



Castells versus Bell: A comparison of two grand theorists of the information age

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Abstract

Daniel Bell (1919–2011) and Manuel Castells (1942–) are the grand theorists of the information age. The article provides a detailed, up-to-date, comparative analysis of their writings. It begins with their methodologies, identifying numerous commonalities in their post-Marxian frameworks. The substance of their theories is then examined, where it is shown that both plausibly explain contemporary social reality in terms of the interplay of three forces: the information technology revolution, the restructuring of capitalism and the innovational role of culture. There are found to be major similarities in their accounts (the Kantian interpretation, social stratification) but also significant divergences (role of science, the fourth world, the normative content of culture). Suitably combined, Bell's and Castells's thought goes a long way towards delivering a persuasive sociological theory of the global information society. However, the article concludes by suggesting that extensive further work is needed to clarify the precise relationships between the three factors and their relative weightings in the equations required to explain recent social change.

Keywords

Bell, Castells, culture, grand theory, informatization, networks

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The juxtapositioning of the names of Daniel Bell (1919–2011) and Manuel Castells (1942–) is standard in overviews of research on the ‘information age’. However, detailed analytical comparisons are rare. To begin with, Castells himself does not provide such: his trilogy *The Information Age* informs us at the start that it ‘is not a book about books’ and that ‘it does not intend to discuss existing theories of post-industrialism or the information society’ (Castells, 2010a [1996], p. 25). As regards secondary literature, Mackay et al.’s *Social Science in Action: Investigating the Information Society* (2001) and Webster’s *Theories of the Information Society* (2014) remain the best guides, although some recent efforts will be noted below. The present article is thus an attempt to provide a fresh scholarly benchmark.

It might be asked why a fine-grained comparison of Bell and Castells is worth doing. The main reason is that the two thinkers arguably offer, but only in synthesis, the preeminent account of the nature of social reality. There are of course other major scholars who have produced grand theories of contemporary society, such as Giddens and Habermas, but these are not, *pace* Webster, information society theorists, in that the concept of information is not at the centre of their analyses. There are those who are sceptical (e.g. May, 2002), but I believe that it is because Bell and Castells use information as their master-key that they are able to open the door of the present age. Moreover, a comparative study is particularly needed now. Fuller (2004, p. 197) observed some 20 years ago that Bell had already become a ‘shadowy figure’, not just in sociology generally but even in ‘texts (such as Castells) specifically concerned with the “informatization” of society’. The present article will suggest that Bell’s in some ways ‘prophetic’ voice should still be heeded – sometimes as a corrective to Castells’s. A third reason is obvious. The ‘lockdowns’ prompted by the Covid-19 pandemic have given an unexpected, sudden boost to the whole social process of informatization, particularly as regards the substitution of online for offline forms of life and work. This makes a new appraisal of the founding figures very topical.

Castells and Bell are being cast here as grand theorists, but it should be made clear at the outset that both disown the label (Beilharz, 2006, p. 9; Castells, 2016, p. 3). Arguments internal to their writings will show that the term is appropriate. Here an external point is offered. Both are ‘public intellectuals’ who want (for convenience, Bell will sometimes be referred to in the present tense) to have an impact on society and policy – to be, in Castells’s terminology, ‘switchers’ (Castells, 2009, Ch. 1) between scholarly and non-scholarly circuits. They write bestsellers and engage with mass media in order to contribute to national and international conversations. Both researchers have also made earnest efforts to influence policymaking. Bell co-founded policy journal *The Public Interest*; chaired national commissions; was a mentor of Labour politician Tony Crosland (Bell, n.d., p. 20; Crosland, 1956, p. 196). Castells has also sat on commissions, advised political leaders around the world and now outdone Bell and most other public intellectuals by becoming a Podemos cabinet minister in the Spanish government. Such activities are a hallmark of the grand theorist.

While numerous similarities between Castells and Bell will become apparent, this article avoids the risky task of trying to prove how much the younger scholar is indebted to the older. Castells occasionally cites Bell (e.g. Castells, 1989, p. 3), but usually in very general terms; he emphasizes much more strongly the inspiration of his doctoral

supervisor Alain Touraine, another theorist of post-industrialism. Castells's theory sometimes looks very much like Bell's but they are both post-Marxists with similar research interests, so Castells's thinking could easily have travelled in the same direction independently. Nevertheless, for the record, I endorse the judgement of Stalder, the leading Castells scholar, that 'Bell's work plays an important role for Castells' and that 'Castells's own argument can be understood as an attempt to overcome what he sees as fundamental flaws in this approach while keeping it as a key reference point' (Stalder, 2006, p. 43).

The article begins with methodology. In order to properly compare their theories of the information age, it is important to first establish the nature of their sociological projects; and it is shown that their methodologies have much in common, notably a triadic, post-Marxian analysis of contemporary society. The article then investigates the content of their theories, focusing particularly on areas which have been relatively neglected in recent Castells commentary. It will be argued that both thinkers can be understood in terms of their accounts of three social forces, namely, information revolution, restructured capitalism and culture. The article maps out areas where Castells parallels or extends Bell, such as their Kantian understanding of change. It will be shown that Castells makes great progress in fleshing out and updating the theory of the information age whose foundations were laid by Bell. However, the article also identifies points where they diverge, notably over the question of culture. It will be suggested that Castells's devaluation of tradition, which sits alongside his admirable empathy in an unreconstructed *soixante-huitard* politics, is problematic. Bell's 'cultural conservatism' has been routinely denounced by commentators. However, I will propose that – extensively reconstructed – it is potentially a firmer basis for sustaining the global network society. The argument concludes with a proposal for the direction of future research.

Methodology

It is only because of their common ground that a discussion of the differences between Bell and Castells is meaningful, for otherwise they would be incommensurable. To begin with, both offer synoptic theories of contemporary society. As Bell would often say, 'I specialize in generalizations'. Waters (1996, p. 22), the leading Bell scholar, argues that this makes Bell a 'substantive, general theorist' halfway between the 'sterilities of grand theory' and empirical sociology. However, Waters's distinction between grand and general is too hard. While Bell and Castells do not operate at the level of theoretical abstraction of a Parsons or a Luhmann, both have produced social theories synthesizing a vast range of previously unrelated phenomena. They draw broad inferences from their analyses of the nature of particular 'advanced' nations, thereby throwing light on the developmental trajectory of the world as a whole. These bold attempts at comprehensiveness must be credited as grand theory. Indeed, treatises with grandiose titles like *The Coming of Post-Industrial Society* (Bell, 1999 [1973]) and *The Rise of the Network Society* (Castells, 2010a [1996]) can hardly be construed otherwise.

Their object is thus the same, namely, 'society', and for them 'society' is also ontologically similar. They are denoting a combination of two modes, being and becoming, actually existing society and emergent society. Castells stresses the former more than the

latter, while Bell does the reverse, displaying respectively social science and social-forecasting orientations. However, their data sets are almost identical, namely, official statistics. If the social form does not fully exist yet, then it must be to some extent a construct. Bell implicitly and Castells explicitly (2010a [1996], p. 507), therefore, present the new society as a Weberian ideal type, that is, in terms of ‘the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those onesidedly emphasized viewpoints into a unified analytical construct’ (Weber, 1997 [1904], p. 93). The accentuated point of view in question is the concept of informatization.

Moreover, the concrete referents of ‘society’ are similar, namely, the United States in the first instance, and then other Western countries and also Japan and other Asian ‘tigers’. Bell certainly concentrates much more on the United States than does Castells and suffered predictable accusations of ethnocentrism. However, he in fact often references other countries – including a whole monograph on England, ‘The Exhausted Isle?’ (Bell, n.d.) – and implies that ‘post-industrial society’ is supranational. Castells throughout his career has maintained an international perspective, and he explicitly deploys the concept of a global network society. However, it is clear in Castells’s work too that the developed world is the chief referent, with the United States as frontrunner. It is precisely because some ailing regions are effectively outside the ‘network society’ that informatization needs to be problematized.

Not only is their spatial referent essentially the same, the temporal one is too. There is an interesting methodological difference in the background here. Bell’s *Coming of Post-Industrial Society* is subtitled ‘A Venture in Social Forecasting’, while Castells abjures forecasting, even asserting that it is no business of a social scientist. Bell can indeed be characterized as a *chronographical* thinker, whereas Castells tends to think more *geographically*, and, as in his focus on networks, *geometrically*. In any case, Bell’s is the more orthodox perspective: given that the social sciences aim to identify trends in human behaviour, if not laws, they cannot but underwrite a degree of forecasting. However, this difference does not matter for present purposes. Bell was primarily engaged in medium-term forecasting, claiming that his predictions about post-industrialism, which he started publicizing in the 1960s, would have materialized within ‘thirty to fifty years’ (Bell, 1999 [1973], p. cii). Castells is writing about his own present, 40 or 50 years since Bell spoke. Hence the denotation is identical: it is society *right now*.

Both, therefore, like so many of their classical nineteenth-century predecessors, are periodists. They both assume a trajectory of social and economic development. Pre-industrial gives way to industrial which in turn gives way to post-industrial. The schema is amply covered in the secondary literature. However, it is not often enough registered in this connection that Bell and Castells avoid the cardinal error of making a totalizing claim about social change. It is not, they both see, a simple question of before and after; instead informatization, while transforming the economy in essential ways, coexists with increasingly marginalized elements of the old industrial structure, and indeed with pre-industrial elements such as farming and fishing. ‘Post-industrial society’, as Bell puts it (1999 [1973], p. xciv), ‘does not *displace* the industrial society . . . Like palimpsests, the new developments overlie the previous layers, erasing some features and thickening the

texture of society as a whole'. Castells says much the same, recognizing that at any point in time a society will be a complex amalgamation of waxing and waning elements.

Another similitude is their mixing of positive and normative modes. For some this is unscientific. Summers (2011, p. 83), for example, wrote of Bell in the year of his death: 'a look past his heroic style, though, catches him blurring the normative and descriptive modes of analysis by sleights-of-hand that, in sociology as well as in politics, are typical of those who claim to address the present from beyond'. However, grand theory has always done this and arguably must do it. The kind of sociology in which both Bell and Castells are invested cannot but involve a vision of a 'beyond', of a new society – a rhetorical tradition going back at least as far as Saint-Simon. That is to say, social theory naturally overlaps with social and political philosophy. There are, therefore, in their writings, interwoven with a prevalent objectivity, strands of optimism and pessimism, of utopianism and dystopianism, although not always about the same matters. With Bell, in addition, there are explicit bodies of sustained argumentation in political philosophy, such as the elaboration of a post-Rawlsian theory of justice in the coda of *The Coming of Post-Industrial Society* (Bell, 1999 [1973], pp. 371–489) and the doctrine of 'the public household' at the end of *The Cultural Contradictions of Capitalism* (Bell, 1996 [1976], pp. 220–282).

Crucially, Bell and Castells are 'post-Marxists'. At 13, Bell joined a socialist league; he later described Marxism as his 'first love' (Bell, 1981). He renounced it but its stamp was left on him: 'I think *against* Marx, and *with* Weber' became his mantra. Castells, also a youth activist, was in the first phase of his career a doctrinaire Marxist, authoring orthodox works such as *The Urban Question: A Marxist Approach* (Castells, 1977). (Bell wrote no Marxian works: his early book *Marxian Socialism in the United States* (1967 [1952]) is a critique.) Nevertheless, Marxism remained for Castells (1983, p. 296) too 'our intellectual matrix'. Both converted to social democracy, in Castells's case with an irrepressible anarchist streak (e.g. Castells, 2021).

This is important methodologically. Karl Marx's (1954 [1887], pp. 457, 474–475) fundamental distinction between productive forces (technology) and social relations of production shapes both Castells's and Bell's analyses. For Marx, these were fused in the system of industrial capitalism, although the productive forces were supposedly destined to break capitalism apart. Bell decisively 'uncouples' technology ('*techne*') and mode of production, arguing that both industrialization and more importantly post-industrialism are compatible with either capitalism or collectivism. The mature Castells (2000, p. 7) follows his elders on this vital matter, asserting in a self-reflective sociological paper: 'I would like to use for conceptualizing technology as a layer of the social structure, the Tourainian concept of "mode of development" (also consistent with Bell's analytical framework)'.

Finally, and accordingly, both thinkers also parse 'society' in the same lucid way, splitting it analytically into the three domains of economy, polity and culture. Tripartism, the cornerstone of Bell's sociology (Waters, 1996, Ch. 2), is based on a repudiation of the Marxian postulate of material economic base determining the political and cultural superstructures. For Bell, the three 'realms' are equally real, and are also 'autonomous', that is, independent of one another. Castells too sees society as a composite of 'Economy, Society [i.e., Polity] and Culture', as the subtitle of *The Information Age* spells out,

rather than as monolithic. For Castells as well, the relationships between these domains are not strictly determined in any direction. 'I do not', as he vividly puts it, 'share a traditional view of society as made up of superimposed levels, with technology and economy in the basement, power on the mezzanine, and culture in the penthouse' (Castells, 2010a [1996], p. 27). On the contrary, like Bell, he finds glaring 'contradictions' between the realms, and such tensions comprise the major problematics in both writers' accounts.

The information technology revolution

Both Bell and Castells postulate the advent of an historic new stage of the productive forces, an 'information technology revolution', as significant for us as the industrial revolution was for the Victorians. This is a highly significant claim. It is also brave, because adopting the language of revolution incurs the risk of charges of technological determinism. However, neither is guilty of technological determinism, at least in the 'hard' sense that has technology dictating the direction of social change. They both recognize that economic and cultural forces interact with new technology in complex ways, shaping it as well as being shaped by it. Yet both correctly accord information and telecommunications technologies a major instrumental role in the restructuring of society, as will now be seen.

Although in his classic work *The Coming of Post-Industrial Society*, Bell rejected the descriptor 'information society', he later, as the microelectronics revolution gathered pace, came round to it. 'In the coming century', Bell (1980, p. 500) writes in 'The Social Framework of the Information Society',

the emergence of a new social framework based on telecommunications may be decisive for the way in which economic and social exchanges are conducted, the way knowledge is created and retrieved, and the character of the occupations and work in which men engage.

'This revolution', he proceeds, 'in the organizing and processing of information and knowledge, in which the computer plays a central role, has as its context the development of what I have called the postindustrial society' (Bell, 1980, p. 501). Adopting the term 'communications', Bell here positions computers and telecommunications in combination at the centre of his social theory. His discussion touches upon a huge range of phenomena, some happening, some incipient, but in essence the account tells of technologically-mediated transformations in the spatial and temporal modalities of human experience (see also Bell, 1992). In that sense, it can be described as Kantian.

For example, most people have been profoundly affected by a palpable increase in sensory intensity, as a result of the increasing quantity of information and the acceleration of its transmission across space, in such forms as rolling news and continuous notifications. Kumar (1991) has pointed out that many of the innovations supposedly definitive of the new epoch were already features of the industrial revolution. However, audio-visual telecommunication and now, especially, computerization have for Bell finally effected a *qualitative* change in the human sensorium. Any such thesis needs to grapple with new versions of the ancient Heap Paradox: at what point does a plurality

of x become an x -heap? However, Bell's is an acceptable sociological move, given that the *quantitative* changes imputed to industrialization, such as the rural population's migration to cities and factories, are accepted as having effected a *qualitative* change in social structure.

The impact of the information revolution translates also to social institutions. 'The fundamental sociological difficulty today, if one seeks to build theory', Bell wrote elsewhere (1995, p. 19), 'is the break-up of the institutional structures of society – in the economy and the polity – because of technology and telecommunications'. For example, Bell is responsible for the now-familiar adage about the nation state being 'too small for the big problems and too big for the small problems'. The problems of the future would thus be problems of *scale*. But he also recognized the potential for scaled solutions, in this case for a form of world governance. 'In a fundamental sense', he wrote in one of his most optimistic essays (Bell, 1977a, p. 28), 'the space-time framework of the world *oikoumene* is now almost set'. Generally speaking, Bell is sagacious in identifying new modalities and in posing resultant policy questions, but he rarely succeeds in following through with details. In fact, he is dismissive of the very idea that it is possible to see the effects of communications in the way that a 'tracer' introduced into the blood system will allow a medical researcher to track the exact passage of a drug (Bell, 1992, p. 3). However, it is difficult to see why this should *a priori* be impossible for sociology, and Castells's work to some extent demonstrates that it is not.

While Bell occasionally uses the word 'revolution' in conjunction with 'information', 'The Information Technology Revolution' is the proud title of the opening chapter of Castells's *The Information Age* and constitutes the declared 'entry-point' into his social theory. Castells's approach to understanding the impact of the information revolution can also be interpreted as basically Kantian. However, he goes considerably further than Bell, abstracting his observations into theories of the 'space of flows' and of 'timeless time', both contributions much-discussed elsewhere (see especially Mackay et al., 2001; Stalder, 2006; Webster, 2014). For example, where Bell (1989, pp. 171–172) merely speculates briefly on the potential consequences of communications for the location of cities, Castells (1989) supplies a fully-fledged, empirically-grounded theory of the 'informational city'. Bell like a prophet walks to the edge of the promised land, so to speak, but Castells proceeds into it and produces the map.

Castells's most important discovery is of course networks. Bell's paper 'Teletext and Technology: New Networks of Knowledge and Information in Post-industrial Society' (1977a) had introduced but did not elucidate electronic networks. Castells, on the other hand, powerfully theorizes the network society, explicating networks not just of knowledge and information but of companies, governments, even criminals; and he did so even before the rise of Facebook and other 'social networks'. Perhaps he overplays the network theme, making it a procrustean bed, but at least he gives us a morphology. 'This new morphology', Stalder states (2006, p. 200), 'provides the signature of the new era, hence the network society'.

As well as a morphology, Castells offers an historical geography of the information age, a creation story. He has investigated 'technopoles' all over the world and indeed coined the term (Castells & Hall, 1994), but locates the revolution's origins especially in California's 'Silicon Valley' in the 1970s (Castells, 2010a [1996], pp. 62–65, 421–422).

The claim is plausible: revolutions must be said to start somewhere, and one could not take seriously a sociology of the information age which did not make this technopole central (see, in particular, Turner, 2006). ‘People started getting together’, a key actor recalls, ‘and exploring the idea that there was going to be a revolution in technology which was going to change society so drastically’ (Steve Wozniak, co-founder of Apple, quoted in Lyon, 1988, p. 1). According to Castells, it was an ‘accidental coincidence’ that nearby San Francisco’s experimental counterculture generated an atmosphere in which seminal technical breakthroughs could happen, birthing the personal computer (Himanen et al., 2001, p. 174). What had been for him in his Marxist phase (Castells, 2004, p. 47) a ‘petit-bourgeois revolt’ and for Bell (1996 [1976], p. xxvi) a mere ‘children’s crusade’, is now rehabilitated as a creative social force of historic proportions. It can indeed be safely added to Émile Durkheim’s list of ‘effervescent social milieux’ (1965 [1915], p. 313), extraordinary moments of interpersonal intensity that launch cataclysmic movements, like the all-night sitting of the French National Assembly in August 1789 (Durkheim’s example) or the Azuza Street Pentecostal ‘revival’ of 1906 (my example).

Castells’s theory has been so well-received precisely because it does visibly ‘trace’ the phenomenal global circulation of information technology. As to exactly how technology and society relate, Castells (2010a [1996], p. 52) is non-committal, asserting that ‘the interaction of technology and society depends on stochastic [random] relationships between an excessive number of quasi-independent variables’. He probably is more technologically deterministic than other sociologists, but that is because technology is more determining than they are willing to admit. Informatization is indeed our ‘entry-point’, our conceptual prism. Such a claim has been thoroughly vindicated by the ongoing societal response to the Covid-19 pandemic. Across the world, and with astonishing rapidity, people adjusted to online, virtual forms of life. Working from home, ‘zoom’ meetings, remote shopping, and virtual learning, conferencing, debating, partying and even mourning, became almost overnight, *per necessitatem*, the ‘new normal’. And what could be a more dramatic demonstration of the information revolution than Ukraine’s President Zelensky now pleading with the US Senate and the parliaments of Europe from a secret, smart bunker?

As quoted above, for Bell the information revolution has as its context the development of what he called post-industrial society. Central to his original formulation is what Bell identified as the increasing role of science, or ‘theoretical knowledge’. He recognized that all societies revolve around knowledge of some kind, but argued that it is only in post-industrial society that theoretical knowledge is axial. Even in his later work, where the information revolution was embraced and his descriptor changed from ‘post-industrial society’ to ‘information society’, he did not abandon his view that knowledge was ultimately more important. ‘Behind’ information technology, Bell argues (1992, p. 18), there is ‘intellectual technology’, that is, calculus, modelling, statistical methods and other problem-solving techniques; these are the post-industrial equivalent of the physical technology on which the industrial revolution was based. And further ‘behind’ is knowledge, which comprises human judgements, ‘interpretation in context, exegesis, relatedness, and conceptualisation...the effort to establish relevant relationships or connections between facts, data, and other information in some coherent form’ (Bell,

1985, p. 17). Bell proves his point with the ancient Babylonians, who kept astronomical records for a thousand years, without ever succeeding in organizing all that information into a theory of earthly or solar orbital movements.

Castells likewise assumes a background of post-industrialism. ‘By industrialism’, he explains (Castells, 2010a [1996], pp. 8–9),

I mean a mode of development in which the main sources of productivity are the quantitative increase of factors of production (labor, capital, and natural resources), together with the use of new sources of energy. By informationalism, I mean a mode of development in which the main source of productivity is the qualitative capacity to optimize the combination and use of factors of production on the basis of knowledge and information.

However, while his insight into the information technology revolution is superior, his theory of knowledge is inferior to Bell’s. His claim (Castells, 1996, p. 13) that ‘Bell’s emphasis on “new intellectual technology” (such as simulation models) has been much less relevant than he forecasted’, is disputable. Indeed, Bell himself (1999 [1973], pp. xxiii–xxiv), while acknowledging *The Information Age* as ‘the most ambitious attempt to redraw the map of society’, singles out for criticism Castells’s conflation of knowledge and information.

What this entails, as Stehr (2004) notes, is that Castells is unable to weight knowledge sufficiently as a factor in the complex equations required to explain social change. It is not that the information revolution is a flash-in-the-pan; it is real enough, and will continue to have permanent effects on the space-time social framework. However, in the long run, the deeper process of scientification, another dimension of Weberian rationalization, may prove even more ‘revolutionary’, as it sometimes has in the past, as with, say, the Copernican revolution. This is not, however, inevitable, nor if it proceeds will it necessarily obliterate other, perhaps countervailing, trends. It is quite within the realms of possibility that the world will remain largely stuck at the information society stage – which coronavirus has finally forced us into – with knowledge society (or theorized-information society) always ‘coming’ but never actually arriving.

The restructuring of capitalism

Having accurately identified communications as a new stage of productive forces, both thinkers also tell a comparable story about the restructuring of the social relations of production, that is to say, about the economic system. It is to their credit that they are economically literate enough to assume such a task. Castells is formally educated in the discipline, while Bell appears to have been self-taught; both published books about macroeconomics (e.g. Bell & Kristol, 1981; Castells, 1980). This is not to suggest that either has made a significant contribution to economics proper. Specifically, neither has produced an analytically rigorous information theory of economic value, despite Bell’s (1999 [1973], p. xcii) having identified the need for one. There is nothing in their writings comparable to the labour theory of value, and in that respect their post-Marxian project is incomplete. (Professional economists such as Joseph Stiglitz have worked out information theories of value, but these are not systematically integrated with

the theory of the information society.) It is only to suggest, rather, that, as interdisciplinary scholars in the tradition of grand theory, both Bell and Castells are able to throw much light on the post-industrial economy and particularly on informational capitalism.

It is, as intimated above, fundamental to the theories of Bell and Castells that the information revolution is not necessarily linked to the capitalist mode of production. However, while rejecting economic determinism and foolish talk of ‘post-capitalism’, both argue that in much of the world capitalism has in fact been thus linked, and that this combination has been at work in the generation of the information society. Bell’s original post-industrialism involved a plausible account of the restructuring of capitalism. The new social structure was characterized by the ‘subordination of the corporation’ to the polity (Bell, 1999 [1973], Ch. 4). In other words, the autonomy of economic actors was ending. A new ‘sociologizing mode’ was becoming predominant, involving a tendency to assess value in human or social terms. This new mode, which he detected in American capitalism as well as European social democracy, was gradually counteracting the ‘economizing mode’, the microeconomic mindset geared exclusively to efficiency and profit. Bell’s identification of a sociologizing mode was not a prediction of the imminent arrival of socialism, but it did signify a mildly optimistic interpretation of ongoing socioeconomic change. It was an accurate reading of the Keynesian welfare capitalism of the 1970s.

Like all grand theorists Bell was preoccupied with the great question, What is the outcome for social power and stratification? For Marx, the emergence of industrial capitalism had been marked by a fateful division between ‘capital and labour’, that is, between the new social classes of factory-owners and proletarians. This conflict in his scheme replaced feudal class-war between landowners and landless peasants. Post-industrial capitalism for Bell is similarly characterized by an emergent class setup. Tooled with a wealth of statistical data, he mapped the shrinking of ‘blue collar’ work alongside the expansion of ‘white collar’ managerial, technical and professional workers. Underlying this seminal development was the rise of achievement over ascription as the source of social position and power. Education and knowledge – forms of information – were now the crucial resources and the ‘axis around which new technology, economic growth and the stratification of society will be organized’ (Bell, 1999 [1973], p. 112). Bell went so far as to state that scientists would constitute the vanguard of a new social order. ‘If’, as he put it, ‘the dominant figures of the past hundred years have been the entrepreneur, the businessman, and the industrial executive, the “new men” [*sic*] are the scientists, the mathematicians, the economists, and the engineers of the new intellectual technology’ (Bell, 1999 [1973], p. 344). ‘The entire complex of prestige and status’, he enthused (Bell, 1999 [1973], p. 345), ‘will be rooted in the intellectual and scientific communities’.

This optimistic, even utopian, scenario on first appearance encountered a large measure of resistance, and it has continued to do so (e.g. Ampuja & Koivisto, 2014; Ferkiss, 1979; Garnham, 2000). This is not the place to revisit that dispute (see especially Lyon, 1988; Webster, 2014). However, the record must now be updated. Governmental handling of Covid-19 has given an unprecedented boost to the societal primacy of knowledge. Science in the current crisis has suddenly become highly authoritative and prestigious. For the duration, chief scientific officers, with their ‘intellectual technology’

of models and forecasts, have stood next to presidents and prime ministers. This has occurred across the globe but was most visible in Sweden, where state epidemiologist Dr Anders Tegnell has literally dictated policy, winning national applause for his measured, evidence-led approach to lockdown. What happened there, and to a lesser extent elsewhere, has been a manifestation of scientific-political power: not just politicians ‘following the science’, but experts actually ‘in the driving-seat’, Tegnell as Bell’s ‘new man’. The world has been vouchsafed a glimpse of a potential future society, showing us what a knowledge-driven polity – namely, *iatocracy* [medical rule] – could look like.

The informational mode of development for Castells too is yoked – again, contingently, not necessarily – to capitalism. In his account, the information revolution has been aggressively exploited by corporations, yielding an ‘informational capitalism’ with near-global dominion. ‘The informational/global economy is capitalist’, as he bluntly puts it (Castells, 2010c [1998], p. 379), ‘in fact, more so than any other economy in history’. Castells has provided an unsurpassed analysis of informational capitalism’s dynamics, particularly its geographical aspects, in both *The Informational City* (Castells, 1989) and *The Information Age* (Castells, 2010a [1996], 2010b [1997], 2010c [1998]). These include its globality, its polarization, its organizational geometry and the changing role of cities, metropolises and regions. For Castells, the new form of capitalism is a particularly virulent strain, dominated by large multinational corporations at the expense of trade-union and other countervailing social powers. It is a very different picture from Bell’s but of course both are correct for their contexts. Bell was writing about the capitalism of his day, and so is Castells. The sociologizing mode was strong in the 1960s and 1970s; the economizing mode has been in the ascendancy ever since. Silicon Valley is again instructive: what is found there alongside the impressive innovations is a capitalism with elements of a brazenly predatory, even piratical (‘move fast and break things’) nature. But, *pace* Ampuja and Koivisto (2014) and Fuchs (2012), Castells is explaining neo-liberal information capitalism, not endorsing it.

Again, present-day developments only vindicate the grand theory of the information age. Capitalism in the last decade has become even more informatized: faster, smarter, more flexible, more digitized (with cryptocurrencies beginning to pose an existential threat to the entire financial order), more artificial (in the exact sense of being increasingly driven by artificial intelligence), more spaceless, more timeless and ever more globalized. Inevitably there is therefore today even more evidence of ‘extremes of deprivation and debt, and in consequence forms of exclusion, alongside excessive wealth’ (Smart, 2000, p. 54). This is of course the dark side of ‘the spirit of networks’, to use Fisher’s (2010, pp. 242–245) excellent phrase for the energizing logic of contemporary digital capitalism.

Castells draws inferences about stratification that are broadly similar to Bell’s. On this, though, he is following not necessarily Bell but probably mainly his mentor Touraine (1974 [1969], p. 51), who had announced at around the same time as Bell: ‘if property was the criterion of membership in the former dominant classes, the new dominant class is defined by knowledge and a certain level of education’. What Castells supplies is a contemporary delineation of this inequality. The new class of highly-educated, mobile professionals, he argues, gains from the rise of the network society. They are insiders, occupying advantageous nodes in the network, extensively connected

while never straying far from the important hubs. They are actants, 'self-programmable labour'. While cosmopolitan, they will typically still be based in the 'informational cities' which manage the worldwide networks of capital, power and information. On the other side is what Castells calls 'generic labour', a precariat of low-skilled automatons who carry out the programmes with little reward. They too are chiefly urban-based, resulting in a new form of the 'dual city' (Castells, 1989, pp. 224–228). The global network society is thus a stratified neo-civilization, a dual city writ large.

An additional element in Castells's theory (2010c [1998], Ch. 2) is his concept of the 'fourth world'. It refers to groups subsisting outside the network galaxy, hidden away (though some of them can be seen on the high street every day) in 'the black holes of informational capitalism' (Castells, 2010c [1998], p. 166). This is another contribution to knowledge. Other sociologists have researched marginalized groups extensively, as, for example, does Wacquant in his work (2008) on 'urban outcasts'. However, Castells, by integrating the marginalized into an overarching theory of the network society, explicating especially the socio-temporal and socio-spatial dimensions of post-industrial affliction, expands our understanding of the structure of a grave social problem. There is nothing comparable in Bell's theory. If anything, his references to the marginalized, where they occur (allusions to 'the blacks' now sound particularly offensive), are unsympathetic, denting his claim to be a man of the left. It is the perspective of capitalism's worst-off group, the view from the 'grassroots', that Castells always seems to achieve and Bell always to miss – despite Castells having been born into the 'bourgeoisie' and Bell into the 'proletariat'. This is no doubt part of the reason why Bell was accused of being a neo-conservative, although recent scholarship refutes the allegation (Katsanevas, 2020).

In spite of the prevalence of informational capitalism with its lower strata of generic labour and fourth worldlings, Castells, like Bell, remains an optimist. There is a strong impression throughout his post-*Urban Question* writings that he regards information technology as inherently conducive to social progress. Unlike Bell, though, his hopes do not lie in a Fabian-technocratic elite. To the contrary. 'In the back alleys', Castells states (2010a [1996], p. 362), 'and the grassrooted networks, I have sensed the embryos of a new society'. More specifically, he lays great store by, and devotes the second volume of his trilogy to, new social movements, especially networks of feminists and environmentalists (Castells, 2010b [1997]). However, Bell, in one of his customary 'afterwords', for *Cultural Contradictions of Capitalism*, impugns this sociological turn. 'Some sociologists, especially in Europe', he complains (Bell, 1996 [1976], p. 333), without actually naming Touraine or Castells, 'have seen the rise of "new social movements" (such as the green movement) and new postmodern issues, such as the environment and nature, as the basis of postindustrial politics'. 'But these, I would say', Bell continues,

overdraw the cultural dimension of politics. In Western societies, culture *and* class remain the salient axes because issues of income inequality and the defense of the welfare state – the main achievements of postwar social democracy – remain, but so do issues of culture.

He is surely right, but the great irony here is of course that the de-emphasizing of class was precisely what irked the critics of Bell's own post-industrialism.

The question of culture

The greatest difference between Castells and Bell, one which justifies the styling of the two grand theorists as adversaries, despite their extensive common ground, is in fact on the question of culture. 'By culture', Bell explains (1996 [1976], p. 12), 'I mean less than an anthropologist's definition of culture as the artifacts and patterned ways of life of a group, and more than the genteel notions of, say, Matthew Arnold'. In practice, as Waters observes (2006, p. 34), he more or less reduces culture to religion and art, an approach which is 'much narrower than the conventional sociological or anthropological definitions', missing out many areas of the lifeworld. Nevertheless, there may still be something to be said, anthropologically and sociologically, for Bell's position, and in particular for his understanding of religion as the cornerstone of culture.

'From the end of the nineteenth century to the middle of the twentieth century, almost every sociological thinker', Bell noted in his Hobhouse Memorial Lecture (1977b, pp. 421–422), 'expected religion to disappear by the onset of the twenty-first century'. They were mistaken, and they were mistaken, according to Bell (1977b, p. 442), because 'it [religion] is a constitutive aspect of human experience'. He denies that he holds a Durkheimian functionalist position (Bell, 1996 [1976], p. xxviii), although it looks very much like such (see O'Neill, 1988). At any rate, it is not a statement of personal faith, since he was not a believer himself. Moreover, not only will religion not die out in the future, Bell's lecture looked forward to a massive revival. This was an exceptional professional view for the 1970s, but like so many of his predictions it has of course come true.

Bell not only defends religion, he was an outspoken critic of modernism, under which he later included postmodernism. It is, Bell thought, morally bankrupt. Religion and modernism are thus inversely related. 'The real problem of *modernity*', he averred in *The Cultural Contradictions of Capitalism* (Bell, 1996 [1976], p. 28), 'is the problem of belief. To use an unfashionable term, it is a spiritual crisis, since the new anchorages have proved illusory and the old ones have become submerged'. 'If', he continued, 'the sacred is destroyed, then we are left with the shambles of appetite and self-interest and the destruction of the moral circle which engirds mankind'. It was of course this 'cultural conservatism' that led to the academic shunning of Bell, noticed even by his more discerning students (Lilla, 2005, pp. 79–80). Perhaps though, to recall a phrase Aristotle used when he broke with his Platonist teachers, Bell would have said that he preferred truth to popularity. In any case it should be noted that this surprising support of the 'bourgeois-Christian value system' comes not from a neo-conservative, or from a fundamentalist, but from a 'highly independent-minded left-liberal' (Nieli, 1993, p. 207), and a Jewish one too.

Castells's definition of culture, which extends to all relations of human experience, would be much more acceptable to Waters. 'The consolidation of shared meaning', Castells writes (2000, p. 8), 'through crystallization of practices in spatio-temporal configurations creates cultures, that is systems of values and beliefs informing codes of behaviour'. Art and religion are mere subsets of culture in this comprehensive sense. However, it could be said that Castells also tends in practice to his own kind of reductionism. 'Experience', he asserts (Castells, 2000, p. 8),

is structured around sexual/gender relationships, historically organized around the family, and characterized hitherto by the domination of men over women and children. Family relationships and sexuality are the foundations of personality systems, understanding by personality the individuation of social relationships.

Castells's antagonism to the typical configurations thereof is revealed in phrases such as 'learning to breathe . . . outside the closed doors of repressed family life' (1983, p. 351).

I will not go into Castells's original theory of the culture of real virtuality, which has been widely acclaimed. But this view of ordinary culture is problematic. In *The Power of Identity* Castells (2000b [1997]) documents the revival of religion that Bell had forecast. However, unlike Bell, he seems to want to wish it away, along with the rest of bourgeois society. 'Castells', Lyon agrees (2004, p. 122), 'does not seem to see a future for the religious'. This may be understandable for an intellectual with a background in Franquist Spain, the land of the Inquisition. But if, *ex hypothesi*, we live in a global village, of which the global network society is presumably a form, then we must surely tolerate religion, even in its fundamentalist versions. This is nothing to do with propping up capitalism. Castells lays to rest the Weber-Tawney thesis about the normative basis of capitalism. The main 'cultural contradiction of capitalism' for Bell was precisely that modernist culture undermines the disciplines essential for capital accumulation. But Castells, who from his Berkeley chair observed the vibrancy of nearby Silicon Valley, concludes that capitalism is as compatible with irreligious mentalities as with theism. The 'work ethic' clearly does not require any transcendent anchorage, much less a specific sanction in Protestantism (see also Pooley, 2007).

However, if the economy does not need religion, it does not follow that the culture itself or society as a totality do not. I said above that Bell is a chronographical thinker, and it is on this question of culture that he arguably demonstrates a deeper understanding of time than Castells. Castells (1989, p. 136) dislikes the term 'post-industrialism' because it looks backwards. 'Change', he claims (Castells, 2009, Ch. 5, p. 1), 'be it evolutionary or revolutionary, is the essence of life. Indeed, the still state for a living being is tantamount to death. This is also the case for society'. This seems unbalanced. Culture cannot be only forward-looking, only about projects. The valorization of the new, of change, must be balanced by the old, the unchanging. Holy days, a day of rest each week, for example, are universally inherited as a socio-temporal asset, not a liability. Bell makes a strong case for the need for continuity, what in Jewish thought is called *yizkor*, the remembrance of things past. '[W]hen one is cut off from the past', the world's leading futurist opined, 'one cannot escape the final sense of nothingness that the future then holds' (Bell, 1996 [1976], p. 50).

There is indeed something illiberal in any division of people into the totalizing chronographical categories of 'reactionaries' and 'progressives', as Castells is in the habit of doing. If Bell's triune methodology is followed – and, as we have seen, Castells does follow it – then it becomes possible to be, in another of Bell's famous lines, 'a socialist in economics, a liberal in politics, and a conservative in culture' (Bell, 1996 [1976], p. x1). In other words, a sophisticated 'socio-philosophical' (Bell, 1996 [1976], p. 277) position can be 'reactionary' on some issues while 'radical' on others, still being socially 'progressive' overall. And Bell's cultural conservatism, his traditionalism, paradoxically, is what might best insure civilization's future. As Shechter argues (2011, p. 418), Bell's position underpins 'the open society

rather than the eschaton'. Its relevance to the 'culture wars' ravaging society in the 2020s could not be more obvious.

These large points can be made more concrete with a case study. Both Bell and Castells are interested in Japan, as should be anyone who seeks to understand the information society, a concept that the Japanese invented. Bell basically celebrates Japan's contribution as a path-breaking national-scale technopole. Castells's analysis is more critical. 'Together with the production and distribution of information technology machines', he writes (Castells, 2010c [1998], p. 253), 'Japan built a new mythology around a futurological view of the information society, which actually tried to replace social thinking and political projects with images of a computerized/telecommuted society, to which were added some humanistic, pseudo-philosophical platitudes'. 'The problem was that', he continues, 'after Japan bet its entire technological and economic development on the informational paradigm, the logic of the state came into contradiction with the full blossoming of this paradigm' (Castells, 2010c [1998], p. 254). Castells thus alleges a fundamental incompatibility between the successful post-war 'developmental state' (*hatten hokka*), better known as the 'Japanese economic miracle', and the information society (*johoka shakai*) that it helped to bring about. State *dirigisme*, strict education, guaranteed employment, gender segregation and the like are all out-of-step with informationalism, and cannot for that reason survive for much longer.

However, this is contrived. Japan's information-society success can as easily be argued to be dependent on its cultural identity, on 'Japanese thoughtways and customs' (Castells & Hall, 1994, p. 143). It is better to see its performance not as an anomaly or as myth-making but as a real-world alternative model (Duff & Ito, 2020; Morris-Suzuki, 1988) – as Castells was willing to do for Finland (Castells & Himanen, 2002). Castells himself sometimes seems to concede that his animus is unsustainable. Reflecting in *The City and the Grassroots* on the Madrid Citizen Movement, which organized mass protests under Franco and, he says, started the process that led to the coming of democracy to Spain, Castells writes:

Can we then speak of the Citizen Movement as being culturally conservative? Yes and no. Yes, in the sense that, being extremely close to popular culture, the Movement generally reacted negatively to the disruption of traditional ways of life, particularly family life and patriarchal authority. But no, in the sense that it fundamentally altered the dominant cultural patterns of urban life, by substituting communication for loneliness, solidarity for aggressiveness, and local customs for mass media's monopoly of the message. In sum, it triggered community-building. (Castells, 1983, p. 271)

Perhaps, then, the information society simply needs to come to terms with a reasonable pluralism about the whole normative question of culture.

Conclusion

A multivariate theory of the information age emerges from the preceding analysis of both thinkers' work. They both argue that the information revolution happens in conjunction with the restructuring of capitalism and the spread of the counterculture. It is a highly persuasive interpretation of the nature of social reality and of how it came into being. It is

not, however, complete. Neither Bell nor Castells gives a logically rigorous account of the relationships between these elements or of their comparative weightings in the equations required to explain recent social change. Each maintains that technology, economy and culture are independent of one another. Bell (1996 [1976], p. 34) does sometimes say that culture is the main driving force, that it is the ‘most dynamic component of our civilization, outreaching the dynamism of technology itself’, but that is hardly the message of technology-centred papers such as ‘The Social Framework of the Information Society’ (Bell, 1980). As Veysey once remarked (1982, p. 53), for Bell ‘too many things turn out to be primary’.

Castells also rejects all forms of determinism, but his work makes no sense if information technology’s leading dynamic is denied. However, the extent of its determination *vis-à-vis* the economic and cultural elements needs further clarification. Like Bell’s, his theory of the information society has duly been criticized for looseness and a lack of density. Van Dijk (2004, p. 142), for example, judges that ‘compared to them, Castells’ conceptual elaborations of the characteristics of the information age are much more sketchy and the causal connections he makes do not reach the levels of abstraction and generalization we know from Marx and Weber’. Yet in *The City and the Grassroots* Castells does succeed in formulating with convincing precision the interactions of various social forces at the city-level. He regards this as ‘my best urban book and the best piece of empirical research I have been able to do’ (Ince & Castells, 2003, p. 17). He is correct to think so, because the book is a masterpiece. But there is no reason *in principle* why the rigour of his urban sociology cannot be scaled up to a planetary sociology. The latter is not an aporia, but its execution would need more even than a trilogy. This remains the challenge for the grand theory of the information age.

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