and distributive at the expense of the many instances where it is collective and productive necessarily results in unbalanced conclusions. If you only look at half the picture, you will only see half of what is there. Castells is surely right to insist that the new, global economy of informational capitalism has developed in tandem with the erosion of a wide range of nationally organized and relatively direct forms of intervention and regulation. But at the same time, a vast amount of new regulation, often internationally organized and indirectly maintained, has also been developed. It may well be that much of what has been dismantled involved more or less constant-sum power relations between the state, on the one hand, and the economy and society, on the other. It is almost certainly the case that the newer forms of indirect regulation – organized at a range of levels from the local to the global, through the regional and national – are for the most part positive-sum arrangements between states, economies and societies.

In any case, even on his chosen ground of the organization of spaces and places, Castells poses the question of the relations between the nation-state and the network society in an unfortunate manner. It is certainly true that, unlike the network society, states are nationally organized, but the system of states is, of course, global. (Nor will it do to see the territorial organization of modern, capitalist nation-states in terms of fixed places, as if Benedict Anderson's 'imagined communities' depended on ties of physical contiguity.[48]) Particular states derive much of their power and authority from the fact that they are members of a system of states. States reflexively monitor not only the conditions of their own reproduction but also, in conjunction with other states, the reproduction of the system of states. While interstate competition is one of the central features of the system of states, it is equally the case that a great deal of collective and essentially co-operative management goes into the maintenance not only of the system of states but also of particular states.[49] For these reasons, Castells

is mistaken in his claim that the 'state's attempt to reassert its power in the global arena by developing supranational institutions further undermines its sovereignty'.[50] Supranational organizations, or, for the most part and more accurately, *inter-governmental* organizations, represent not an erosion of sovereignty but rather one of the forms of its increasingly global consolidation in a liberal form.[51] Therefore it is at least as important to investigate the relations between those powers that are a property of the system of states and those of the network society as it is to study the power of any particular state. Or, to put it another way, even to study how a particular state stands vis-à-vis the network society involves recognizing the role of the system of states in empowering its constituent members against other contestants for political authority. Castells completely overlooks this fundamental dimension of any full analysis.

To the extent that all actors in the new order require rules to be agreed and enforced at relatively low cost (and the only ones that don't are the mafias), then the repository of legitimate authority, which inheres in the state and the inter-state system, remains indispensable for underwriting these new forms of intervention and regulation. That is why – as Castells himself appears to recognize – social and political struggles (old or new, emancipatory or lifestyle) continue to turn in large part on the forms of, and the access to, state power.

*The Information Age* is by any standards a major achievement. The project that Castells attempts is an important one, and many of his basic emphases seem right. It is surely correct to try to bring general social theory to bear on the understanding and explanation of the contemporary world, taking full account of the relations between its main institutional features as well as its global reach and universalizing character. The attempt to take the material organization of technology and the division of labour as seriously as the property relations of the mode of production is a welcome reminder of what a historical materialist analysis should be doing. And the task of trying to identify in what ways the global system and the fortunes of national societies within it are new, and hence what the grounds are for social and political change, is as relevant as ever. In rising to this challenge, Castells deserves our praise. He has performed an immense service in showing what might be accomplished. If his ambition perhaps inevitably exceeds his grasp, then that should only serve to encourage others to take up the challenge.

## Notes

I am most grateful to William Brown, Peter Osborne and Stella Sandford for helpful comments on an earlier draft. The usual disclaimers apply.

1. There are some obvious continuities between *The Information Age* and Castells's earlier work. His first major work, *The Urban Question* (1977), was an attempt to provide an Althusserian Marxist critique and reformulation of urban geography. This resulted in an interest in the new forms of politics characteristic of urban social movements, studied in *The City and the Grassroots* (1983). While Castells has moved beyond his original Marxist position and is no longer centrally concerned with defining the specificity of the urban, the substantive concerns of capitalist restructuring and the organization of political practice in space and time continue to define the centre of his attention. However, despite these substantive links with his earlier work, *The Information Age* represents a very significant departure for Castells in terms of its analytical and theoretical framework as well as in the scope of its substantive and comparative concerns.

2. This was already the major theme of Castells's earlier work *The Informational City: Information Technology, Economic Restructuring and the Urban-Regional Process*, Basil Blackwell, Oxford, 1989. Indeed, many of the arguments of *The Information Age* were developed in that work, in relation to the economic, social and geographical restructuring of the United States during the 1970s and 1980s. In many respects, *The Informational City* is a transitional work, marking Castells's move from urban geographer to theorist of global society.

3. Anthony Giddens, *The Consequences of Modernity*, Polity Press, Cambridge, 1990; and *Modernity and Self-Identity*, Polity Press, Cambridge, 1991. The quotation is from *Consequences*, p. 3.

4. See, in particular, Scott Lash and John Urry, *The End of Organized Capitalism*, Polity Press, Cambridge, 1987; and *Economies of Signs and Spaces*, Sage, London, 1994.

5. See Ulrich Beck, *Risk Society: Towards a New Modernity*, Sage, London, 1992. See also Ulrich Beck, Anthony Giddens and Scott Lash, *Reflexive Modernization: Politics, Tradition and Aesthetics in Modern Social Order* (Polity Press, Cambridge, 1994), where the debate between these theorists can be sampled.

6. Vol. II, p. 2.

7. See, in particular, Lash and Urry, *The End of Organized Capitalism*.

8. The work of Christopher Freeman and Giovanni Dosi is particularly important here. See, for example, C. Freeman ed., *Long Waves in the World Economy*, Pinter, London, 1984; and C. Freeman et al., *Unemployment and Technical Innovation*, Pinter, London, 1982.

9. Vol. I, p. 88.

10. Castells, *The Informational City*, p. 32.

11. Vol. I, p. 51.

12. Castells, *The Informational City*, p. 10.

13. Ibid., p. 10.

14. Vol. I, pp. 32–3.

15. I should add, however, that the theoretical affinities between Giddens and Castells are not explicitly presented as such by Castells and he does not present his work in relation to that of Giddens in the ways that I propose in what follows.

16. Vol. I, pp. 25–6.

17. See Anthony Giddens, *A Contemporary Critique of Historical Materialism*: Vol. 1, *Power, Property and the State*, Macmillan, London, 1981; and Vol. 2, *The Nation-State and Violence*, Polity Press, Cambridge, 1985.

18. Giddens, *The Consequences of Modernity*, p. 62.

19. Giddens, *The Nation-State and Violence*, p. 140.

20. Giddens, *The Consequences of Modernity*, p. 63.

21. Castells, *The Informational City*, p. 6.

22. Vol. I, p. 469.

23. Lash and Urry, *Economies of Signs and Spaces*, p. 7.

24. Vol. II, p. 301.

25. Vol. I, p. 328.

26. Giddens, *Modernity and Self-Identity*, p. 26, emphasis added.

27. See Lash and Urry, *Economies of Signs and Spaces*, Part 3.

28. Vol. I, p. 411.

29. Castells, *The Informational City*, p. 228.

30. Vol. I, pp. 445–6.

31. Giddens, *Modernity and Self-Identity*, p. 214.

32. Ibid., p. 228.

33. Vol. II, p. 11.

34. Castells, *The Informational City*, p. 350.

35. Vol. II, p. 11.

36. Vol. II, p. 2.

37. Vol. I, p. 4.

38. Ibid., p. 4.

39. Vol. I, pp. 3–4.

40. The origins of the metaphor in the mathematics of topology might have provided a clue: the power of topological analysis derives precisely from its supreme generality and abstraction from any substantive content.

41. Ibid., pp. 470–71.

42. This is one fundamental respect in which comparisons with Marx and Weber sadly miss the mark.

43. 'A Rejoinder: On Power, Identities and Culture in the Network Society', *New Political Economy*, vol. 3, no. 3, 1998, p. 474.

44. Vol. III, pp. 347–8.

45. In fact, a great deal of Castells's own substantive discussions suggest otherwise.

46. Vol. II, p. 243, citing Nicos Poulantzas's *State, Power, Socialism*, Verso, London, 1978. Castells makes his own translation. In the English edition the relevant passage is on p. 99.

47. Poulantzas, *State, Power, Socialism*, p. 168 and, more generally, Part 3.

48. See Benedict Anderson, *Imagined Communities: Reflections on the Origins and Spread of Nationalism*, Verso, London, 1983.

49. This was one of the fundamental insights of Anthony Giddens's study of *The Nation-State and Violence* – another source which Castells misreads. See also Hendrik Spruyt, *The Sovereign State and Its Competitors*, Princeton University Press, Princeton NJ, 1994; and Janice Thomson, *Mercenaries, Pirates and Sovereigns: State Building and Extraterritorial Violence in Early Modern Europe*, Princeton University Press, Princeton NJ, 1994.

50. Vol. II, p. 243.

51. I have discussed this point more fully in 'Globalization?', *Radical Philosophy* 80, November/December 1996.