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REVIEW ESSAY

A New Globe in the Making: Manuel Castells on the Information Age

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Manuel Castells: *The Information Age: Economy, Society and Culture*. Vol. 1: *The Network Society* (1996). Vol. 2: *The Power of Identity* (1997). Vol. 3: *End of Millennium* (1998). Malden: Blackwell.

Accompanying Manuel Castells on his three-volume, nearly 1500-page expedition on the Information Age is a challenging experience. Castells' eclectic approach, employing extensive methodological tools and a vast array of social phenomena to arrive at his analysis, goes far beyond standard sociological narratives, where the scope is usually limited to some particular field of social phenomena and the work carried out within a specific discipline. Moreover, what is distinctive in Castells' approach is his determination to provide us with a new macrosociological theory about the paradigmatic shift from the industrial age to the Information Age, and to back up his theoretical considerations with a vast body of empirical evidence. While this approach inevitably creates some problems in providing evidence in support of universal claims, Castells' work is clearly light-years away from less meticulously researched studies on the postmodern order or technologically determined assumptions on the information society.

The first volume of Castells' trilogy, 'The Network Society', concentrates on providing an overview of the major economic and cultural developments which have been instrumental in making networking a major pattern of social organization. In the second volume, 'The Power of Identity', Castells examines the social movements of our time and the challenges facing our political systems based on nation-states. In the final volume, 'End of Mil-

lennium', Castells focuses on developments in global geopolitics, and the new actors and institutions that are shaping the end of the millennium.

According to Castells, we live in an historical period of transformation, where a new societal system is emerging. The two key features of this new order are informationalism and globalism. The emerging economy is informational in that productivity and success in competition essentially derive from the ability of economic actors to create, handle, master and apply information. It is global because the central functions of production, consumption and transportation, as well as many of the critical resources of the economy (capital, labour, raw materials, management, knowledge, technology and markets) are being organized on a global scale and through global networks. The principal driving force and the material basis of this process has been the birth and rapid spread of information technology, which provides the necessary platform for the new economy.

Having thus summarized the key message of Castells' work, it would be tempting to classify the author as a technological determinist, one who sees technology as a horse pulling the carriage of culture and social life. However, reading further into Castells' *magnum opus*, it becomes clear that much of the substance he provides points to the conclusion that although technology is present in practically everything we do on this planet today, it should be understood as only a part of the human subsystems of economy, society and culture. Technology is society; societal processes cannot be understood or represented without the underlying technology. Tech-

nology does not determine society; it only represents it. Nor does society determine technological development; it only uses it. The dilemma of technological determinism may be a misplaced question altogether, since the use and development of technology mirrors us as human beings rather than telling us anything directly about the role of technology in our societies.

This becomes obvious when we look at the way Castells traces the historical origins of the Information Age. According to Castells, there were three distinct and initially separate processes which began to mould history at the turn of the 1970s. The first process involved the revolution of information technology. The cradle of this revolution was the Silicon Valley in California, where computer pioneers made their groundbreaking technological innovations, such as microprocessors and the integrated circuit, and also began to produce software. Moreover, these pioneers were also the first to show the benefits of the networking principle and decentralized corporate structures. The second historical process was initiated in the political realm in the early 1970s, when historical capitalism, and also socialism, or *statism*, as Castells calls it, drifted into deep crisis.

In capitalism, economies, businesses and state functionaries were forced to develop new ideas of organization and management. Flexible organization and global expansion of the core activities of major companies, aided by the new technologies, became the common-sense strategy of corporate management. But where capitalist systems were able to find such sources for renewal, the restructuring of states proved to be an impossibility, as shown by the embarrassing story of the rise and fall of the Soviet Union and most of its allies. Drawing on a wealth of data, Castells shows how the Soviet Union was unable to meet the technical challenge of the emerging information technology revolution. Burdened by inertia and a massive disregard of its political nomenclature towards the welfare of its citizens, the great social experiment of our century collapsed, changing the configuration of global geopolitics forever. This happened at the precise moment when the Information Age began to materialize in the Western world in the form of new communication networks.

The third major historical process Castells identifies is the blossoming of the social movements, which began thirty years ago in Paris

among students and spread rapidly to the metropolises of the world. For Castells, this was a cultural movement, with no claims to political power other than the right to stand up against the follies of the consumer society. Later on, this movement found other forms of expression, such as the feminist movement, the peace movement and environmentalism, which began to claim their right for self-recognition and individual autonomy *vis-à-vis* capitalism and the state.

This, then, is the core of Castells grand vision of the birth of the Information Age: three historical processes, which stemmed, respectively, from the technological revolution, the restructuring of the economy, and the critique of culture, and which later converged in various ways to bring about a globalized information society, a novel and venerable trinity of production, power and human experience, where networking has become the dominant form of social organization. In this new setting, the production, processing and transmission of information become essential instruments for the attainment of economic success, political legitimacy and cultural influence. But Castells goes beyond mere description and analysis of historical processes; he also develops a metaphysical foundation for the scene in which these historical events are taking place.

At the heart of Castells' metaphysics lies a polarity of the Net and the Self. The Net signifies the multitude of globalizing networks of power, wealth and information, equipped with information technology. The purpose of this conglomerate of global actors is to provide ever-increasing profits for the global capitalist system, which constantly monitors markets for new opportunities. At the other end of the axis there is the Self, which signifies the totality of individual and collective identities who seek to sustain their lives in the turmoil of increasing global flows. It is the deep-rooted disjunction of the Net and the Self where the battles of class struggle are fought in the Information Age. According to Castells, the core of this struggle is cultural, and these battles are waged in the networks of information and symbol manipulation.

Just as individuals and local collectives in the Information Age are caught between the global flows of informational capitalism and the struggle to establish their reflexively acquired self-identity, so the nation-state – the political and social unit of the industrial age –

is caught between the increasing power claims of supranational systems and growing demands for the decentralization of political decision-making. Most of the power that nation-states once possessed is clearly gone. They are increasingly incapable of controlling monetary policy, deciding their budgets, organizing trade, providing resources for the maintenance of social benefits, and so on. What they have preserved, however, is their capacity to influence. They have become increasingly strategic actors in the international arena, and their institutional capabilities must provide the means for national economies to prosper in global competition. Castells gives us an historical example by tracing the sudden disappearance of China from the frontiers of technological development in the 14th century to the inability of the Chinese State to support technological innovation processes.

In Castells' vocabulary, the central sociological concept and metaphor for the Information Age, and its organizing principle, is the 'network'. Industrial logic, based on hierarchies, is replaced by networking logic, which in the crude world of competition in informational capitalism has already proved to be far more efficient. Castells cites the extraordinary success of East Asian economies during the last few decades as an example *par excellence* of the power of this logic: the organization of East Asian economies is based on business networks, both formal and informal. In this new system, power does not disappear into a labyrinth of connections; it is negotiated within an extensive set of interactions between global flows, locally based identities and networked institutions and companies. Moreover, power is most often linked to those actors who lead the development of this new economic system. These actors are not necessarily only those with a capacity to accumulate capital, and they are certainly not those who have acquired political leadership. The new gatekeepers, according to Castells, are those who run the dynamo of the new economic system, those who use and manipulate information for the development of the new information systems.

Although Castells is keen to point out the impact of technological systems on society, he also wants to demystify the role of information within the present transformation. For it is not information and knowledge as such that are novel in the present age; knowledge accumula-

tion has always played an important role in human development and social transformations. What is new in the present situation is the way human beings have become a means of production. The old order of the industrial age, where natural resources were a principal means of production, has changed fundamentally. In the Information Age, with the advent of knowledge as the raw material for economic and social development, humans have become a productive power in their own right.

According to Castells, the new informational paradigm will also bring about the convergence of biological and technical systems. As the new millennium unfolds, we can expect a colossal growth of applications in the field of biotechnology. This development is closely linked with the development of information technology, as in the mapping of the human genome, which will be dependent upon sufficient computer calculating power. The blurring of the boundaries between human life and technological systems may also compel us to reconsider seriously our relationship with natural systems. Moreover, it may be just a question of time before technological systems become capable of self-reflection, a quality which has previously been impossible for all but human beings.

While Castells argues persuasively for networking as the underlying principle of the present *social* organization, the other fundamental principle of the Information Age – one that moulds its economic and technological construction in particular – is globalization. Castells' term for the present techno-economic system, of which the 1980s was the first decade, is *informational capitalism*. Within this system, information technology has been the necessary condition for globalizing the economy. Similarly, the most important feature of the new capitalism is its 'globalism'. As a concept, 'global economy' is very different from 'world economy', a concept developed by such scholars as Wallerstein and Braudel referring to the historical expansion of the market economy with a world-wide accumulation of capital. 'Global economy' is based on the assumption that the market can operate throughout the world as a functional unit in real-time. This is made possible by the cultural shift which has changed the ways we relate to time and space.

Castells arrives at the somewhat questionable notion that we live in a culture of 'real virtuality', made possible by the new commu-

nication technologies, where 'make-believe is belief in the making' (part 1, p. 375). In a culture of increased flow of information and materials, the concept of 'place' defined as a venue of certain functions whose form, purpose and meaning are derived from a totality of physical borders (suburb, village, city) becomes obsolete. This 'space of places', as Castells calls it, is replaced by a 'space of flows' which changes the fundamental order of the industrial society. As a result of this transformation, says Castells, the previous order, in which time defined the sequence of events, is overthrown; now space organizes time in the network society. We live in an 'on-line' reality, where we do not have to wait for things to happen according to specific timetables. Stock exchange rates, news and weather forecasts, all are accessible anywhere in the world, at any time.

Castells calls this new temporal concept *timeless time*, as opposed to the *clock-time* of the industrial age. Traditional biological and social rhythms disappear and are replaced by an instant eternity, a temporal order without order, where the frequency of events is accelerated and concurrent orders are preferred. In everyday life, this means that via technological devices, we can be present in multiple places simultaneously. In the global economic system, timeless time reflects spatial processes, since capital flows and communication no longer inhabit a specific place, but exist as flows capable and ready to move instantaneously to any part of global hyperspace. While this analysis is generally appealing, I was left wondering whether this new time/space reality is really a decisive element in people's everyday lives, in the 'here and now'.

There are three layers within this new order. The first is the material foundation of this spatial structure, the new information technology, which forms the basis of activities which take place simultaneously in various localities. The information flows enabled by these networks have become the working environment of more and more people. The almost metaphysical idea behind the concept of the 'space of flows' is that these flows are able to constitute places in almost the same way as cities and regions are places. Of course, this is not to imply that physical places would disappear; they are merely intermingled with global networks.

This global 'space of flows', which also contains 'poles' whose function is to enhance

communication and 'knots' that form a venue for strategic action, is a system that can change very rapidly. This changeability puts local identities and communities into a permanent state of uncertainty: flows of capital and information are mastered by a cosmopolitan elite, whose job is to look for new opportunities of getting greater interest for their money. This means, in effect, that the more localities are integrated within the global networks, the more they are prone to changes initiated outside their direct control.

It is here that Castells' system of collective movements marches in. Each of the historical processes described above, characterized by globalization and the networking logic of social organization, has played an important part in the emergence of the systemic disjunction between the Net and the Self, between global networks of information, power and wealth and locally constructed individual and collective identities. These processes continue to characterize the lives of most individuals and social groups in the world. Drawing on his long-term interest in social movements, Castells places great emphasis on the analysis of the meaning of collective movements to our present social organization, again something that is quite unusual in textbooks on the 'information society'.

Castells distinguishes three forms of collective identity. The first is *legitimizing identity*, referring to the collective movements that were instrumental in building the modern welfare state: labour organizations, co-operatives, political parties, and so on. Castells sees an historical irony in the fact that, just when the democratic state has at last become the dominant form of societal structure, the organizations which made it happen have become so alienated from issues that really matter that, for many of us, they seem more like relics from an ancient past than institutions which could help us to further our commitments in the Information Age.

The second form of identity is *resistance identity*, which Castells describes as the 'exclusion of the excluders by the excluded'. This is the currently dominant form of social movement, born out of a resistance to the global flows of the new economic order. Castells describes several cases which embody this category of social movement: Mexico's *zapatistas*, who were able to attract a great deal of publicity for their cause by using the Internet as a tool for the dissemination of information;

the American Militia and the Patriot movement of the 1990s, a right-wing populist alliance which regards the age of information as the age of confusion; and Japan's Aum Shinrikyo, a movement for 'highest truth', which has served as a platform for disillusioned and predominantly young representatives of the people behind the 'miracle of Japan'.

Although they stem from very different cultural, economic and institutional backgrounds, what is common to all these movements is that they all stand out as reactive and defensive towards the rest of the world. But much more influential than these reactive movements are proactive movements, particularly those of feminism and environmentalism. In Castells' scheme, the fundamental change in women's position is supported by the new informational economy, which facilitates the dissemination of knowledge and ideas and has helped women to partake in schemes of life-long education. Technological changes have also facilitated family planning and aided various social movements that supported sexual liberation and the globalization of culture.

The third kind of identity in Castells' scheme is *project identity*, which is potentially able to reconstruct elements of a new civic society. In exploring the historical significance and future potential of various social movements, Castells places special emphasis on the environmental movement as one which may grow from resistance identity to project identity, ready to build a positive identity of its own and use the technological (telematic) and social (networking) tools of the Information Age. Since Castells considers the environmental movement the most influential social movement of our time, we have reason to take a closer look at his arguments in this matter.

Castells sees the role of the environmental movement as being related to the transformational forces implicit in our ways of perceiving the world in terms of space and time. In terms of space, the environmental movement seeks to seize control of the environment we inhabit from the environmentally disinterested movements of global capital flows. The spatial logic of the 'space of flows' and its overwhelming share of the world's economic and political power makes this control very difficult to achieve for movements that are generally organized locally. Furthermore, Castells sees the environmental movement as the bearer of a new type of temporal conceptualization as well. While the Information Age advocates the

idea of timeless time, compressing occurrences and concentrating on instantaneous time, the argument of the environmental movement is based on a notion of 'glacial time', a concept borrowed from Lash and Urry, which is designed to reveal the consequences of human action on a long temporal scale. The issue of global warming is a particularly good example of a social struggle in which the short-term interest of providing the prerequisites for the maintenance of industrial production and work opportunities is in contrast with the long-term interest of planetary survival threatened by the overuse of fossil fuels. But the aims of the environmental movement go beyond defending 'old' concepts of time and place. Castells sees the role of the environmental movement as proactive rather than reactive, supporting social strategies that may bring us some way from the present culture of 'real virtuality' and closer to a more viable relationship with nature.

Castells' view of the significance of the environmental movement is related to his portrayal of the Information Age as representing a new era in the relationship between Nature and Culture. The first era was marked by the dominance of Nature over Culture, when natural conditions were crucial for continued human existence. The second era began at the dawn of the modern age, when Nature was subjected to industrial Culture, which aimed at increasing human welfare by harnessing natural resources through the use of technology. According to Castells, we are now entering the third period where 'Culture refers to Culture, having superseded Nature to the point that Nature is artificially revived ('preserved') as a cultural form' (part 1, p. 477). Here we also find Castells' definition of the ultimate meaning of the environmental movement: 'to reconstruct nature as an ideal cultural form', which presumably means the correction of the cultural bias of the network society by re-integrating the cycles of Nature into societal decision-making and the social control of space. Castells does not develop this idea of human reconciliation with nature; he only refers to the novelty of our era as one that enables us to live in a predominantly social world.

Castells' argumentation concerning the position of the environmental movement is novel and interesting, and it would have been very interesting indeed to see it supported by empirical data. Unfortunately, although Cas-

tells has compiled a massive amount of empirical evidence for the other parts of his work on social movements, he has very little valid data to support his arguments here. Nevertheless, as in numerous other parts of his trilogy, Castells surprises us by discovering a new and illuminating perspective on a much-debated issue, and does it in the way that supports his general line of argument elegantly.

I have only discussed few of the vast number of issues Castells links together in order to provide us with a vision of the Information Age. On a deeper level, we cannot grasp Castells' way of connecting different historical processes and social transformations unless we understand that, although Castells includes in his analysis multiple flows of occurrences which take place so far above the scope of the ordinary life of individuals that it hardly seems to make any difference, it is ultimately *human experience* which lies in the heart of his phenomenology. Over and over again, the author points out the concerns that were already expressed in the early texts of Marx, one of the first true modernists, i.e. in his *Communist Manifesto* published in 1848. Here is Marx, expressing his vision of the growing disjunction of the human experience and the emerging new order of the 'bourgeois epoch', in the epithet he gives to industrial society:

Constant revolutionizing of production, uninterrupted disturbance of all social relations, everlasting uncertainty and agitation, distinguish the bourgeois epoch from all earlier times. All fixed, fast-frozen relationships, with their train of venerable ideas and opinions, are swept away, all new-formed ones become obsolete before they can ossify. All that is solid melts into air, all that is holy is profaned, and men at last are forced to face with sober senses the real conditions of their lives and their relations with their fellow men.¹

In these lines, Marx expresses a realization of the daunting task of the individual faced with the challenges of an unknown future moulded by forces that do not derive from historical contingencies. In Castells' scheme of things, the ruling class, the old bourgeoisie, is being transformed into an enclave of transnational capitalists who control those critical assets of our age which provide the basis for economic success and cultural significance: the production, processing and dissemination of information.

However, the purpose of Castells' trilogy, it seems to me, is not to show that we are back in the old struggle that the masses found

themselves in at the dawn of the industrial age, as described by Marx and his followers, but rather to describe the significance of the human experience as a fundamental unit of social change. Indeed, it is only this realization which enables us to understand Castells' drive to link the emergence and consolidation of the new social movements to such diverse phenomena as the revolution of information technology, the collapse of communism, the desanctification of the patriarchal order, the emergence of an informational/global economy and the networking form of organization. What unites all these phenomena is human experience, and it is only through the reflective character of the human mind that these processes and events gain their momentum and significance.

In order to provide further understanding of our time, Castells scrutinizes the unique combination of a multitude of new, independent social developments, embedded in the historical heritage of the industrial age. Yet, as he points out, 'my main statement is that it does not really matter if you believe that this world, or any of its features, is new or not. My analysis stands by itself' (part 3, p. 336). It seems that Castells' primary aim is perhaps not 'just' to declare a new grand theory for social change, but rather simply to present his observations on contemporary social life.

In this respect, there are two specific social conflicts, which, for Castells as a sociologist, make the Information Age a period in which we observe intensified social power struggles. The first conflict is the systemic disjunction of the local and the global, which concerns most individuals and social groups. Although individualization and the post-traditional order of social values engender a growing need for individuals and collectives to establish reflexive life planning, in a network society this project becomes impossible because of the discontinuity between the logic of power-making in the global network and the logic of association in specific societies. This is a much more pessimistic position than Giddens' view of late modernity, where the Self becomes a reflexive project that can be governed in the interplay between the local and the global. In the network society, the subject is constructed chiefly on the basis of communal resistance that stems from the imminent *cul-de-sac* of this project of identity building, and from the serious effects of the fundamental disjunction of the Net and the Self.

This fundamental social conflict expressing our *zeitgeist* reflects the second, larger and complementary field of social conflict which Castells has undertaken to explore, understand and reveal: the fight for power and wealth between nations and blocks of nations, which is now taking place under the sun of the new globalized social order. This is an order in which Europe undertakes to reorganize itself – in the face of accelerating global competition – as a network state, a true expression of networked political power system in the Information Age. The European project may lead to the formation of a new project identity, a strategy based not on exclusion, but on shared values and common institutional goals. However, the general mistrust among Europeans towards the European Union and its latest expression, the European Monetary Union, means that there is still a long way to go before the EU becomes established as an entity in its own right in the minds of the citizenry.

It is also a new order in which the USA increasingly dominates the political sphere of the global system, and where its former counterpart, the states that once formed the Soviet Union, now mark the blind alley of the Information Age. Along with the serious stagnation of Africa and regions that can be found literally in every country and every city, they form the core of a new geography of social exclusion which Castells calls 'the rise of the Fourth World'. One frightening aspect of this segmentation is the development of what Castells calls 'perverse connection', the sudden expansion of global crime in the 1990s, which can be seen as a desperate attempt by the excluded to escape their marginality in the global informational economy. Castells also sees the rise of the Pacific countries as a new source of economic growth and technological innovation in the global economy. Is this perhaps a new union of states on the rise, a union which will take the lead in the trinity of development centres of the world? Castells does not appear to think so. There will be no Pacific Era, because there is no integrated entity which could form such a unity. Development in the Pacific depends on the strong nationalism of the countries in the region, and they are not prepared to downplay their national identities for the sake of the common good, as appears to be the case in Europe.

Given Castells' holistic approach and the scope of his research, there are inevitably parts where the data provided is not able to support

the conclusions, or where interpretations are too generalized or contestable. Clear mistakes can also be found. For instance, in part 1, Table 5.1, where Castells describes the diffusion of the Internet, Finland is depicted in January 1994 as a one-horse town with less than 1,000 hosts in the country, when in fact we had at that time over 35,000 hosts and were, assessed (as it should be) on a per capita basis, pioneers in global development. Castells' argument, that the diffusion of information technology in national economies does not induce unemployment, is difficult to accept in light of the European experience, as almost all countries are burdened with structural unemployment, the development of which coincides (I believe not by accident) with the revolution in information technology. Castells does not consider the dilemma of employment in the context of the crises of the welfare state, in which the transformation of production technologies, coupled with the liberalization of markets, has fundamentally weakened the formerly explicit correlation between economic growth and its effect of producing social good through tax returns and higher employment. What might be taking place in the global informational economy is a shift from the market economy, with the invisible hand of the State safeguarding the common good, to crude *laissez-faire* capitalism, where every step to increase the productivity of companies and thus their turnover may lead to a reduction in the number of jobs.

The greatest shortcoming in Castells' trilogy is that the author does not consider at any length the massive number of critical trends inducing global change on the biosphere. In other words: although Castells does observe the social significance of the environmental movement, as reflected above, he does not appreciate the economic and political manifestations of wasteful and resource intensive economies. The sinister legacy of the industrial age – the excessive use of energy and materials – is causing land cover changes, harmful emissions, and an increasingly polluted biosphere. Together with explosive population growth, these processes are already giving rise to harmful and far-reaching changes in our atmosphere, the impacts of which on human systems will, according to our present knowledge, be considerable. These developments and the social responses engendered by them already have a major influence in the global economy, causing fierce battles

over diminishing natural resources. There is no doubt that environmental issues are bound to be among the factors that will determine how the Information Age will materialize for us.

Manuel Castells has undertaken a gigantic task in providing us with a holistic view of the present world system and of the *lebenswelt* that each of us in his or her own way inhabits. For the most part, I find his description plausible and convincing. Above all, Castells' analysis is always interesting and often contains fresh ideas and empirical findings. The amount of data, gathered from all parts of the world, is simply stunning. Castells' research on informational capitalism is a unique contribution to the field of social sciences, and is bound to become a classic that will be referred to in the same way as Marx's work on industrial capitalism.

But there is a fundamental difference between Marxist political analysis and the Castellsian account of the relationship of Theory and Practice. In what is one of the shortest sections in the trilogy, Castells explains why he

has so vigorously and systematically left out from his treatise the question 'what should be done': 'Each time an intellectual has tried to answer this question, and seriously implement the answer, catastrophe has ensued. This was particularly case with certain Ulianov in 1902 . . .' (part 3, p. 358). For Castells, history is indeed something we can learn from. The lesson in this case is that for the social scientist, the principal task is not to change the world, but to interpret it in a new way so as to give tools for people to free themselves from the clutches of ideological and theoretical folly. There is no doubt that Manuel Castells, with his *Zeitanalyse*, does more in this respect than perhaps any other social scientist to make us understand the world we live in.

Notes

¹ Translation provided by Berman (1982).

Reference

Berman, M. 1982. *All that is Solid Melts into Air*. London: Verso.