

## Time(s), space(s) and communication in Castells's 'Network Society'\*

### ABSTRACT

In 'The Rise of the Network Society' (2010), Manuel Castells elaborates on what today is common knowledge, namely the notion of a society that is characterised both by networks of electronically mediated communication and by networks undergirding economic exchanges worldwide. In this article, I explore a dissonance issuing from a feature of the network society, namely what Castells calls the 'transformation of space and time in the human experience'. In this context, he distinguishes between 'the space of places' and 'the space of flows', with the former referring to the historically familiar sense of space as a material precondition of social interaction and of architectural modulation into 'place', and the latter to a novel form of spatiality, one that is related to social interaction that has been fundamentally modified by advanced communication technologies and is characterised by simultaneity, regardless of physical distance. This, in turn, is related to what Castells labels 'timeless time', which is noticeable where customary time sequences are blurred in certain contemporary practices, such as virtually instantaneous financial transactions, 'instant wars' and virtual communication. This contrasts with both ordinary, 'human' time and also with evolutionary 'glacial time' – a notion operative in the ecological movement and one that increasingly clashes with the demands of 'timeless time' in the network society. The article reconstructs Castells's comprehensive vision and points to the relevance of the conflict between these respective notions of space and time for contemporary communication practices. It also engages critically with the social implications of the dominant modes of space and time.

*Bert Olivier is Distinguished Professor of Philosophy and Research at the Nelson Mandela Metropolitan University in Port Elizabeth, South Africa. He teaches various subdisciplines of philosophy, including the philosophy of communication, of film, of literature and of architecture, and has published widely both in these disciplines and in psychoanalytic theory.*

## **INTRODUCTION**

The notion of 'the network society' is familiar to most people today, not only because of Manuel Castells's influential book, 'The Rise of the Network Society' (2010), but also because the notion of networks is rooted in a number of other texts<sup>1</sup>. In the Prologue (2010: location 1225) to the said book, Castells – having provided a condensed overview of the changes occurring at many different levels in society in the late 20th century – announces: '... I propose the hypothesis that all major trends of change constituting our new, confusing world are related, and that we can make sense of their interrelationship.' This is one way of announcing the major thesis of the book, which implies that if such sense can indeed be made, the hypothesis will have been successfully defended. As point of departure, he chooses the 'information technology revolution', given its 'pervasiveness throughout the whole realm of human activity ... in analyzing the complexity of the new economy, society, and culture in the making'.

While negating the idea of technological determinism – arguing instead for a reciprocity between technological innovation and societal change – Castells reminds one that in the late 20th century, a revolution in information technologies was responsible for altering the material base of society. Predictably, global economies have since become interdependent, while in the process also altering the relationship between economy, society, politics and culture.

### **1. FROM PASSIVE RECEPTION TO INTERACTIVE COMMUNICATION**

As part and parcel of this revolution, Castells (2010: location 8557) elaborates on the emergence of what is currently known as 'interactive communication' against the backdrop of the transformation of modes of communication. First among these came the transformation from oral traditions to an alphabetic, written form of communication (*circa* 700 BCE), which was followed, in the 15th century, by the invention of printing and the increasing dissemination of alphabet literacy. Just as the previous two fundamental changes in communicational means qualitatively transformed not only the societies of their time (by, for instance, making traditions of science and philosophy possible) but also their subsequent histories (which included hierarchising society in terms of literacy and illiteracy), the current, electronically mediated communication transformation has for

---

<sup>1</sup> If one takes seriously the epigraph used by Castells in the Prologue (2010: location 1158) in which Confucius is said to have claimed to have 'simply grasped one thread, which links up the rest', the idea of interconnectedness (i.e. of a 'network') goes back at least to this Chinese philosopher (born 550 BCE). On network power and the US Constitution, and on the network as organisational production-model, see also Hardt and Negri (2001:161–163, 294–297). Deleuze and Guattari, too, contributed to the idea of networks, embodied by the 'rhizome', in 'A thousand plateaus' (1987:3–25). The establishment of global interconnections among computer networks worldwide in the late 20th century represents the actualisation of decentralised network interconnectedness. One can also trace the notion of networks back to William Gibson's 1984 cyberpunk science-fiction novel, 'Neuromancer' (1995), which projects a future world in which no one escapes being somehow (inter)connected through the cyberspace of the 'matrix': even when one is not 'jacked in', one's actions are registered, panoptically, by pervasive modes of recording.

some time likewise been in the process of qualitatively transforming global society – a process that has not nearly run its course. Castells (2010: location 8577) describes this technological transformation as:

... the integration of various modes of communication into an interactive network ... in other words, the formation of a hypertext and a meta-language which, for the first time in history, integrate into the same system the written, oral, and audio-visual modalities of human communication. The human spirit reunites its dimensions in a new interaction between the two sides of the brain, machines, and social contexts.<sup>2</sup>

As Castells points out, one should not underestimate the significance of the emergence of the 'information superhighway' (Internet), in that it modifies the character of communication fundamentally, and concomitantly also that of culture through communication's mediating function. He adds that the new technological system, although (as yet) not 'fully in place', with its 'global reach, its integration of all communication media, and its potential interactivity is changing and will forever change our culture'. In this article I focus on some of those changes and on their implications for human existence, but not before I have embarked on a relatively detailed reconstruction of the relevant aspects of Castells's argument in his decidedly comprehensive text, without which any critical discussion or appropriation would make but little sense.

The development of interactive communication did not however fall, fully developed, from the sky. It was the culmination of several decades of development of mass media, with television occupying the central place in this process. Castells remarks on the visionary character of McLuhan who, in as early as the 1960s, prognosticated on the decentralisation and globalisation of the mass media in terms of a 'new galaxy of communication'. Before concentrating on the emergence of a new form of culture – 'the *culture of real virtuality*' – he (Castells) devotes a lengthy discussion (2010: location 8608–8853) not only to the establishment of the mass media and their reciprocity with society and culture but also their transformation into diversified and decentralised 'new media' in the 1980s, preparatory to the appearance of the multimedia phenomenon in the 1990s.

What strikes one in Castells's informed account, is the gradual transition from a unidirectional television culture, with little room for diversified reception on audiences' part, to a diversified, multichoice reception culture – resulting from technological developments such as both cable- and satellite-mediated television and also the introduction of video cassette recording devices (VCRs) and video cameras. The direction of development was inexorably from relatively 'passive' reception towards playing a more 'active' role as regards choice of programmes and recorded films, and, eventually, participation in media culture through the personal recording of 'home

---

<sup>2</sup> See in this regard Shlain (1998) for a thorough exploration of the societal transformation brought about by the transition – since the beginning of the 19th century – from (the valorisation of) alphabet literacy to the increasing dominance of the audio-visual image.

movies' or 'family events'<sup>3</sup>. Nevertheless, regardless of greater choice and selectivity as television technology and dissemination developed, and apart from 'the most primitive' kind of market research, there was no 'interactive communication' between senders and receivers. This had to wait – Castells points out – not only for the development of computers, but for the technology that enabled computers to 'talk' to one another: the emergence of the Internet.

Castells's overview of these developments (2010: location 8859–9231) forcibly brings home the rapidity with which the global establishment and expansion of the Internet has occurred in comparison with radio and television. What are also interesting to note are the differences, on the one hand, between Minitel – a national network developed in and restricted to operating in France – and, on the other, the Internet – rooted in a military prototype called ARPANET designed to counteract a military attack aimed at a central military headquarters through a decentralised network. The crucial difference is that, unlike Minitel, the Internet is not restricted to operating within national boundaries, but is in principle open to boundless expansion across all national and international, and – some people believe – even terrestrial boundaries.<sup>4</sup> The millions of computer networks that exist around the world today, Castells (2010: location 8859–9231) reminds one, accommodate the 'whole spectrum of human communication, from politics to religion to sex and research – with e-commerce as the centerpiece of the contemporary Internet'. This is an astonishing achievement, if one considers that by the end of the 20th century, this multitude of qualitatively and functionally distinct networks were interconnected to and by the Internet after a mere three to four decades of development.<sup>5</sup>

Despite this astonishing volume of virtual communicational traffic – characterised by not only a lack of overall organisation and breath-taking teleological and membership diversification but also predominantly by a spontaneity that one might expect to provoke increased attempts at limitation and control by various 'authorities' – governments and corporations appear to favour, across the board, the further expansion of these networks: '... the greater the diversity of messages and participants, the higher the critical mass in the network, and the higher the value' (Castells, 2010: location 8859–9231). Although there have been sporadic attempts, on the part of corporations and governments, to control the Internet in various respects – Chinese censorship of certain kinds of Internet communication and also the anti-trust case against Microsoft's attempted control

---

<sup>3</sup> Deleuze and Guattari (1987:457–458) have a somewhat different perspective on audiences' participation in television programming and reception. They place it in the context of the relation between consumers and the new informational or 'cybernetic' machines, of which humans as consumers are said to be 'constituent parts', and not mere users. For them, this is tantamount to a new kind of enslavement.

<sup>4</sup> Interestingly, Hardt and Negri (2001:166, 298) compare 'empire' – what they perceive as the emerging new, supra-national order of rule today – to the Roman Empire: structured in an open-ended manner and, in principle, capable of expanding indefinitely. This contrasts with the territorial imperialism(s) of the 19th century, in which distinct states ruled over vastly expanded, but still geographically finite, territories.

<sup>5</sup> The internet has its roots in ARPANET, which goes back to the 1960s, while Minitel originated in the 1970s.

of users' browser selection in the US come to mind – present tendencies indicate its continued expansion as a virtual sphere of multifarious communication and exchange. This impression notwithstanding, one cannot ignore Hardt and Negri's (2001:298–300) claim that the tension between the horizontal, 'democratic' aspect of the Internet and its vertical, 'oligopolistic' aspect (concerning intermittent attempts to control it) is an irresolvable one.<sup>6</sup>

## 2. SPACE OF FLOWS AND METROPOLITAN REGIONS

Yet another tension on which I should like to concentrate here is apparent in Castells's work. The said 'tension' comes into focus in the light of an interesting (and perhaps disturbing) dissonance that issues from another feature of the network society, namely what Castells (2010: location 641) calls the 'transformation of space and time in the human experience'. The tension to which I refer surfaces where he distinguishes between 'the space of places' and 'the space of flows'. The former (also called the 'space of contiguity') refers to the historically familiar sense of space as a material precondition of social interaction that unfolds in time sequence and of architectural modulation into 'place'. The latter, by contrast, denotes a novel form of spatiality, related to social interaction that has fundamentally been modified by advanced communication technologies, and which is characterised by simultaneity, regardless of physical distance. This, in turn, is related to what Castells labels *timeless time* – noticeable where customary time sequences are blurred in certain contemporary practices such as quasi-instantaneous financial transactions and flexitime. Another contrast is apparent here, between, on the one hand, planetary, evolutionary, 'glacial time' – a notion operative in the ecological movement – and, on the other, 'timeless time' in the network society, a time that increasingly clashes with the demands of 'glacial time'. What is the significance of the tension between the different kinds of space and time that humans experience in the network society, and why should it be of concern? In a nutshell, it is significant because in each case – different experiences of space and of time – a 'natural' or originary human experience is juxtaposed with an experience that is not 'natural' in this sense, but emanates from advanced technology or is technologically mediated. I shall address these issues below.

It is virtually a commonplace that '[A]ll major social changes are ultimately characterized by a *transformation of space and time in the human experience*' (Castells, 2010: location 641). The reason for this is simply that space (and time) is a notion that is socially 'constructed' through experience and Castells is not alone in asserting this. Henri Lefebvre (1991:26–39) said as much, and differentiated among the several modes of space that are rooted in the social production of space. It was therefore to be expected that, with the advent of the network society, new modes of spatiality would emerge. Because space has always been the 'material support of simultaneity in social practice' – meaning that people occupying the 'same' space in, for example, a city, could communicate in the temporal here and now – one might expect this to remain so today, and, what

---

<sup>6</sup> Nor can one overlook what may be described as a paralysing communicational '*differend*' (Lyotard) between the agencies of 'empire', on the one hand, and the 'multitude' on the other, as far as the principles and practices of democracy are concerned. See Hardt and Negri (2005) and Olivier (2007) in this regard.

Castells calls the 'space of places' or 'space of contiguity' appears to indicate that the experience of this kind of space is still possible in both urban and rural areas.

However, this does not mean that the 'space of places' is still the dominant mode of space in the network society. We have been witness to some fundamental changes in the spatial structure of cities, and the most striking thing about this is the way that their changing spatial structure resembles the architecture of informational networks. Indeed, it is clear from his work that the changed (and still changing) structure of cities and their adjacent areas into *metropolitan regions* (Castells, 2010: location 641–787, 10131–10179) is itself a function of the 'space of flows' or the spatial mode introduced by communication technologies. Instead of the traditional city – with its identifiable urban centre, surrounded by mainly residential suburban areas – we are increasingly witnessing the emergence of metropolitan *regions* that surpass mere metropolitan *areas* because they usually consist of several such dense residential metropolitan areas interrupted by non-metropolitan areas such as open spaces and agricultural land. Moreover, they are multcentred – in response to the various types of functional importance of different metropolitan nuclei – and they vastly exceed traditional cities in population numbers. Among the examples provided by Castells are the metropolitan regions of New York/New Jersey, the San Francisco Bay Area, Shanghai and its surrounds, and the largest global metropolitan region that stretches from Hong Kong to Guangzhou – the South China metropolitan region with approximately 60 million inhabitants. To this, one can add the metropolitan region of Seoul in Korea, of Johannesburg and its environs in South Africa, and many other metropolitan regions in America, Europe and Asia.<sup>7</sup> In his discussion of the metropolitan region that is taking shape around Hong Kong, Guangdong, Macau and Guangzhou, Castells (2010: location 10295–10328) observes:

The southern China metropolis, still in the making but a sure reality, is a new spatial form ... It is rapidly becoming an interdependent unit, economically, functionally, and socially ... The internal linkages of the area and the indispensable connection of the whole system to the global economy via multiple communication links are the real backbone of this new spatial unit. Flows define the spatial form and processes ... Thus, in a fundamental sense, the future of humankind, and of each mega-city's country, is being played out in the evolution and management of these areas. Mega-cities are the nodal points, and the power centers of the new spatial form/process of the Information Age: the space of flows.

Why then are these metropolitan regions a function of the space of flows, even if they still allow the experience of the 'space of places'? Castells (2010: location 673) explains: 'The metropolitan region arises from two intertwined processes: extended decentralization from big cities to adjacent areas and interconnection of pre-existing towns whose territories become integrated by new communication capabilities.' The point is that, just as the advent of electronically mediated

---

<sup>7</sup> One should note the astonishing manner in which William Gibson anticipated this kind of megacity in the image of *The Sprawl*, in his pioneering science fiction novel of 1984, namely 'Neuromancer' (1995), and its sequels, 'Count Zero' and 'Mona Lisa Overdrive'.

digital communication – which made communicational simultaneity possible as a social practice (regardless of physical distance) – gave rise to decentralised communication networks, so, too, the development of metropolitan regions out of formerly ‘centralised’ cities by means of these revolutionary communication practices assumed the spatial shape of decentralised, sometimes loosely connected regions, like the Hong Kong region discussed above. These regions are therefore the manifestation of the network-character of this new type of society, and embody what Castells (2010: location 653) calls a:

... new form of spatiality ... conceptualized as the *space of flows*: the material support of simultaneous social practices communicated at a distance. This involves the production, transmission and processing of flows of information. It also relies on the development of localities as nodes of these communication networks, and the connectivity of activities located in these nodes by fast transportation networks operated by information flows.

One could object that urban spatial configurations with such a ‘network’ character are nothing new, and, that what Castells theorises to be an essentially novel phenomenon – one brought about by new communications technologies – is simply the result of these technologies having been ‘overlaid’ onto flows and structures that already existed. Such criticism could adduce the example of Johannesburg as a ‘node’ linked to a ‘network’ that stretched from the Cape to Cairo in the history of the colonial plundering of Africa’s resource wealth, thereby showing that what Castells claims to be an essentially new spatial form is in fact as old as the hills. Yet such a claim would overlook something peculiar to the urban manifestation of the network society, namely that it is curiously decentred – as explained above – with interlinked cities comprising nodes of different levels of functional importance in a network with no clear city centre or central city. By contrast, the imperialist character of the modern colonial era went hand in hand with a clearly defined city-as-centre of an imperial power – London for Great Britain, Paris for France, and so on – with the characteristics, moreover, of the traditional city centre and adjacent suburbs. To be sure, the ‘space of flows’ has always been there, subordinated to the ‘space of places’, not in the form of electronic systems of communication, but wherever roads or railways linked different cities – the Roman Empire being an example of a fairly well-developed road system in the ancient world, and, more recently, the railways system of imperialist-colonial economies in the 19th and the 20th centuries (Hardt & Negri, 2001:298). It is no accident that Hardt and Negri (2001:166, 298) compare what they call ‘empire’ – the new contemporary sovereign power, which they moreover (like Castells), characterise in terms of networks that are, in principle, able to expand limitlessly – with the ancient Roman Empire, which was very different, in this regard, from the territorially based, colonial imperialisms of the 19th century. It is worth quoting them here regarding the novelty of contemporary communication systems and their relation to ‘the network’ (2001:298):

*The novelty of the new information infrastructure is the fact that it is embedded within and completely immanent to the new production processes [emphasis in the original]. At the pinnacle of contemporary production, information and communication are the very commodities produced; the network itself is the site of both production and circulation.*

### 3. SPACE OF FLOWS AND TIME-SHARING PRACTICES

It would therefore appear that, while space still provides 'material support of simultaneity in social practice', both the metropolitan spatial character of this material support and the experience of space through (and in) the new, virtual communicational spaces represent fundamentally and qualitatively novel spatial experiences. In his theorisation of the novel, now dominant spatial mode – the 'space of flows' – and recognising its complexity, Castells (2010: location 10334–10345) approaches space as '*crystallized time*', thereby reminding one that, in social theory, 'space cannot be defined without reference to social practices'. From this perspective, '*space is the material support of time-sharing social practices*'. In traditional terms, this was conceived of as 'contiguity', but Castells argues that this has changed fundamentally. In his theorisation of the 'space of flows' it becomes clear why this applies not only, as one might think, to the virtual spaces (or 'cyberspace') of the Internet, but also to the spatial modes that are dominant in the material (sub)structure of mega-cities themselves. It moreover becomes clear why it makes sense to claim, as Castells does, that this new kind of mega-city can be understood as a *process*, rather than as a place in the traditional sense. If this seems counter-intuitive, consider that, as he shows at length in the book, contemporary society is articulated through 'flows' of various kinds – 'flows of capital, flows of information, flows of technology, flows of organizational interaction, flows of images, sounds, and symbols'. Moreover, '[F]lows are not just one element of the social organization: they are the expression of processes *dominating* our economic, political, and symbolic life' (Castells, 2010: location 10357). Hence, he provides the following definition of the novel, dominant spatial mode (2010: location 10357–10368):

*The space of flows is the material organization of time-sharing social practices that work through flows. By flows I understand purposeful, repetitive, programmable sequences of exchange and interaction between physically disjointed positions held by social actors in the economic, political, and symbolic structures of society. Dominant social practices are those which are embedded in dominant social structures. By dominant structures I understand those arrangements of organizations and institutions whose internal logic plays a strategic role in shaping social practices and social consciousness for society at large.*

Fortunately, given the sometimes confusing level of abstraction involved in these formulations, Castells (2010: location 10368–10487) proceeds to make the 'space of flows' – as material support of flow-oriented social practices – more concrete by specifying three constituent 'layers' of such material support: first, '*... a circuit of electronic exchanges*'; second, the '*nodes and hubs*' of the space of flows; and third, '*... the spatial organization of the dominant, managerial elites*'.

The *first* layer comprises not only broadcasting systems, telecommunications, micro-electronics-operated devices and computer processing, but also transportation at high speed, because this layer is dependent on information technologies. What distinguishes this from former material support systems, is that here – in a manner that uncannily mimics the post-structuralist re-interpretation (Derrida 1978; Lacan 1977) of Saussure's structuralist notion of language as a diacritical system of differences (signifiers that have meaning only in terms of their differences, inscribed in each signifier as a trace) – 'no place exists by itself, since the positions are defined by



the exchanges of flows in the network'. Small wonder that Castells (2010: location 10370) is able to add a crucial element to the theme of this article, in so far as it emphasises the precondition for being a potentially significant participant in today's 'processual' society: 'Thus, the network of communication is the fundamental spatial configuration: places do not disappear, but their logic and their meaning become absorbed in the network.'

The 'nodes and hubs' of the *second* layer are an indication that, while the structural logic of the space of flows is 'placeless', this particular space is not. The electronic network that underpins it functions as a link between specific places – more or less like a 'rhizome' in Deleuze and Guattari's (1987:3–25) botanical metaphor for contemporary society – with specific functions, such as exchange or communication 'hubs' or the 'nodes' at which strategically significant functions are located. Not all of these are of equal weight in the system – the 'key' hubs and nodes occupy hierarchically higher positions in the system than do others and are always subject to change, depending on the development of network activities. As an example of the nodal structure of the space of flows, Castells mentions the system of decision making that governs the global financial system. Advanced technology manufacturing is however an equally valid example. It is important to note that the level of fulfilment of a certain function in the network – rather than its location – determines the overall importance of a 'nodal' entity. The fact that Castells (2010: location 10402–10413) can in one breath refer to centres of advanced medical treatment and also the production and dissemination of narcotics (e.g. cocaine) as instances of the contingent evolution of hierarchically important nodes, confirms Jacques Derrida's claim (1994:83) that international criminal networks ('phantom states') have become inseparably entwined with the capitalist economic system.

The *third* material layer of the space of flows involves the spatial distribution of the social agents that dominate this space, namely the 'managerial elites'. If anyone was under the illusory illusion that the 'democracies' of today enshrine the principle of social and economic equality, Castells's description of the social hierarchies engendered by the processes comprising the space of flows would disabuse them of this misconception. Here – in the work of an 'impartial' social theorist, not of Marxist thinkers like Hardt and Negri or of a post-structuralist political philosopher such as Jacques Rancière – irrefutable evidence of the hierarchical structuring of global society is presented. His description of the directional functions of these elites leaves no doubt that contemporary society is 'asymmetrically organized around the dominant interests specific to each social structure', and that, while these interests may differ between interest groups – and hence involve different spatial logics – the dominant interest groups have a spatial logic of their own. Here Castells (2010: location 10434–10445) issues a crucial reminder, which I must quote at length:

But such domination is not purely structural. It is enacted, indeed conceived, decided, and implemented by social actors. Thus, the technocratic-financial-managerial elite that occupies the leading positions in our societies will also have specific spatial requirements regarding the material/spatial support of their interests and practices. The spatial manifestation of the informational elite constitutes another fundamental dimension of the space of flows. What is this spatial manifestation?

The fundamental form of domination in our society is based on the organizational capacity of the dominant elite that goes hand in hand with its capacity to disorganize those groups in society which, while constituting a numerical majority, see their interests partially (if ever) represented only within the framework of the fulfillment of the dominant interests. Articulation of the elites, segmentation and disorganization of the masses seem to be the twin mechanisms of social domination in our societies. Space plays a fundamental role in this mechanism. In short: elites are cosmopolitan, people are local. The space of power and wealth is projected throughout the world, while people's life and experience is rooted in places, in their culture, in their history. Thus, the more a social organization is based upon a-historical flows, superseding the logic of any specific place, the more the logic of global power escapes the socio-political control of historically specific local/national societies.

#### 4. **THE ARCHITECTURE OF THE SPACE OF FLOWS, AND THE SPACE OF PLACES**

As I shall presently show, this goes to the heart of what I want to argue regarding (interpersonal) communication in the network society. Castells goes on to indicate that this logic of domination appears in the space of flows in a twofold manner. In the first instance, the elites establish 'their own society' (secluded communities, exclusively priced real estate, spatially restricted, networked, subcultural, decision-making interactions such as those on the golf course, in exclusive restaurants or airport lounges). Secondly, they create a culturally distinctive 'lifestyle' intent on globally unifying and 'standardising' the symbolic spatial environment of elites (e.g. international hotels with similar room design and decoration).

This paves the way for Castells's interpretation of contemporary, 'postmodern' architecture as an architecture that has been redefined by the space of flows as the dominant spatial form of the network society – something that has transformed this kind of architecture into a particularly 'disconnected' kind, as compared with earlier forms of architecture in which a tacit connection was always visible between architecture and historically diverse societies (2010: location 10501–10512; see also Harries, 1985; 1997). 'Not any more', says Castells (2010: location 10512):

My hypothesis is that the coming of the space of flows is blurring the meaningful relationship between architecture and society. Because the spatial manifestation of the dominant interests takes place around the world, and across cultures, the uprooting of experience, history, and specific culture as the background of meaning is leading to the generalization of ahistorical, acultural architecture ... postmodern architecture declares the end of all systems of meaning. It creates a mixture of elements that searches formal harmony out of transhistorical, stylistic provocation. Irony becomes the preferred mode of expression. Yet, in fact what most postmodernism does is to express, in almost direct terms, the new dominant ideology: the end of history and the supersession of places in the space of flows ... postmodernism could be considered the architecture of the space of flows.

In Castells's view (2010: location 10489–10566, **The architecture of the end of history**; bold in original), postmodern architecture suspends all ties with specific social contexts in favour of an ahistorical mixing of architectural codes all over the world – a putative 'liberation from cultural

codes' that is in fact a flight from traditional, historically embedded societies. His discussion of certain architectural works that resist this postmodern architectural 'space of flows' uprootment – such as Bofill's new Barcelona airport, which strikes one as a kind of Heideggerian anxiety-inducing place, despite (or rather, because of) its sparse, 'nude' beauty – alludes to just one of the creative ways in which to resist the ultimately dehumanising effect of architecture exemplifying the space of flows, by confronting people with the contrast between the 'space of places' and the 'space of flows'. In a different, but equally effective manner, Moneo's new Madrid high-speed AVE train station for the high-speed train between Madrid and Seville (but incongruously, with no link to the European high-speed train network), with its recuperated (old) station building, refurbished with enclosed gardens full of birds and palm trees that exudes a reassuring aura of belonging in that place, thrusts into one's face the contrast between this very human place, and the space of flows, represented by the actual train-station platform, adjacent to the park. No one who boards this high-tech train after passing through such a humanised place could fail to notice the transition from a place-space to a space of flows – something alienating and dehumanising, despite it being the dominant space of the current era. In Castells's words: 'The broken mirror of a segment of the space of flows becomes exposed, and the use-value of the station recovered, in a simple, elegant design that does not say much but makes everything evident' (2010: location 10542).

The kind of space familiar to everyone and which still exists side-by-side with the space of flows is the 'space of places', referred to earlier. Despite the dominance of the 'space of flows', (most) people still live in places. This dominance does not leave the 'space of places' unaffected, but alters its dynamics and existential meaning, as illustrated in the example of Tokyo, which successfully resisted the colonisation tendency of the space of flows when the people of the city rejected the corporate elite-sponsored World City Fair in 1995 (Castells, 2010: location 10623). In his examination of a space that is 'place-based' (2010: location 10566–10596), Castells defines 'place' thus: '*A place is a locale whose form, function, and meaning are self-contained within the boundaries of physical contiguity.*' His discussion of the quartier of Belleville in Paris illustrates well how 'spaces of place' work so as to provide people with a sense of (multicultural) community and rootedness, in so far as the *quartier's* plural communities have – through interaction and a variety of spatial uses (such as 'active street life') – historically constructed it as a meaningful place that effectively resists intermittent threats such as those posed by the vanguard of the corporate elites, namely urban gentrification. Needless to stress, all over the world, there are many similar examples of place-spaces asserting themselves in the face of the onslaught of the spaces of flows. Others are less successful, as in the case of Irvine, California, where globalisation and concomitant localisation interact in complex ways, so that Irvine is indeed still experienced as a place, but this has increasingly been assimilated to home-space, with flows-space incessantly encroaching on other places. Castells (2010: location 10624–10635) articulates the consequences of the impact of the increasing domination of the space of flows as follows:

Experience, by being related to places, becomes abstracted from power, and meaning is increasingly separated from knowledge. There follows a structural schizophrenia between two spatial logics that threatens to break down communication channels in society. The dominant tendency is toward a horizon of networked, ahistorical space of flows, aiming at imposing its logic over scattered, segmented places, increasingly unrelated to each other,

less and less able to share cultural codes. Unless cultural, political, *and physical* bridges are deliberately built between these two forms of space, we may be heading toward a life in parallel universes whose times cannot meet because they are warped into different dimensions of a social hyperspace.

## 5. TIMELESS TIME

Even more dehumanising than the 'space of flows' is what Castells dubs the 'timeless time' it has induced, one that he contrasts with the 'clock time' of the industrial era, and with experiential time, or the time of natural rhythms and familiar connections between past, present and future (Castells, 2010: location 10812–10900) – the kind of human time analysed by, among others, Heidegger (1978:377). Heidegger does so in terms of the three 'ec-stases' of temporality: 'having-been' (past), the 'moment' (present) and the 'not-yet' (future). The latter, as 'futurity', instantiates the primary time-modality that determines the existence of humans as '*Dasein*': the way one lives now is determined by one's projection and anticipation of a future for oneself based on past and present actualities and potentialities, and is always framed by the certainty of one's mortality. Heidegger (1975) elaborates on this in the context of what he calls the 'fourfold' – earth, sky, mortals and divinities – that may be regarded as indispensable, orienting, axiological markers for any way of life to be considered truly human. This includes 'human time', to which may be added Shlain's (2003) claim that the anticipatory projection, which is fundamental to human time-awareness, was decisively shaped by early humans' – specifically women's – experience of their monthly menstrual cycle (something unique to humans among all mammals), which is linguistically connected to the cycles of the moon.

In contrast, the mode of time correlative to the space of flows is what Castells (2010: location 10812–11516) terms 'timeless time' – something that has always been inherent in capitalism as a regulating ideal, given the constant approximation of timelessness or the overcoming of time constraints, in the sense of minimising the time lapses between production, distribution, sales and consumption (see Harvey, 1989:141–172, and also Deleuze & Guattari, 1983:32–34, with the latter providing a richly metaphorical representation of production and consumption on the part of so-called 'desiring-machines'). Since the creation of a world market of virtual, if not actual, instantaneity, when the markets of all countries were connected through a global computer network in the 1980s, this sustained attempt to overcome the constraints of time (and space) has been intensified without interruption.<sup>8</sup> What Castells calls a new 'time regime' (2010: location 10812) is therefore connected to the new communication technologies that may be seen as constantly striving, like capitalism, towards the optimal minimisation of time lapses.

---

<sup>8</sup> Harvey (1989:180–181) discusses the necessary conditions of capitalist production – growth, exploitation of labour, and technological and organisational dynamism – which, I believe, explains what I argue here regarding what one could call the negation of time constraints. Although these conditions are all interconnected, it is especially technological/organisational progress that aims at overcoming time constraints through, among other means, advanced technology that speeds up production as compared with manual modes of production.

Contemporary societies, according to Castells (2010: location 10823–10900), are still largely under the domination of ‘clock time’, which was developed along different, yet related trajectories by industrial capitalism and by communism (and was subjected to penetrating cinematic critique by Charlie Chaplin in his 1936 film, *Modern Times*). This mode of time dominance, which has been fundamental to industrial capitalism (and moreover the object of several cultural revolts in the last century), has been analysed exhaustively, according to Castells, by theorists such as Thompson, Harvey, Lash and Urry, and also by Giddens (2010: location 10867), but is being challenged today, just as the primordial ‘space of places’ is being eroded by the ‘space of flows’ of postmodernity. Castells puts it as follows (2010: location 10867–10890):

This linear, irreversible, measurable, predictable time is being shattered in the network society, in a movement of extraordinary historical significance. But we are not just witnessing a relativization of time according to social contexts or alternatively the return to time reversibility as if reality could become entirely captured in cyclical myths [as in pre-modern societies; B.O.]. The transformation is more profound: it is the mixing of tenses to create a forever universe, not self-expanding but self-maintaining, not cyclical but random, not recursive but incursive: timeless time, using technology to escape the contexts of its existence, and to appropriate selectively any value each context could offer to the ever-present ... Compressing time to the limit is tantamount to make time sequence, and thus time, disappear ... Capital’s freedom from time and culture’s escape from the clock are decisively facilitated by new information technologies, and embedded in the structure of the network society.

It is an impossible task to reconstruct, in a mere article, Castells’s (2010: location 10812–11520) detailed analysis – across various domains – of the manifestation of this emergence of ‘timeless time’ in contemporary society – always with the *caveat* that it is the temporal modality that is tending towards domination, and that different time-rhythms (such as ‘clock-time’) prevail (and will continue to do so) in places scattered across the globe. Suffice it to say that Castells traces the emergence of ‘timelessness’ or in Harvey’s terms (1989:147, 240, 260–283), ‘time-space compression’ in, among other fields, capitalist transformations of financial investment and speculation, which depend upon the temporal acceleration of financial transactions to the *n*th degree for the optimisation of profits (frequently with devastating effects upon entire economies and the concrete lives of people; see in this regard also Žižek (2009:67–68), on capital as the ‘real’ of capitalism), and in the increasing turn towards the reduction and flexibilisation of work time, for various interrelated reasons (such as the increase in workforce numbers, including women’s entry into the labour market and the introduction of sophisticated technology), but always with one end in view, namely an increase in profitable production. He also uncovers, with fine hermeneutic sensitivity, the impact of the increasingly dominant time modality on traditional human experience of the cycle of life and death (with death being increasingly pushed as far as possible out of time and sight, through medical technology, combined with the mediated ‘sanitisation’ of life, keeping people ‘alive’ for as long as possible, but undermining the salutary existential meaning of the ‘deathbed’ and of mourning). ‘Human time’ is therefore subjected to the flat, controlled, ‘timeless time’ promoted by medical technology and a flourishing, but largely cosmetic health industry.

When death, which has always been synonymous with the bounded, cyclical nature of human time, is systematically 'denied', human time-consciousness (mainly in 'advanced' societies) is unavoidably and fundamentally affected.

The phenomenon of war is also placed under scrutiny, revealing that the switch from traditional warfare, which required (at least until World War II) the consent of societies for the mass participation and suffering of (mainly) their young men, to the 'instant wars' of the present, is intimately related to the technological revolution that ushered in the 'space of flows' and 'timeless time'. Instead of impacting on societies in their entirety, surgically conducted, technologically induced warfare results in minimal casualties to military personnel (at least on the part of technologically advanced nations), but does impact on society at large in the reinforcement of a new mode of temporality, because they do not have the long-lasting effects of previous wars, but are largely perceived as blips on the screens of information and entertainment. Concomitantly, of course, new forms of violence – such as so-called 'terrorist strikes' that feature prominently in the media – affect the collective psyche more than does the selectively reported state-sponsored military violence across the globe.

Castells (2010: location 11387–11400) provides a succinct summary of the areas in which he has traced the transformation of time: 'Split-second capital transactions, flex-time enterprises, variable life working time, the blurring of the life-cycle, the search for eternity through the denial of death, instant wars, and the culture of virtual time, are all fundamental phenomena, characteristic of the network society, which systematically mix tenses in their occurrence.'

The final phenomenon alluded to (above) by Castells, namely virtual time (2010: location 11320–11376), is crucial for present purposes regarding the growing hiatus between different time-regimes. He attributes to 'the culture of real virtuality', two ways of transforming time: timelessness and simultaneity, which manifest themselves as temporal immediacy in global-reach media transmissions, in computer-mediated, interactive communication and in the intermingling of times in the media, a veritable temporal collage – the time-counterpart of what Jameson (1985:118–123) describes as the spatial sensibility of postmodernity, namely 'pastiche' (think of television's capacity to bring together, on a depthless screen, places and times arbitrarily selected from history and geography). What Jameson metaphorically calls postmodernity's temporal sensibility, namely 'schizophrenia', or the collapse of past and future into an enduring present, also corresponds to Castells's characterisation of emergent 'timeless time'. Citing Leibniz's conception of time as the succession-order of 'things', Castells (2010: location 11387) therefore proposes:

... that *timeless time*, as I label the dominant temporality of our society, *occurs when the characteristics of a given context, namely, the informational paradigm and the network society, induce systemic perturbation in the sequential order of phenomena performed in that context*. This perturbation may take the form of compressing the occurrence of phenomena, aiming at instantaneity, or else by introducing random discontinuity in the sequence. Elimination of sequencing creates undifferentiated time, which is tantamount to eternity.

While one may take issue with Castells's use of the term *eternity* – which more properly applies to the conceptualisation of the divine sphere during the Middle Ages, as opposed to human time – it should be clear that he means the tendency inherent in the emergent temporal mode, to overcome, as far as possible, the constraints of life-world time. Moreover (2010: location 11411):

*Timeless time belongs to the space of flows, while time discipline, biological time, and socially determined sequencing characterize places around the world, materially structuring and destructuring our segmented societies. Space shapes time in our society, thus reversing an historical trend: flows induce timeless time, places are time-bounded.*

Importantly, Castells reminds us that social resistance to 'the logic of timelessness' – for the sake of regaining control over certain social interests – also occurs and that it manifests itself in, among other things, a concern for the relation between humanity and the natural environment. Here he refers to what Lash and Urry (quoted in Castells, 2010: location 11493) call 'glacial time' or the 'long-term and evolutionary' temporality that connects humans with the prehistoric past and an unpredictable planetary future. Castells continues (2010: location 11493–11504): '... the opposition between the management of glacial time and the search for timelessness anchors in contradictory positions in the social structure the environmentalist movement and the powers that be in our society ...'

## 6. CONCLUSION: IMPLICATIONS AND CRITICISM

In light of the preceding (relatively brief, given the length of the text in question) reconstruction of Castells's (2010) analysis of space and time in the network society – of which the structural dynamics are fundamentally informed by electronically mediated communications – I should like to highlight the disturbing implications of what he foregrounds in terms of the exigencies of communication. One implication is that it raises the spectre of a breakdown in communication or at the very least, a struggle, communicatively and strategically, between, on the one hand, those who seek to protect or recuperate the humanity-preserving space of places, together with experiential or 'human' time, and also life-supporting 'glacial time', and, on the other, the elites promoting and reinforcing the largely dehumanising encroachment of the 'space of flows' and the 'timeless time' at all levels of society. Following Lyotard (1988:9; see also Hardt & Negri, 2001:54; 2005:272–277; Olivier, 2007a), one could call this a *differend* in the true sense of the word, where the idioms or discursive structures and practices operating in the sphere of the 'space of flows' and its temporal counterpart, 'timeless time', are incompatible – that is, incommensurable – with the discursive practices predicated on the 'space of places' and on experiential time and rooted in the natural rhythms of life. Two or more people attempting to communicate with one another, with one side phrasing the 'message' in terms of the expectations of the space of flows and of timeless time (on the assumption that time and space can be indefinitely compressed for humans), and the other 'responding' at the level of the space of places and experiential time (as embodied in Heidegger's 'fourfold') – let alone attempting to factor in the claims of 'glacial time' (especially regarding the needs of future generations of living beings on earth) – are as unlikely to 'connect' as Rudyard Kipling's East and West, which 'twain shall never meet'.

Moreover, given the mounting evidence, judging by the widely reported, inconsequential results of the ongoing series of international Conference(s) of Parties (COPs), that the representatives of the space of flows (the social elites) are not taking the signs of drastic degradation of ecosystems seriously, anyone who trusts in the human ability to communicate with others – regardless of their 'degree' of otherness – is facing a dilemma. How is a *differend* to be overcome if the two sides are enmeshed in mutually exclusive discourses? Castells (2010: location 11514) seems to have this in mind as he concludes the chapter. He refers to

... the conflictive differentiation of time, understood as the impact of opposed social interests on the sequencing of phenomena. Such differentiation concerns, on the one hand, the contrasting logic between timelessness, structured by the space of flows, and multiple, subordinate temporalities, associated with the space of places. On the other hand, the contradictory dynamics of society opposes the search for human eternity, through the annihilation of time in life, to the realization of cosmological eternity, through the respect of glacial time. Between subdued temporalities and evolutionary nature the network society rises on the edge of forever.

Perhaps this is where the psychoanalytic notion of trauma (or Badiou's notion of the 'event') could play an important role as an indication of the grounds of possible change.<sup>9</sup> A collective trauma caused by an unpredictable natural event (manifesting a breakdown in ecological systems or some other consequence of climate change) could potentially lay the foundation for a dissolution of the *differend* emanating from the disjunction between the space of flows/timeless time, on the one hand, and the space of places/'human' time/'glacial time', on the other. After all, whether one belongs to the social elites or to the working classes, everyone is subject to a sustainable planetary ecosystem and biosphere, and a collective trauma or natural cataclysm would 'clear the deck', where people would have to start from scratch, as it were, communicating with one another for the sake of survival. One would hope that it will not come to that, however, and that somehow the *differend* can be overcome, unlikely though it may seem.<sup>10</sup>

Space prevents me from devoting the attention they deserve to texts that are critical of the kind of technologically mediated society painstakingly described by Castells. I will have to be content with restricting my attention to the work of two contemporary philosophers of technology, namely Gilbert Germain and Andrew Feenberg who highlight different aspects of the network society. Germain (2004) makes no bones about his informed conviction that the technology, which is constitutive

---

<sup>9</sup> For an elaboration on this theme, see Derrida (2003; 2004) and Olivier (2007b; 2008).

<sup>10</sup> See in this regard Thomas Princen's (2010) remarkably argued appeal to people across the world to 'tread softly' by learning, anew, to live ecologically and economically within their means, instead of 'overconsuming' (which is part and parcel of the 'space of flows'). If there were to be an incremental return to such a way of life, the *differend* could conceivably be dissolved. Paul Hawken, in *Blessed unrest* (2007) believes that we are already witnessing a vast, but 'under-the-radar' global social movement taking shape, one that is intent on getting beyond what is widely perceived to be a global crisis.



of the contemporary (network) society, has a detrimental effect on 'the human condition'. Not only, according to Germain, are computer technology and the Internet demonstrably in the process of exacerbating the alienation of humanity from the earth – something, he points out, that Hannah Arendt already noticed in the ontology that underpins contemporary physics – but so also is the kind of advanced technics (smartphones, 'smart cars', etc.) that increasingly integrates human existence and the technology of the 'smart' variety. He believes (Germain, 2004:159) that the very same '... technologies responsible for the shrinking of the globe are by definition also responsible for humanity's unprecedented release from the earthly constraints of space and time, constraints that traditionally have been central to our understanding of what it means to be human'. Needless to stress, this resonates with Castells's characterisation of how the dominant modalities of space and time in the network society, namely the 'space of flows' and 'timeless time', displace the customary 'space of places' and experiential, sequential time – what Germain calls 'the earthly constraints of space and time'. Germain (2004:172) considers human aspirations to technological control not merely to be fiddling with some 'accidental' properties of human existence; they are in the process of 'tampering' with the 'core' of humanity itself: nothing less than 'relinquishing our humanity' (2004:160) is at stake. This is happening through a sustained attempt to lessen human dependence on the earth, and he envisions this as happening along two axes (2004:162):

First, we are transcending the limits of the earth by constructing a space – a 'cyberspace' or 'virtual reality' – that corresponds to the real world but is not of it, and is therefore unconstrained by the limitations imposed by earthly reality. This immanent transcendence of geophysical space is effected primarily by so-called new, or digital, technologies, and the virtual and simulatory 'worlds' that issue from them. The technologies of alienation are counterpoised by technologies that aim not to transcend the given world as much as integrate further human beings with their environment ... both the given and created worlds ... for the purpose of enhancing the efficiency of our control over the given and created realms.

I should stress that Germain is clear about not questioning the need – as residents of the technocentric world of today – to make use of electronic technologies of communication; he readily grants that we have little choice but to participate in this to be able to function properly. The question that he poses is therefore not one of 'efficacy in cyberspace', but of 'its suitability to embodied beings such as ourselves'. In answering this question, Germain is emphatic that it (cyberspace, together with all to which it is related), is in the process of fundamentally 'diminishing' the constitutively human experience. It is clear, therefore, that he shares Castells's misgivings about the effects of the newly dominant modalities of space and time in the techno-oriented network society.

Feenberg (2004), in turn, casts a panoramic view over the history of literary, popular and political appropriations of technology from the end of the 19th to the early 21st centuries, from utopian to dystopian positions. The turning point regarding a vacillation between a (largely) dystopian and a more optimistic cultural stance towards technology was, in Feenberg's opinion, the advent of the Internet. On the one hand, although he displays a keen awareness of the social advantages of

the 'information highway', Feenberg (2004) is wary of the McLuhanesque expectation of a utopian world-village in which everyone will work from home, and engage in social life from behind their computer (or smartphone), with the concomitant interpersonal alienation so well documented by Sherry Turkle (2010) in her latest book. This amounts to a slightly more 'refined' version of humans being equated to machines. On the other hand, Feenberg is more interested in the political implications and possibilities of the Internet: 'the public' has today become so large and dispersed that it cannot, as in former times, gather on the village square or 'agora' for participative political deliberation. To him, therefore, the political potential of the internet lies in its capacity to contribute to the creation of a 'technical public sphere', the difficulties of such a process notwithstanding. Significantly, though the Internet cannot conclusively be 'vertically' controlled by those in power, it does nonetheless provide ample 'democratic' opportunity for resistance against strategic or 'oligopolistic' control – as Hardt and Negri also argue in *Empire* (2001:299). This suggests, according to Feenberg, a surpassing of both dystopianism and the post-humanist technophilia on the part of thinkers such as Donna Haraway (2004:104): 'But the dystopians did not anticipate that, once inside the machine, human beings would gain new powers they would use to change the system that dominates them. We can observe the faint beginnings of such a politics of technology today.'

The positions on technology of both Germain and Feenberg are compatible with Castells's findings in his investigation into the structure and dynamics of the 'network society'. Germain's position resonates with Castells's characterisation of the currently hegemonic space-and-time modalities and their effects. Feenberg's argument corresponds, somewhat obliquely, with Castells's allusion to the possibility of a kind of eco-political 'social resistance' to the impact on 'glacial time' of practices emanating from the 'space of flows' and 'timeless time' or the interests of natural ecologies. Reading Feenberg's text – which holds out the possibility of harnessing one of the very instruments responsible for the 'space of flows' so as to subvert the inimical aspect of its causality – against the backdrop of the texts of Germain and Castells thus gives one hope that all is not lost for 21st-century inhabitants of the 'network society'. The sense of despair that sometimes envelops one when reading Heidegger's critique (1977) of 'modern' technology (as distinct from the 'postmodern' information-technology at issue here), a critique that construes the said technology as an 'assault' on the earth, which turns both natural and human beings into a 'standing-reserve' or mere 'resources', therefore makes way for a renewed realisation that being 'human' means, among other things, that one has always already escaped technological determinism in multifarious ways. Heidegger (1977:18, 25, 26–35) himself alerts one to this where he hints at a semblance that is to be derived from an understanding of the essence of technology as 'enframing', which instantiates just *one* way in which 'being' manifests itself among many others, such as art or (as Feenberg reminds us) the irreducibly political. While these domains of human praxis remain open to people, the tendency on the part of the 'space of flows' to colonise 'local' spaces of place can never be totalised.

**\*The author gratefully acknowledges financial assistance given by the National Research Foundation of South Africa in respect of the research that underpins this article.**

**REFERENCES**

- Castells, M. (2010). *The rise of the network society*. (2nd ed.). Oxford: Wiley-Blackwell. (Kindle edition)
- Castells, M., Caraca, J. & Cardoso, G. (Eds). (2012). *Aftermath. The cultures of the economic crisis*. Oxford: Oxford University Press.
- Chaplin, C. (Dir.) (1936). *Modern times*. Criterion DVD Collection. Released 2010.
- Deleuze, G. & Guattari, F. (1983). *Anti-Oedipus. Capitalism and schizophrenia* (Vol. 1). Trans. Hurley, R., Seem, M. & Lane, H.R. Minneapolis: University of Minnesota Press.
- . (1987). *A thousand plateaus. Capitalism and schizophrenia* (Vol. 2). Trans. Massumi, B. Minneapolis: University of Minnesota Press.
- Derrida, J. (1978). Structure, sign and play in the discourse of the human sciences. In J. Derrida, *Writing and difference* (pp. 278–293). Trans. Bass, A. Chicago: The University of Chicago Press.
- . (1994). *Specters of Marx*. Trans. Kamuf, P. New York: Routledge.
- . (2003). Autoimmunity: Real and symbolic suicides – a dialogue with Jacques Derrida. In G. Borradori (Ed.), *Philosophy in a time of terror* (pp. 85–136). Chicago: The University of Chicago Press.
- . (2004). Terror, religion, and the new politics. In R. Kearney, *Debates in continental philosophy: conversations with contemporary thinkers* (pp. 3–14). New York: Fordham University Press.
- Feenberg, A. (2004). Looking backward, looking forward. In D. Tabachnick & T. Koivukoski (Eds), *Globalisation, technology and philosophy* (pp. 93–105). Albany: State University of New York Press).
- Germain, G. (2004). The human condition in the age of technology. In D. Tabachnick & T. Koivukoski (Eds), *Globalization, technology and philosophy* (pp. 159–174). Albany: State University of New York Press.
- Gibson, W. (1995). *Neuromancer*. London: Harper Collins.
- Hardt, M. & Negri, A. (2001). *Empire*. Cambridge, Mass.: Harvard University Press.
- . (2005). *Multitude. War and democracy in the age of Empire*. New York: Penguin Books.
- Harries, K. (1985). Modernity's bad conscience. *AA Files*, 10, 53–60.
- . (1997). *The ethical function of architecture*. Cambridge, Mass.: The MIT Press.
- Harvey, D. (1989). *The condition of postmodernity*. Oxford: Basil Blackwell.
- Hawken, P. (2007). *Blessed unrest. How the largest movement in the world came into being and why no one saw it coming*. New York: Viking.
- Heidegger, M. (1975). Building dwelling thinking. In M. Heidegger, *Poetry language thought* (pp. 145–161). Trans. A. Hofstadter. New York: Harper Colophon Books.
- . (1977). The question concerning technology. In M. Heidegger, *The question concerning technology and other essays* (pp. 3–35). Trans. Lovitt, W. New York: Harper Torchbooks.
- . (1978). *Being and time*. Trans. Macquarrie, J. & Robinson, E. Oxford: Basil Blackwell.
- Jameson, F. (1985). Postmodernism and consumer society. In H. Foster (Ed.), *The anti-aesthetic: Essays on postmodern culture* (pp. 115–123). Port Townsend, Washington: Bay Press.
- Lacan, J. (1977). The agency of the letter in the unconscious or reason since Freud. In J. Lacan, *Écrits: A selection* (pp. 146–178). Trans. Sheridan, A. New York: W.W. Norton.

- Lefebvre, H. (1991). *The production of space*. Trans. Nicholson-Smith, D. Oxford: Blackwell.
- Lyotard, J-F. (1988). *The differend: Phrases in dispute*. Trans. G. Van den Abbeele. Minneapolis: University of Minnesota Press.
- Olivier, B. (2007a). 'Communication' in the era of 'Empire' and 'multitude'. *Communicatio*, 33(1) 42–61. Reprinted in Olivier, B. (2009). *Philosophy and communication. Collected essays* (pp. 153–179). London and Frankfurt: Peter Lang Academic Publishers.
- . (2007b). The question of an appropriate philosophical response to 'global' terrorism: Derrida and Habermas. *Freiburger Zeitschrift für Philosophie und Theologie*, 54 (1/2), 146–167.
- . (2008). Trauma and literature: Derrida, 9/11 and Hart's *The reconstructionist*. *Journal of Literary Studies*, 24 (1), 32–58.
- Princen, T. (2010). *Treading softly. Paths to ecological order*. Cambridge, Mass./London: The MIT Press.
- Shlain, L. (1998). *The alphabet versus the goddess. The conflict between word and image*. New York: Penguin Arkana.
- . (2003). *Sex, time and power. How women's sexuality shaped human evolution*. New York: Viking.
- Thompson, J. (1990). *Ideology and modern culture. Critical social theory in the era of mass communication*. Stanford: Stanford University Press.
- Turkle, S. (2010). *Alone together: Why we expect more from technology and less from each other*. New York: Basic Books.
- Žižek, S. (2009). *Violence – six sideways reflections*. London: Profile Books.