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Bright Networks and Dark Spaces: Implications of Manuel Castells for Higher Education

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# Bright Networks and Dark Spaces

## Implications of Manuel Castells for Higher Education

Emergent technology possesses the potential to transform the nature of higher education. The importance of networking is related to its influence on education's democratic potential.

***The Information Age: Economy, Society, and Culture***  
**Manuel Castells**

Oxford, Blackwell Publishers, 3 volumes,  
The Rise of the Network Society (volume 1, 2nd ed., 2000)  
The Power of Identity (volume 2, 1997)  
End of Millennium (volume 3, 2nd ed., 2000)

***The Internet Galaxy: Reflections on the Internet, Business, and Society***  
**Manuel Castells**

Oxford, Oxford University Press, 2001

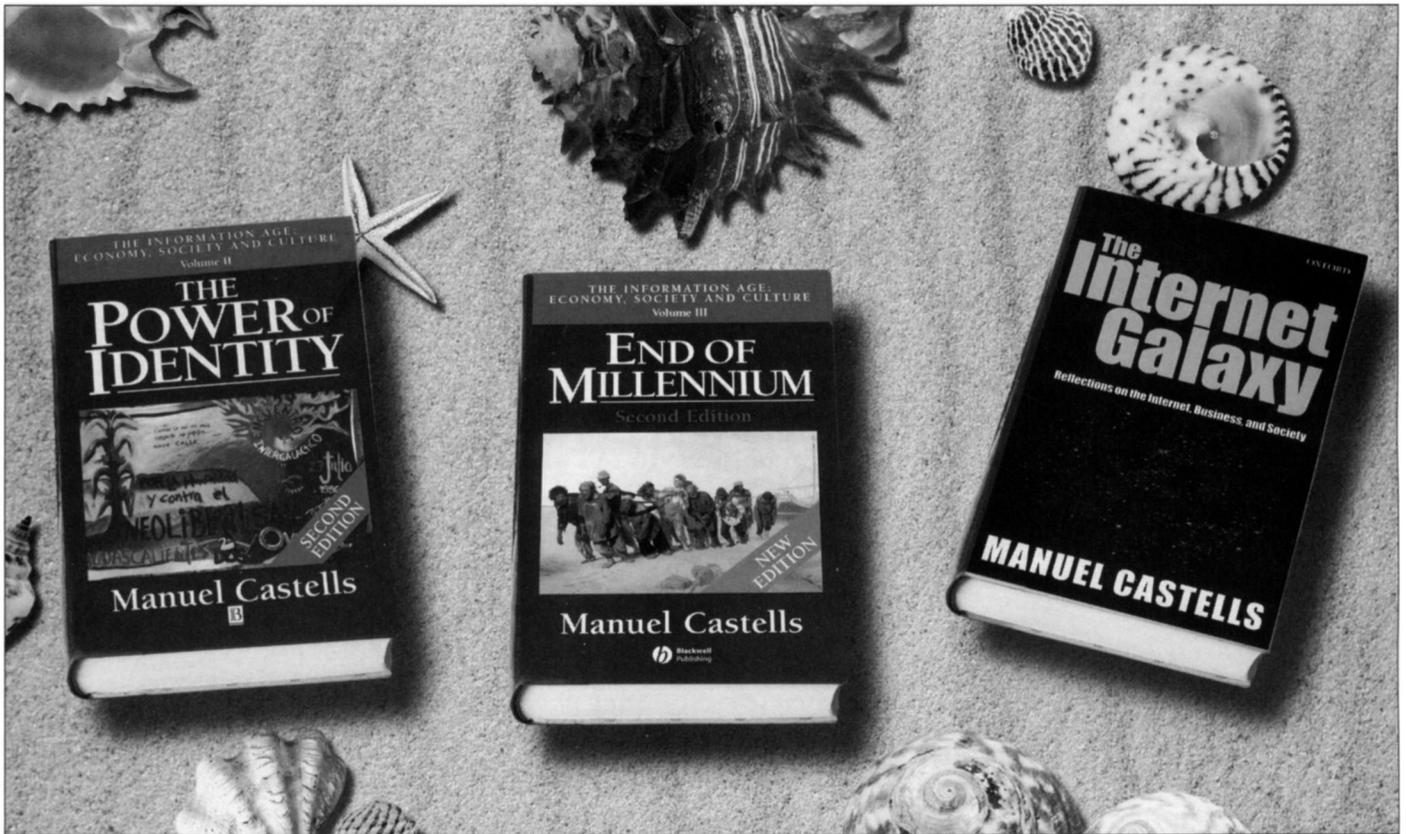
BY SIMON MARGINSON



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**I**n *The Information Age: Economy, Society, and Culture*, sociologist Manuel Castells argues that information and communication technologies are associated with a new kind of economy, society, and culture that he calls “informationalism.” In this new economic order, knowledge generation, information processing, and symbolic communication—“the action of knowledge on knowledge”—are the main sources of productivity and profit. The commanding heights of the new economy (though not the whole of it) have become global: information and communication technologies make possible for the first time in human history an economy that operates in real time on a planetary scale through computer-based financial transactions. This is a staggering change.



Socially, networking permits cost-effective expansion, goal-driven flexibility, and the return of the small- and medium-sized unit amid controllable decentralization. The network form of organization divides human society between the people, social groups, and nations located inside the networks and those that are “switched off,” or left in the dark spaces between the dazzling linkages of the networks. The informational brand of capitalism—more so than the industrial capitalism that preceded it—is polarized unequally between those with economic power and those without it, between capital and labor, and between developed and developing nations.

Culturally, according to Castells, the dominant ethos is “real virtuality,” in which reality itself, or people’s material and symbolic existence, is immersed in a world of make believe in which symbols and images make up the actual experience. Cultural expressions, no longer the exclusive totem of those who create them, are relentlessly torn from their context and perpetually recombined and rearranged within a universal hypertext determined by “the interests of senders and the moods of receivers.”

These trends make up a world in which, for the dominant groups, the coordinates of space and time are transformed. The “network society” is vectored by the “space of flows,” a world structured by motion (of things, money, people, relationships) in which place does not disappear but becomes just one part of the geography. (Castells’s argument here veers close to that of Arjun Appadurai, the cultural theorist of globalization, in his 1996 book, *Modernity at Large*.) In addition, “timeless time” displaces clock time, as everything converges toward simultaneity with no past or future. The long-term perspective, that of historian Fernand Braudel’s *la longue durée*, must now be restored, Castells argues.

“Maybe there is another option,” writes Castells ironically, in the last paragraph of *The Internet Galaxy: Reflections on the Internet, Business, and Society*, an extended and more conversational coda on *The Information Age*, that focuses on the origins, economics, politics, and culture of the Internet. “One might say, ‘Why don’t you leave me alone? I want no part of your Internet, of your technological civilization, of your network society. I just want to live my life.’” Confronted by five hundred e-mail messages when one returns from a short Christmas vacation, one can only agree! But, of course, there is no choice. “If this is your position,” Castells writes, “I have bad news for you. If you do not care about the networks, the networks will care about you, anyway. For as long as you want to live in this society, at this time and in this place, you will have to deal with the network society.” That is, you will have to unless you are switched off in the dark spaces between the networks, still stuck in clock time. Some people might choose to hide from the information age, but many others left in the dark spaces have no choice. They are excluded by the harsh logic of the information economy, in which they create no economic value.

Castells does not argue that everything is driven by information and communication technologies. If he did, the books would be shorter. “Technology does not determine society. Nor does society script the course of technological change,” he asserts. The revolution in information and communication technologies can be understood only in the context of other forces that have helped to shape its effects: the restructuring of Western capitalism; the terminal crisis of Soviet statism and the spread of capitalism to every corner of the planet; the new geostrategic international order; the emergence—partly in response or reaction to globalism and informationalism—of new forms of individuality and culturally

defined collective social movements; and the crisis of democratic politics. At the same time, Castells argues, the autonomous dynamics of information and communication technologies must be accounted for as part of the matrix of forces.

This networking logic introduces a social determination at a level higher than that of the specific social interests expressed through the networks: the power of flows takes precedence over the flows of power. Presence or absence in the networks and the dynamics of each network vis-à-vis others are critical sources of domination and change in our society, Castells believes.

Nevertheless, because networking facilitates horizontal collaboration *and* hierarchy, and because networks are readily configured both to include *and* to exclude, we as human beings can choose the kind of world we want using these technologies. Of course, it all depends on whose interests are served by the networks, and who controls them. Castells is centrally interested in relations of power as a means of explaining the world, and in the capacity and limits of political action. Inevitably, large synthetic sociological projects find themselves in the backlots of other disciplines. Castells draws on conceptual and quantitative techniques from history, political economy, political analysis, and the material side of cultural studies. That may sound messy, but the world is

Second, Castells makes the complexity accessible. He is clear and readable. His examples are vivid, and his quantitative data are readily understood by nonspecialists.

Third, Castells is not didactic. "I believe, in spite of a long tradition of sometimes tragic intellectual errors, that observing, analyzing, and theorizing are a way of helping to build a different, better world," he writes. His biases are toward democracy, multiculturalism, and nonmilitarism. Although he can imagine no economy beyond an informationalist market one, his data challenge inequality, coercion, and exploitation everywhere. Moreover, he sets out to explain the world as it is becoming, not to prescribe it. He leaves it to the reader to determine the forks in the roadmap, the choices, and the solutions.

### Castells's Limitations

The terrain that Castells examines is changing rapidly. As a result, volumes one and three of *The Information Age* have been substantially updated since publication of the first editions between 1996 and 1998. Even though *The Internet Galaxy* does not discuss the most recent attempts by governments and corporations to centralize control over communications, it remains relevant.

Inevitably, however, such a vast work has its limits. Castells's touch feels more confident on technology and the

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complex and messy. No single social science can really encompass it.

Three features set Castells's work apart. First, its dimensions. Castells draws on conceptual and quantitative techniques from history, political economy, political analysis, and the material side of cultural studies. He writes original monograph- or essay-length studies of the global economy. He focuses on finance; trade, foreign investment, and multinational corporations; the networking of information and communications technologies and the network enterprise as an organizational form; the communications industry; the Internet; the sociology of work, where he is particularly convincing; space-time and the culture of virtuality; architecture and urban spaces; responses to globalization, including nationalism, fundamentalism, and the feminist and environmental movements; reproduction, sexuality, the family, and children; the nation-state and its geopolitical variations; war, terror, and the armaments industry; the global criminal economy; the collapse of the Soviet Union; world regions, including the European Union, Russia and Eastern Europe, sub-Saharan Africa, East Asia (Japan, China, Korea, and Taiwan), and Southeast Asia; and racism and socioeconomic inequality in the United States. The "digital divide" is much discussed. *The Information Age* also provides a comprehensive review of the literature on globalization and the information society.

economy than in his passages on culture, despite the insights those passages offer. In addition, he overstates the plurality of the media, which is monopolist in much of the world but economically pluralist and culturally singular in the United States. Similarly, globalization, information and communication technologies, and social movements are not the only factors affecting human identity: Castells does not discuss the fuller impact of market liberalism in policy, and market consumption in daily life, in individualizing identity.

Arguably, networks and networking are integral to our existence, but their role is less universal than Castells makes it. Despite this fact, *The Information Age* is indispensable and central to our understanding, complementary to two other books Castells generously acknowledges: the 1999 work *Global Transformations* by political scientists David Held, Anthony McGrew, and collaborators and geographer and political economist David Harvey's brilliant 1990 study, *The Condition of Post-Modernity*. Held and his collaborators focus on the economic and governmental aspects of globalization. Harvey draws a direct line from the late modern market economy to the politics of culture and presents a wonderful discussion of the compression of space and time.

Castells provides the sociology, a perspective on equality, and a robust notion of informational capitalism in place of the vague "postindustrialism" hitherto in vogue. He covers a

bigger terrain than the others and provides the means of stitching all three together. I believe that if there were a Nobel Prize in sociology, there could be no better candidate than Castells.

The post-September 11, 2001, situation has added to rather than subverted Castells. If he publishes a third edition, however, I think he will have to amend his argument as a result of it. He understands fundamentalism and anticipates the catastrophic moment, noting “the widespread surge of powerful expressions of collective identity that challenge globalization and cosmopolitanism on behalf of cultural singularity.” He points out that given that weapons are broadly distributed, this “surge” too readily takes a violent form.

Yet even though Castells critiques the Washington consensus about the current world situation, he misses the new American global dominance in the wake of September 11. In fact, he argues that the world power system is inevitably “polycentric” and precludes “the existence of any hegemonic superpower, in spite of the continuing military (and technological) preeminence of the United States.”

Arguably, Castells underestimates the power not only of American hegemony but also of global hegemony as such. Something is missing from his concept of power. He defines power as a relationship between human subjects in which the will of one is imposed on the other by coercion, “the potential

ence of a dominant culture that crowds out all other ways of life and means of identity and that has constrained the range and depth of cosmopolitanism more than Castells suggests.

The answer is not to hit the fundamentalists on the head with *more* military, technological, political, and cultural homogeneity, thus encouraging more fundamentalism in return and producing a permanently polarized world (which is what bin Laden wants). The answer is to undermine fundamentalism with a more profound global cosmopolitanism, with forms of freedom that genuinely value human variety and provide the material means for sustaining it. In this area, higher education has a key role, providing that it operates not on the basis of global domination but in multilateral forums and in interuniversity partnerships across national borders that foreground cultural difference and national self-determination.

### Higher Education

By way of Afghanistan and Iraq, we have come to the implications of Manuel Castells’s work for higher education. Although Castells does not examine universities as knowledge producers in the information age, or discuss research, intellectual property, or online applications in detail, he provides tools for doing so. He notes the ubiquity of computing in higher education and the growing role of interactive online resources and commercial on-

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or actual use of violence, physical or symbolic.” Although he notes philosopher and social critic Michel Foucault’s point about the microphysics of power, Castells has missed Foucault’s argument about how, in relations of power, human subjects are caused to behave in certain ways. Mostly, they are persuaded to behave without being forced—they do so as self-determining subjects—yet their wills are captured.

By focusing more on global socioeconomic inequalities than on cultural and linguistic hierarchy, and missing the persuasive power of Hollywood and advertising, Castells does not fully acknowledge the exclusion of non-American identities in a homogenizing world. Nor does he explore how deeply problematic this exclusion is, especially for non-Westerners. Perhaps the downside of global domination is more obvious from outside the United States than inside it (I am writing from Australia). Despite Castells’s cross-cultural biography and his scholarly mobility, his work suggests that it is harder to fully appreciate the global reach and power of Americanization when one is working from inside the global center.

This point may seem small, but it has a great practical implication. It is true that fundamentalist, culturally singular resisters of globalization such as Osama bin Laden fear global cosmopolitanism and would like to close down its mediums, such as tourism and the Internet. But what provokes them to violence is not cosmopolitanism, but homogeneity: their experi-

line programs. Still, he argues that bricks-and-mortar institutions of higher education will not be displaced, because the quality of instruction remains tied to face-to-face relationships. Instead, in the future, higher education will be networked between classrooms, students’ own locations, and “nodes of information.”

“A network is a set of interconnected nodes,” Castells writes. “A node is the point at which a curve intersects with itself.” Castells’s theory of networks and networking helps to explain how colleges and universities relate to external agents and how they are joined to each other. His theory is highly suggestive in relation to internal organizational culture. Networking is a dynamic, self-expanding form of organization that enables great flexibility. It is “well adapted to increasing complexity of interaction and to unpredictable patterns of development arising from the creative power of such interaction,” Castells writes. The dynamic of expansion and universalization is built into the cost-benefit ratio at the core of networks:

When networks diffuse, their growth becomes exponential, as the benefits of being in the network grow exponentially, because of the greater number of connections, and the cost grows in linear pattern. Besides, the penalty for being outside the network increases with the network’s growth because of the declining number of opportunities in reaching other elements outside the networks.

The value of a network increases as the square of the number of nodes in the net—hence, the explosive development of worldwide linkages between universities. Regardless of where they are physically located, the distance between two higher education institutions becomes shorter when they are members of a common network, and the distance between all nodes in the network is the same. Networks are fluid, open structures “able to expand without limits, integrating new nodes . . . as long as they share the same communication codes such as values or performance goals,” Castells writes. Their ability to do so facilitates innovation, without upsetting the balance of the network. Relationships are multidirectional, processes reversible. Programs are readily transformed by rearranging the components, or adding new elements.

At the same time, Castells argues, “the new structure of power is dominated by a network geometry.” Places still matter in higher education, and some places matter more than others. Similarly, certain nodes in the network dominate others. In the university sector, the world’s leading institutions, most of which are located in the United States, have become the world’s de facto graduate school. These institutions control hubs that order the whole network and frame its contents, and they attract globally mobile high-skilled labor. Castells’s argument suggests how we might map worldwide higher education networks and the flows of knowledge, capital, and people, tracing the relations of power and the effects of globalization:

While the analysis of global cities provides the most direct illustration of the place-bound orientation of the space of flows in nodes and hubs, this logic is not limited by any means to capital flows. The main dominant processes in our society are articulated in networks that link up different places and assign to each of them a role and a weight in a hierarchy of wealth generation, information processing, and power making that ultimately conditions the fate of each locale.

Although many people talk loosely about the central role of higher education in the knowledge economy, Castells’s account of the information revolution suggests that the core innovations have taken place not so much inside higher education as among independent operators and in government-supported research agencies and emerging information technology corporations. The universities were an important resource, but not the main drivers. This fact suggests that the degree to which higher education will be central in the future will be determined by how effectively it is linked with strategic nodes of economic capital, and perhaps also by its capacity to nurture independent thinkers (which partly contradicts the point about linking closely to economic capital, a step that can compromise academic freedom).

Networking in higher education cheapens the cost of the administrative coordination of large institutions while spreading their external influence. The weak sociability of the Internet couples intellectual intimacy with individual and organizational independence. This setup is particularly well suited to academic work. Faculty readily brainstorm with each other,

agree with each other, borrow from each other, and then disappear altogether from one another’s view, as they see fit.

Networking also facilitates the small-scale units that remain central to innovation in higher education, while securing their dependence on the network. Networking structures the unstructured. At the same time that networking reduces the energy invested in the direct exercise of command, it enables the coordination of individualized faculty work. It leads to, in Castells’s words, a “simultaneous concentration and decentralization of decision-making” in which all the fine shadings of academic cultures, disciplinary differences, and varying levels of professorial independence and managerial intervention can be readily expressed. On one hand, there is a high level of continuity with the collegial past of universities. On the other, institutions are transformed by fast communications and by the more intense internal and external competitiveness this ability facilitates.

Networking also undermines traditional bureaucracy, with its focus on reproducing means rather than achieving ends, its vertical command, and its tendency to resist innovations. Nevertheless, it must be said that bureaucracy remains resilient in many administrations, and in some disciplinary cultures as well. Higher education institutions are not fully fledged “network enterprises” as Castells describes them. They contain elements of the network enterprise, but these exist alongside other elements drawn from two older forms of organization: the bureaucracy and the academic college. Further, institutions of higher education are driven by public as well as market-determined purposes. But it is true that the elements of network and enterprise are becoming more important within the total organizational mix.

Less attractively, the information society is associated with a labor force divided between core workers and those on the periphery, the rise of subcontracting and outsourcing, tighter segmentation, and the growing power of managers in relation to labor. These trends are all too familiar to those in higher education. More generally, by placing a higher premium on advanced levels of education as a source of wealth and power, informationalism reinforces the role of education in creating inequality, because access to high-quality education has become increasingly stratified.

Higher education has always had a contradictory social potential. Education systems provide the cultural codes guarding access to the elite segments of social networks. Education can, however, also be used to broaden inclusiveness, to render human society more horizontal and universal, creating public as well as market goods. The message of *The Information Age* is that networking has an *inherent* tendency to create a vertical digital divide, and that only broad-based democratic politics can counter that tendency. Yet conventional politics is in an ongoing state of crisis and does not provide a solution. For Castells, the key democratic potential lies in what he calls “project identity,” movements that are committed to collective self-transformation, such as feminism and environmentalism. If so, the relationship between these movements and higher education becomes central to its capacity to create public goods. ✍

