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## Ethics and the Networked Business

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**ABSTRACT.** Pushing through a logical continuum of closed- to open-system views of organizations necessarily changes the conceptualization of a firm from a strongly bounded entity to a configuration of networks and sub-networks, which exists and operates in a larger systemic network configuration. We unfold a classification of management processes corresponding to views of the firm along the closed/open-systems continuum. We examine ethical issues that are likely to devolve from these classes of management processes, and we suggest typical means by which managers will attempt to control their firms' exposure to such issues. The final class of management processes examined focuses on the achievement of outcomes that are mutually satisfactory in the set of networks and sub-networks that constitute the focal firm, and that support the sustainability of the whole system. The article contributes to organizational theory, business ethics, and computer and information ethics by providing a comprehensive analysis of the impact of managerial views of the firm and of networks – virtual, social, informational – on managerial processes and on our understanding of how business ethics issues are linked to perceptions of what a firm is, does, and can do.

**KEY WORDS:** business ethics, stakeholder theory, network ethics, management processes, sustainability

### Introduction

The concept of a “networked firm” has been present for some time in organization theory (OT), strategy, and business & society/business ethics (B&S/BE) thinking. Multi-subsidary firms, strategic alliances, industry umbrella organizations, multi-party collaborations, and stakeholder sets are just a few of the

network forms in which modern businesses participate. Despite general acknowledgement that firms exist in networked open-systems, and are themselves networked open-systems, the theoretical and ethical implications of a networked view of firms have not been well developed.

Over time, management thinking about business organizations has shifted from the closed-system hierarchical model of Taylor (1911) to an open-system hierarchical model exemplified by behavioral and contingency theories, to a multi-subsidary model replacing “the single company with a network of firms” (Scott, 2003, p. 280), to a stakeholder model of interdependent organizations, to the modern “virtual” firm which may require neither office space nor employees to be successful (see., e.g., Youngblood, 2007). As Scott (2003, p. 280) points out, “How we think about our organizations affects how we treat them: cognitive models have behavioral consequences.” In this article, we develop a classification of management processes that typifies a continuum of closed/open-systems perspectives on firms, and we explore the ethical implications that derive from viewing firms in these ways. We propose two new classes of management practices that we suggest will become dominant as firms are increasingly viewed as consisting of configurations of networks and sub-networks that are interdependent with a larger system.

### *Overview of networks and sub-networks*

There has been a curious failure among scholars to draw together various literatures on network analysis into a more comprehensive treatment of the management and ethical implications of networked firms. Much network analysis occurs in mathematical sociology and in information systems research; but insights

from such technical studies have remained relatively inaccessible to most B&S/BE scholars.

As a noun, *network* is defined as a set of nodes engaged in dyadic relationships in ways that connect multiple players. As a verb, *to network* is defined as to “communicate with and within a group.” The noun refers to a structure or set of structures; the verb to a process or set of processes.<sup>1</sup> A standard organization chart is a minimal network; nodes are organizational positions, relationships are authority based, and communication flows via various means among position holders. A stakeholder set is a network defined by the various stakeholders and the focal firm, and by the structural and communicative relationships among them. A *sub-network* is a smaller network existing completely within (as a subset of) a larger network. Sub-network members tend to be grouped around a common interest and communicate largely among themselves about that interest.

There is a large literature on the structural and relational features of networks, and, during the last three decades, an extensive literature in computer and information ethics has explored ethical issues, concerns, and dilemmas associated with the use of information and communications technologies, and more recently, those associated with the emergence of Internet-driven virtual networks. Indeed, the Internet has become a revolutionary technological vehicle for network creation and maintenance. Internet-driven networks have dramatically increased the degree of social connectivity between individuals and institutions (see, e.g., Barabási, 2002), introducing new ethical issues and maintaining the relevance of traditional ethical problems related to information sharing and relationships (Floridi, 1995, 2010). In this context, practitioners and scholars have discovered that Internet-enabled networks have dramatically modified many kinds of social interaction and individual behavior in personal and professional life, particularly in developed countries (Vaccaro and Madsen, 2009). New Internet-based technologies, such as peer-to-peer (P2P) applications or collaborative portals, have given rise to new dilemmas as well as new attention to “old” ethical issues such as privacy, trust, and information reliability (Floridi, 2010), and several authors have argued that the emergence of virtual networks has also opened new opportunities for firms and other

kinds of social organizations (see, Turilli and Floridi, 2009).

It is worth mentioning that internet-based technologies have not only increased the degree of connectivity between people around the world, they have also caused the “re-ontologization”<sup>2</sup> (Floridi, 2010) of our reality. Among other effects of this phenomenon, we can identify the emergence of a new virtual dimension. This new dimension is characterized not only by living beings and physical objects, but also by informational objects such as robots, intelligent software, artificial agents, etc. Some authors have suggested that ethical discourse should take into account not only humans, animals, and the environment, but also the rights of all informational objects (Floridi, 2010). Whereas bio-centric ethics includes all constituents of the living world and land ethics considers all animate and inanimate things, information ethics as a macro-ethics embraces all informational entities. According to information ethics, all informational entities have Spinozan rights to persist in their own status and Constructionist rights to flourish, i.e., to improve and enrich their existence and essence (Ess, 2008; Floridi, 2010). For example, an intelligent robot should take into account not only the impact of its actions on human beings but also on other robots, internet-based entities, etc.

An interesting insight for business ethics is that this new informational environment is characterized by new kinds of interactions such as those between human beings and computer-based agents (e.g., robots and virtual entities). Such interactions have led to the identification of a distinctive ontological category driven by electronic networks. Ethical issues can arise whenever computers make decisions affecting human activities, such as in productive plants and warehouses controlled by “intelligent” software (Johnson, 2000). For example, logistics software determines forklift trucks’ trajectories to maximize the hourly productivity of a warehouse workforce, but sometimes these trajectories are associated with higher risk collisions between forklift trucks and in turn an increase in the risk of accidents to employees (see, e.g., Angeles, 2005).

As a consequence, network ethics must take into account that new ethical problems can arise in the context of human-computer interactions (Floridi, 2010; Johnson, 2000). Such scholarship in

information ethics points to the need to rethink our understanding of network ethics issues. The emergence of new categories of interactions, such as computer–human interactions, increases the dimension and complexity of ethical analysis. However, computers offer novel solutions to important ethical problems in management and policy making such as the regulation of information disclosure in firm–customer relationships or stakeholder engagement (see, e.g., Vaccaro and Madsen, 2009).

However, many scholars working in general management, B&S/BE, strategy, or OT are relatively uncomfortable with the language and ideas of information technology (IT) ethics and tend to avoid incorporating it into their work. We suggest that not only is this approach not viable in an IT-driven world, but it also prevents these scholars from making use of concepts and understandings that bring added value to more traditional network-relevant scholarship, as we see in the next section.

### **Network ethics scholarship in management and organizations**

The idea that business organizations exist and operate within a network of stakeholders has been prevalent in management literature at least since the early 1980s (see, e.g., Clarkson, 1995; Freeman, 1984). Mitroff et al. (1987) published a stakeholder network model that represented a complex, under-specified set of direct and indirect relationships among entities that interact with one another on a regular or irregular basis. Nathan and Mitroff (1991) also write about firms as a set of networks and sub-networks. They analyze a problem domain in which interorganizational collaboration occurs at multiple levels of analysis: the focal organization, the organization set, the action set, networks, the industry, and the interorganizational field. Wood's (1992) field study of the evolution of social issues and networked groups involved in the Nagymaros Dam controversy involving Hungary and Czechoslovakia in the 1980s is another example of the complexities introduced into ethical analysis when a network perspective is taken.

Organizational and economic sociology has been a rich source of theory and knowledge about networks. Granovetter's (1973, 1983, 1985) proposal about the importance of weak ties in social networks has resonated in many corners of OT. Network theory has also been developed with reference to elite networks and community power studies (e.g., Hunter, 1953); sociometric techniques that were especially popular in the 1940s–1960s (e.g., Alba, 1981; Moreno, 1934); studies of interlocking boards of directors (e.g., Palmer et al., 1986; Pennings, 1980); diffusion of innovations studies (e.g., Rogers, 2003); and studies of social capital and its relationship to social networks (e.g., Burt, 2000; Leana and Van Buren, 1999). In business strategy and policy studies, network concepts have been important to research on strategic alliances (Rowley, 1997; Soh, 2010); the competitive advantage of embeddedness in exchange networks (Uzzi, 1996); the value of CEO networking in terms of external board memberships (Geletkanycz et al., 2001); and supply chain management (Bernardes, 2010), among other topics. Besides, in behavioral studies, networks are the very essence of research on topics such as interorganizational relations (see, e.g., Dushnitsky and Shaver, 2009; Oliver, 1990); multiparty collaboration, and collaborative social problem-solving (Gray, 1989; Gray and Wood, 1991; Wood and Gray, 1991); and public–private partnerships (Mahoney et al., 2009).

### **Viewing the firm as a strongly bounded entity versus as a set of networks and sub-networks**

Despite widespread modern acceptance of an open-system view of business structure and function, which implies open and even amorphous boundaries, a business organization still tends to be approached as a closed system and treated as an identifiable *strongly-bounded entity*. It is common to think of a firm as an entity with a legal status; one or more physical locations; employees and a top management team (TMT) organized into a particular authority structure; a product or service by which revenues are generated; a set of technologies that allow production, sales, control, and other critical functions; and sets of suppliers, customers, and investors.

Nevertheless, at least since the 1950s, firms are also conceived of as existing within complex, dynamic environments that create perpetual uncertainties. Post-World-War II scholars such as Churchman (1968), Cyert and March (1963), March and Simon (1958), and others initiated a very important advance in management thought by developing the idea of the firm as an open system, subject to uncontrollable environmental influences. Still, the firm is seen as relatively autonomous, bounded, identifiable, and thus potentially controllable, at least partially. Organization theory, strategic management, B&S/BE all largely rely upon this view of the firm. As we saw in the previous section, networks typically appear in OT and in business ethics theory only in terms of the focal firm as a member of one network or another – e.g., a supply chain, or a *guanxi* arrangement – or at the center of a stakeholder network. This view reflects the *entity-in-environment* conceptualization of firms.

Later open-system views began to incorporate the radical notion that the firm itself is not “the system,” but is a configuration of networks and sub-networks, both literal and virtual, existing and operating within a larger system. The closest related idea to the firm-as-network perspective is modern finance’s view of the firm as a “nexus of contracts,” (see, e.g., Alchian and Demsetz, 1972; Demsetz, 1983; Fama, 1980; Fama and Jensen, 1983; Williamson, 1985), but this view is far too limited to be used in business ethics analysis without considerable augmentation: the idea appears to give managers the authority to renegotiate or even abandon contracts as strategy or opportunity suggests, without considering the human costs of mergers, acquisitions, layoffs, closings, changing product lines, and other finance-driven transactions.

It is quite different to view firms as configurations of networks and sub-networks that partially intersect and that also exist beyond the ordinary boundaries of the firm. For example, some members of a company-sponsored bowling team are also customers of the company; some are employees; some are relatives or friends; some belong to networks that regulate the firm’s processes, act on its zoning requests, rate its financial strength, audit its books, or criticize its environmental practices. One can imagine that bowling team encompassing a significant amount of the firm’s social capital, knowledge transfer, issues management, stakeholder engagement, and even strategic planning. It is only when one conceives of a

firm as a configuration of networks and sub-networks that it becomes possible to grasp such complex interactions and operations.

The networked entity view was expanded by some scholars to reflect an even more loosely bounded conceptualization of organizations – the view of the firm as a *networked node*. G. F. Thompson (2003), following Williamson (1975, 1985), discusses the networked node view of the firm as a new way of viewing the role of networks in mediating between markets and hierarchies, the key organizing and coordinating mechanisms in an economy. This idea of a firm as something that is “quasi-disintegrated” is likely to be somewhat uncomfortable to management scholars. It is easier to think of stakeholder sets, or even markets themselves, as networks: Thompson argues that markets themselves are not “embedded” in networks, as Granovetter (1973, 1985) suggested, but are rather “networked from the start; they are entanglements in a web of always partially formed relations and connections” (2003, p. 74). The view of the firm proposed in this article expands this networked node idea down a level of analysis from market to firm itself. Taking a networked node view of firms and their processes introduces new complexities, and perhaps new types of issues, into the ethical domain. Besides, we will argue, when managers take a networked view of firms, their dominant management practices will change.

### **A continuum of management processes**

In this section, we follow Scott’s (2003, p. 280) suggestion that “cognitive models have behavioral consequences.” In particular, as managerial views of the firm have shifted from the earlier closed-system model into open-system approaches, in a continuum of increasing degrees of interdependence, we propose that typical management processes have also significantly changed. We define management processes as processes encompassing all the activities and practices involved in planning, organizing, leading, and controlling an organization’s operation with the aim of achieving the organization’s goals. We analyze four classes of management processes according to organizational attributes of structure, change,

dominant interest, TMT approach, nature of typical TMT processes, performance focus, and desired outcomes. Table I summarizes the first part of our analysis.

Table I depicts a continuum of views of the firm, anchored by the closed-system and open-system views. We identify four discrete views of the firm: as a strongly bounded entity, as a bounded entity-in-the-environment, as a networked entity, and as a networked node. As the view of the firm moves away from closed-system and toward open-system, management processes move away from assumptions of autonomy of the firm and firm control over the environment, and toward assumptions of interdependence and responsiveness. It is important to point out that discreteness here is more an analytic device than a reflection of reality. We accept the idea that at any given time there can be multiple views on what a firm is, and that there are likely to be intermediate transitional stages where managers test processes that derive from a new view of the firm while still clinging to some of the values and objectives attached to the more traditional view. Plus, although there are only four named classes of management processes in Table I, there are also three transition stages where we locate a number of familiar management tools and techniques. As a final note, the discussion of ethical issues introduced in Table I will be expanded in a subsequent section accompanying Table II.

#### *Authority-based management processes*

If managers view the firm as a strongly bounded, closed-system entity, then they will emphasize hierarchical authority structures and strict control processes. The structure of the firm is the primary perceptual organizing device for managers and onlookers alike; culture for such managers is a foreign concept, at best a distraction from the real business of managing for productivity and profit. Change is viewed as slow and formal because cultural or procedural change is assumed to be directed by management and must always work around a relatively unchanging authority hierarchy. This view, for example, underlies the advice to corporate public affairs officers to build public affairs processes into the firm's formal structure to minimize their

trivialization or budget vulnerability. Finally, in this view of the firm, management interests are seen as dominant (even if it is claimed that management only represents the interests of owners) and other stakeholders' interests are seen as subordinate.

The central question for authority-based management is this: How can we ensure compliance with orders? Typical TMT processes, then, are order-giving, enforcement of rules and expectations, establishing and meting out sanctions, and so forth, with the desired outcomes being the obedience of individuals toward the end of efficient organizational goal attainment. Although long-term goals may be present, managers will tend to focus on short-term performance, as it is more observable and measurable and thus more consistent with the processes of control that occupy managers' daily attention. In this model, workers are seen as unruly and often reluctant participants who must be trained and supervised to become cogs in a great impersonal machine, a condition that is starkly depicted in Charlie Chaplin's classic film, "Modern Times." Stakeholders have a place in the authority-based model, but only in the sense that managers attempt to exploit them or annul their power by, for example, driving them out or by incorporating them into their closed-system perspective, as happens when companies vertically integrate suppliers or customers (see, e.g., Etzioni, 1990; Weber, 1947). Other examples of authority-based management processes are observed in many companies, for example: employees are told by managers how much they are to produce in what period of time; employees are reprimanded by managers for rules violations; newly laid-off employees are given 30 minutes to clear their desks and are escorted out of the building by armed guards.

As transactions costs economics and agency theory teach us, focusing on compliance in complex systems can be very costly (Alchian and Demsetz, 1972; Demsetz, 1983; Fama, 1980; Fama and Jensen, 1983; Jensen and Meckling, 1976; Mitnick, 1975; Williamson, 1985). It also provides the conditions under which certain types of ethics problems are likely to arise. In particular, hierarchical authority-based control structures are prone to issues of coercion, sabotage, slippage, undercover rule-breaking, and subtle breaches, all of which imply a stronger but ultimately ineffective emphasis on management controls. Authority-based processes can and do also

result in revolts and violent suppressions when the rules become too overbearing for those who are ruled. American union history is full of examples such as the Homestead Strike in 1892 when Andrew Carnegie's steel workers were beaten and fired upon by the Pinkerton strike-breakers. In modern times,

worker strikes have occurred in virtually every country, developed and developing; wherever authority-based management processes are dominant, strike "resolution" tends to be accompanied by violence and suppression (see, e.g., Shigetomi and Makino, 2009).

TABLE I  
Four classes of management processes

Views of the firm	Classes of dominant management processes
<p><b>VIEW 1: The firm as a strongly-bounded entity (closed-system, mechanistic view; organizational level of analysis)</b></p>	<p><b>Authority-based management processes</b></p>
<p>Firm as an autonomous entity (the system itself) which controls the environment</p>	<p><i>Structure</i> is primary (hierarchical authority &amp; control); <i>culture</i> is secondary, if acknowledged at all.  <i>Change</i> is slow and formal.  <i>Management interests</i> are dominant.  <i>TMT question</i>: How can we ensure compliance with orders?  <i>Typical TMT processes</i> are order giving, enforcement of rules and expectations, enforcement via sanctions.  <i>Focus</i> on firm short-term performance.  <i>TMT desired outcomes</i>: obedience, efficient organizational goal attainment.</p>
<p><b>Attributes</b></p>	<p>"Human relations" school of management: happy workers → more productivity.</p>
<p><b>Transition 1: emerging open-systems views and "human relations" approach</b></p>	<p><b>Persuasive management processes</b></p>
<p><b>VIEW 2: The firm as a bounded entity-in-the-environment (open-system, organic view; organizational level of analysis)</b></p>	<p><i>Structure</i> is primary, <i>culture</i> is acknowledged but secondary. Real <i>change</i> is slow and formal; rapid change is likely superficial or crisis-driven. Structure may be hierarchical or partial matrix (functions by projects).  <i>Management interests</i> are dominant; employee and other stakeholder interests are acknowledged.  <i>TMT question</i>: How can we get everyone on board with our goals?  <i>Typical TMT processes</i> are environmental scanning; buffering, smoothing, bridging; strategic planning; incentive systems; leading by example; efforts to win buy-in and cause others to internalize TMT goals.  <i>Focus</i> on firm short and longer-term performance.  <i>TMT desired outcomes</i>: goal congruence among key stakeholders; engagement in and coordination of goal-directed efforts.</p>
<p>Firm as a member of a network which influences it and which it attempts to control</p>	
<p><b>Attributes</b></p>	

TABLE I  
continued

Views of the firm	Classes of dominant management processes
<p><b>Transition 2: strategic collaborative approach</b></p>	<p>Strategic alliances, project-oriented matrix organizations, multi-party bargaining, stakeholder management</p>
<p><b>VIEW 3: The firm as a networked entity (open-system, organic view; organizational level of analysis)</b> Firm as a configuration of networks and sub-networks where there is complete interdependence between internal and external environments</p>	<p><b>Virtuous management processes</b></p> <p><i>Culture</i> is primary, <i>structure</i> is secondary. <i>Change</i> is rapid and fluid. <i>Interests</i> of nodes, component networks, and sub-networks are dominant. <i>TMT question</i>: What would a good person/company do in this situation? <i>Typical TMT processes</i> are directed toward transparent and complete communication, trust maintenance, “internal” reputation management, and individual and network thriving, and thus organizational goal attainment. Authority structure matters less than open communications flow. <i>Focus</i> on longer-term and long-term performances. <i>TMT desired outcomes</i>: support for individual moral autonomy; and maintenance of organizational and systemic trust.</p>
<p><b>Attributes</b></p>	
<p><b>Transition 3: “sustainability” approach</b></p>	<p>ESOPs (Cin-Made), “Climbing Mt. Sustainability” (Interface), “no-loss” businesses (Grameen)</p>
<p><b>VIEW 4: The firm as a networked node (open-system, organic view; systemic level of analysis)</b> Firm as a node in a larger system of networks and sub-networks</p>	<p><b>Integrative management processes</b></p> <p><i>Structures and cultures</i> intertwine, are interdependent. Structures are adaptable as circumstances change. <i>Change</i> is continuous. <i>Interests</i> of nodes, component networks, and sub-networks, and interests of the “commons,” are dominant. <i>TMT question</i>: How can we achieve mutually satisfactory outcomes and system sustainability? <i>Typical TMT processes</i> are directed toward transparent and honest (not necessarily complete, because of competition) communication, trust maintenance, reputation management, individual and network goal attainment, and system sustainability. <i>Focus</i> on long-term performance of individuals, networks, and system. <i>TMT desired outcomes</i>: individual belongingness and holographic identity, maintenance of systemic trust; and sustainability.</p>
<p><b>Attributes</b></p>	

*Transition: moving from “control” to “persuade”  
in employee relations*

In the history of management thought, there is a transition between authority-based and persuasive management processes that is exemplified by the human relations movement. Scholars and executives such as Argyris (1976), Barnard (1938), Fayol (1930), Herzberg et al. (1959), Maslow (1954), Mayo (1949), McGregor (1960), and Vroom (1964) rejected the earlier view of the firm as mechanistic, and moved toward a more organic view of firms as human, and therefore social and emotional, enterprises. By and large, though, the human relations school still saw the firm primarily as a bounded system, albeit organic, and therefore viewed motivation and culture development as a TMT right and responsibility. The social and emotional dimensions of employees were recognized, but the aim of managers was to exercise sufficient control so that these dimensions would not disrupt workers' contributions to productivity and profit.

*Persuasive management processes*

If managers take an open-system view of organizations but still see the firm as an identifiable, autonomous entity, then the result is a perspective that incorporates an external, not fully controllable environment, but that still focuses on control measures, albeit of a different type from those of authority-based processes and the human relations school's transitional processes. We call this the “persuasive” class of management processes because managers know that they cannot command compliance from stakeholders; they must negotiate or persuade. Besides, by contrast with the human relations approach, persuasive-process managers try to win allegiance and commitment, not merely performance. The central TMT question is this: How can we get everyone on board with our goals? Typical TMT processes are oriented toward negotiation and persuasion and, when these fail, toward the kinds of processes laid out in J. D. Thompson's (1967, 2003) contingency theory: buffering and bridging processes such as environmental scanning, issues and public affairs management, and other tools for “managing stakeholders” or “managing the

environment” (Pfeffer and Salancik, 1978), as well as those developed to smooth employee relations and to persuade employees to work toward the firm's goals instead of their own – incentive systems, leading by example, management-by-walking-around, open-door policies, limited information-sharing, and other efforts to win buy-in.

When persuasive processes are dominant, management's focus is on longer-term performance in the sense that the organization's goals must remain in managers' minds even as they attempt to deal with or placate stakeholders' interests that are seen by them as “irrelevant.” In addition, in order to exercise persuasion, managers must have something to offer, and whatever they offer must be both something that will not distract the stakeholder from the firm's goal accomplishment *and* a resource that is not essential to meeting those longer-term goals of the company. For example, in a company using persuasive processes, a key worker with a very sick spouse might be encouraged to take a limited family leave, perhaps with partial pay or a continuation of benefits, so that the company can retain that employee's knowledge and services despite personal turmoil. This approach would be very distracting for the worker, however, if management were to make an unlimited time offer of support for the worker and the sick spouse. Managers, too, can be distracted from goal-attaining behaviors; getting emotionally involved in the worker's family health problems is a common example.

The TMT-desired outcomes in a firm where persuasive processes are dominant include achieving enough goal congruence, engagement, and coordination among key stakeholders to enable the focal organization to meet its own goals. Examples of persuasive processes are seen in companies that seek “enlightened self-interest” and that implement traditional unsystematic modes of corporate social responsibility (in both cases, attempting to show stakeholders that their interests are important too). For example, partial ESOPS (employee stock ownership plans) often give employees incentives to increase productivity along with the illusion of participating in management decisions; human resource tactics such as job enrichment and flex time attempt to win employee commitment by accommodating some employee needs and desires; employees may be allowed to vote on how the



corporate foundation allocates a certain amount of charitable gifts.

*Transition: strategic collaborative processes*

Recognizing the existence and importance of outside agents and influences is one thing; acknowledging their legitimacy and intrinsic value is something else. We suggest that as managers begin to engage with stakeholders, they learn to appreciate different points of view, modes of operating, and end goals. They begin to see that the firm is not only interdependent with stakeholders, it can also share common interests and thus may be able to win allies in its attempts to resolve large-scale problems (Logsdon, 1991). As these understandings emerge and develop, so too does management's acceptance of mechanisms such as routine stakeholder engagement practices, multi-party collaborations for social problem solving, public-private partnerships, and multi-firm alliances. Managers participating in such processes soon realize that a "winner-take-all" mentality does not work so well in multi-party ventures: "success" does not necessarily mean "winning" every war, and "beating the enemy" may involve teaming up with competitors to find effective ways of changing their own practices (see., e.g., Gray, 1989). These practices are transitional because they have not yet become dominant, and they cannot do so until management's view of the firm takes another significant shift.

*Virtuous management processes*

When managers realize that the firm is a configuration of networks and sub-networks, this realization leads them to abandon the view of the firm as something that is strongly bounded and controllable. The firm's "boundaries" dissolve into the reality of networks and sub-networks, and managers' perceived ability to control internal processes and external exchanges decreases. The firm's culture becomes the primary perceptual organizing device for managers and onlookers; structure is secondary, because it is a consequence of the relationships that operate among various network nodes. Change is seen as rapid and fluid; all that is required for a

network to assume a different structure is for the pattern of dyadic relationships to change, and such change can be spontaneous and virtually instantaneous – it need not be planned for, orchestrated, or monitored. Finally, in this view of the firm, management interests are not seen as dominant, but as one set of interests among many that must be addressed as "members" of the firm go about their activities (e.g., Häcki and Lighton, 2001). It is this latter attribute, the balancing of interests, that leads us to call the processes dominant with this view "virtuous."

Aristotle laid out key distinctions between the "continent" person, who wants what is wrong but does what is right, and the "temperate" person, who both wants and does what is right. In addition, Aristotle was clear on the point that the virtues were not fixed attributes or behavior patterns but were necessarily responsive to circumstances. To find the Golden Mean between, say, cowardice and bravado, one would judge what the present situation required and bring to bear the correct amount of courage. Virtuous management processes, by extension, are those where TMT actors recognize the legitimate interests represented in the firm's networks and sub-networks, and regularly strive for a situational "golden mean" through familiar mechanisms such as two-way communication, negotiation, and collaboration. Actors using virtuous management processes ask, "What would a good person (or company) do in this situation?" Typical TMT processes are directed toward transparent and complete communication, trust maintenance, "internal" reputation management, collaborative and negotiative processes, and individual and network thriving, and thus organizational goal attainment. The desired outcomes are support for individual moral autonomy, maintenance of organizational and systemic trust, firm flourishing, and fulfillment of multiple responsibilities. Virtuous management processes are observed in companies that have a clear understanding of their interdependence with the internal and environments and its numerous networks. Companies that *fully* integrate their corporate social responsibility are likely to make wide use of virtuous managerial processes. There are some company examples that exhibit the use of virtuous management processes in terms of encouraging and supporting employee ventures and personal growth. For example,

Timberland regularly gives employees time off to play; this seems counterintuitive for a profit-oriented company, but employees come back to work happier, healthier, and with new ideas about how the company can grow and create value for all its stakeholders. Virtuous processes are based on an assumption that different goals, interests, and skills are legitimate and to be respected; they are not merely obstacles for managers to overcome.

The stakeholder perspective on firms is a network perspective, yet the network aspects of the stakeholder approach have not been well developed. Many stakeholder scholars take the point of view of a focal firm and analyze how that firm can best understand and manage its various relationships with various types of stakeholders, thus treating the firm as central in a network of stakeholder relationships. As Freeman (1984) explains, stakeholder theory has its origins in the role theory of Merton (1948/1968), which developed the idea that every individual is connected to a variety of others in a set of status-role relationships that both position the individuals relative to each other in a larger social structure (e.g., parent-child, worker-supervisor) and define a set of behavioral expectations, or roles, that attach to each relationship. For stakeholder theory to remain true to role theory, however, would require that a firm be seen as a participant in a variety of dynamic dyadic relationships that tie it to a variety of networks. We propose, therefore, that much of stakeholder theory remains anchored in the bounded view of the firm, although it is readily adaptable to a networked view of the firm.

#### *Transition: sustainability processes*

From the 1970s onward, an increasing awareness of the influence of business activities on the natural environment and on environmental problems has given momentum to the concept of sustainability. When managers view the company as part of the larger biosphere, they tend to take into consideration the interplay of their decisions and the systemic level. This interplay may represent both threats and opportunities for companies. Threats vary from the supply of raw materials to reputation as a polluter to the very decline and death of whole industries because of “incompatibilities” with the environment.

Businesses have increasingly become aware of the immense opportunities offered by a healthy interaction with the natural environment. New industries have emerged in response to the need to redesign human interaction with nature: “green” businesses abound in industries as diverse as cosmetics, cleaning products, and construction materials. Interface is an example of this approach.

Since 1996, carpet-maker Interface, Inc., has been on a mission to alter its production and distribution processes so that it creates no net environmental harm and, perhaps, creates net benefits (Anderson and White, 2009). In order to move toward this goal, Interface’s managers have had to develop a clearer understanding of their company’s actual contributions to environmental degradation and its potential contributions to sustainability. Seeing their firm as a very loosely bounded entity consisting of networks and sub-networks has been one result, but in addition, Interface’s TMT has also had to realize that their company is merely one node in a much greater network of human, organizational, institutional, and natural environmental dynamism. It seems clear that Interface’s managers are moving rapidly toward dominance of our final class of management processes.

#### *Integrative management processes*

In this final mode in our classification, management leans toward a systemically shared goal of sustainability. This means that managers recognize and act upon a wide variety of individual, sub-network, and network goals that operate together to support the entire system. For organizations, this can mean dramatic transformations and even dissolution, if such extreme steps seem necessary for the survival of the larger system. (We are not sure whether Interface would dissolve itself if it learned that its system sustainability goals cannot be met, and this is why we note it as transitional.)

When the networked firm is seen as a node in a larger set of networks and sub-networks, no primacy of structure or culture is seen; rather, structure and culture are seen as fully interdependent and dynamic features of the node itself (the networked firm) and the larger set of networks in which it is enmeshed. Change is seen as continuous, because networks tend

to be responsive to the micro-level changes that are normally occurring in dyadic relationships (see, e.g., Dervitsiotis, 2005; Goldsmith, 1993). Typical TMT processes will be similar to those of the virtuous class, directed toward transparent and honest communication, trust maintenance, reputation management, and individual and network goal attainment, but these processes are not strictly oriented to firm sustainability but to system sustainability as well. There will be a variety of short- and intermediate-term goals, but all will be compatible with a central focus on the long-term performance of individuals, networks, and the entire system. For all players, the desired outcomes include the comfort and security of individual belongingness, holographic identity,<sup>3</sup> maintenance of trust, and system sustainability.

A few scholars in B&S/BE have attempted to draw out some of the implications of the view of firms as existing in a networked stakeholder set. Frooman (1999), for example, sees the firm in a context of “multiactor relationships” (p. 192). Rowley (1997) examined the effects of centrality for focal firms and overall density of the network in terms of managing supplier relations. Mitchell et al.’s (1997) stakeholder salience model builds on the idea that stakeholders who do not possess attributes sufficient to capture the attention of a firm’s management are likely to form alliances with other stakeholders who can lend the necessary attributes. These studies, however, do not yet emphasize the holographic, system-sustainable approach that characterizes integrative management processes.

There are some studies in B&S/BE that illustrate how integrative management processes could work. For example, Wicks et al. (1994), in elucidating normative principles of firm–stakeholder relationships, operate from the assumption that the consequences of firms’ behavior ripple outward in increasingly complex patterns, and thus simplistic rules of conduct cannot govern a stakeholder network. Instead, a normative system of rights, behavioral principles, and action options must be accepted by all players for a truly networked system to be functional.

Companies making sustained use of integrative processes, operating from the assumption that the company and its environment are not distinct and isolatable, are not yet common, although there are some examples of such processes in companies other

than Interface. Microsoft, Google, and IBM are all well known for not just permitting but encouraging entrepreneurial spin-offs – even competitors – that enrich the entire high-tech system. Organizations such as Grameen Bank and its affiliates work as networked nodes in a large set of networks. They are symbiotic with the environment in that they understand that their actions affect the environment, potentially both improving and deteriorating the conditions. Their integrative processes are able to correct imperfections in the environment in extremely innovative and efficient ways. Grameen enterprises are not focused on their own survival as entities, but rather on the accomplishment of their social objectives, earning profit (or not sustaining financial loss) along the way to achieve those objectives (Yunus, 2007).

There is a similarity here to the benefits of biodiversity in an ecosystem. Scientists generally agree that biodiversity enhances the ability of the entire system to survive and thrive, even though each organism is “striving” to meet its own interests in survival and well-being. Similarly, a management dominated by integrative processes recognizes that the survival and well-being of multiple individuals, groups, and organizations, as well as their multitude of interests and goals, are essential for the flourishing of the entire system. In extreme cases, this may even result in dissolution of an organization to prevent system failure.

### **Complexity and dynamism of management process styles and resulting ethical issues**

A number of normative and descriptive theories in business ethics and corporate social responsibility are founded on the concept of social network as embodied in the stakeholder approach, based on the assumption that a company has a duty to be answerable to all the individuals, groups, and organizations that affect or are affected by its activities (e.g., Post et al., 2002). In addition, network ethics has been touched upon by ethics scholars concerned with topics such as corruption (e.g., Gordon and Miyake, 2001; Logsdon and Wood, 2005; Nielsen, 2003), accounting and auditing (e.g., Dillard and Yuthas, 2001), information technology usage (e.g., Santana and Wood, 2009) intra-organizational

networks and ethical conduct (e.g., Miller and Thomas, 2005), multi-sector social problem solving alliances (e.g., Gray and Wood, 1991; Wood and Gray, 1991), social network analysis (e.g., Wasserman and Faust, 1994); innovation processes (e.g., Reagans and Zuckerman, 2001), corporate responses to external influence (Welcomer, 2002), and social capital studies (e.g., Leana and Van Buren, 1999; Maak, 2007). Despite this welter of network-relevant studies and the general recognition of the importance of networks to business ethics, there has been no explicit development of business ethics that views the firm itself as a configuration of networks and sub-networks.

Here, we are most interested in how managers perceive the firm and its environment, and how they enact management processes based on those perceptions. Table I has shown that different management processes are likely to be used by TMTs, depending on their view of the firm as a closed- or open system and especially as a strongly bounded controllable entity or a configuration of networks and sub-networks. Building on Table I, Table II illustrates the typical ethical issues that are likely to arise from these different management processes and suggests typical means by which organizations will try to control their exposure to these issues. As we shall see, the ethical issues with which actors may need to grapple will become more numerous and complex as the managers' perspective on the firm and its environment also becomes more complex. Besides, there is a dynamism among the cells of Table II because individual actors (or nodes) can fail, fall back to a less complex mode, or misperceive a situation and its appropriate response. It is likely that any particular company can exhibit behaviors characteristic of any of the aforementioned classes of processes at various times and under various conditions, thus making it impossible to classify *firms* under this system.

#### *Dynamism along the continuum of classes of management processes*

The closed-system, strongly bounded view of firms does not ignore the fact that a firm is set within a larger environment; there are always industry and macro-environmental factors that enter into mana-

gerial calculations. The difference between the closed- and open systems views is that a closed-system manager treats the firm's processes as controllable and the environment as a set of opportunities to exploit and threats to avoid. The open-system manager, by contrast, treats the firm and its larger environment as a continuum of relationships ranging from simple exchange to interdependency to identification.

Thus, the move from authority-based to persuasive processes is based on a shift from self-interested exploitation to self-interested exchange, where both managers' and the firm's interests represent the motivation for attempting to control all aspects of the firm's operations. This shift is in part a level-of-analysis jump, with authority-based processes focusing on the individual and organizational levels of analysis, and persuasive processes incorporating at least an implicit consideration of the systemic level. In addition, this shift is based on different views of the firm's mode of interacting, from exploitation to exchange: an exploiter takes; an exchanger bargains; however, both operate from a perspective that self-interest is primary.

Moving from persuasive to virtuous processes is a qualitative quantum leap, from a managerial perspective of self-and-firm's interest to one of mutual interest, in recognition that a firm's survival, defined here as the ability to engage in desired processes and meet desired functions, depends on a certain level of satisfaction among the various interdependent networks and sub-networks that partially or totally overlap the firm. As Logsdon (1991) has pointed out, an organization's motivation to collaborate will be high when it sees that it is mutually interdependent and has common interests with other members of the collaboration. The mode of a virtuous processes view is collaborative, not exploitative or exchange-based.

Moving from virtuous processes to integrative processes, finally, is based on a level-of-analysis shift from viewing a firm as a configuration of networks and sub-networks defined by process and function (virtuous processes) to viewing the firm as a networked node in a larger macro-environmental set of networks (integrative processes). In this final view, "the firm" becomes completely identified with the larger environment, so that "its" interests are the same as the environmental system's interests. The

TABLE II  
Typical ethical issues for four classes of management processes

	Authority-based processes	Persuasive processes	Virtuous processes	Integrative processes
Primary TMT orientation (question)	How can we ensure compliance with orders?	How can we get everyone on board with our goals?	What would a good person/company do in this situation?	How can we achieve mutually satisfactory outcomes and system sustainability?
View of the firm	Strongly bounded, closed system	Open-system, but still strongly bounded	Open system, networked	Open system, networked
Perceived nature of the system	Simpler, more concrete	→	→	Complex, more abstract
Fallback ethical issues		Reversion to Type A.	Reversion to Type A or B.	Reversion to Type A, B, or C.
Information issues	Information is not shared between management and employees except as the actors see fit. Information sharing is seen as a means of control, but shared information may be incomplete, manipulative, false, or deceptive.	Shared information may give the illusion of empowerment and participation. If false or deceptive information is shared, then its intentionality is easier to confirm or disconfirm.	Information is more fluid and less controlled; stakeholders may be more likely to get false, deceptive, or inappropriate information, with or without anyone's intention. Information failures: transparency, validity, verification, and completeness.	Shared values for mutual responsibility to avoid harms act as a constraint on the transmission of false, deceptive, and inappropriate information because players are more careful to validate truth and intention before sharing.
Relationship (linkage) issues	Coercion, exploitation. Sabotage, slippage, theft.	Confusion and self-deception in response to environmental challenges. Employee "fake" empowerment (no real participation). Manipulation, deception, hypocrisy, gaming, trust failures. Faulty attempts to "manage" stakeholders.	Conflicts of interest. Trust failures: individual-level or sub-network level exploitation, lying, deceit. Conflicts of values (there are different right answers).	Individuals can revert to self-deception, manipulation, authoritarian coercion. Nodes can fail to contain/eliminate bad (destructive, untrustworthy) behavior. Nodes may be damaged by focus on the whole.

TABLE II  
continued

	Authority-based processes	Persuasive processes	Virtuous processes	Integrative processes
Market issues	<p>“Market failures”: externality harms, inequities, monopoly. TMT sees these as inevitable and perhaps intended consequences of actions necessary for firm survival and thriving.</p>	<p>Market failures, plus an overlay of confounding issue framing. TMT sees these as unfortunate and unintentional consequences of actions necessary for firm survival and thriving.</p>	<p>Market failures of the company itself tend to be internalized, with the company accepting responsibility for the failure and for fixing it.</p>	<p>Market failures are quickly contained by means that fit the situation. System maintenance is not ignored as system failures are repaired.</p>
System issues	<p>Inefficiency in the organization, because employees are viewed as pieces of a machine and not as participants in a social system, and thus do not work to capacity. There’s no grasp of a “commons” that supports and sustains individual/company goal attainment.</p>	<p>Inefficiency in the organization because of defensive additions to structure and process and thus costly comprehensive contracting. There is a limited grasp of a “commons” and the company will attempt to protect it as long as these attempts do not interfere with company goal attainment.</p>	<p>The company can experience a disconnect from the larger system by not incorporating into mgt processes the sustainability needs of the larger system. The “commons” will be viewed and protected in many different ways, as enacted and negotiated from various stakeholder perspectives.</p>	<p>System can fail to self-correct and thus be unsustainable. There is no functional separation between “commons” and actors. What benefits the commons also benefits the actors; the objective is long-term sustainability of the system, although actors may come and go and transform themselves.</p>
Typical way(s) to address, or control, or resolve ethical issues	<p>Stricter management control systems. Bargaining backed by use/threat of force. External government regulation.</p>	<p>Maintenance of “loyal opposition” to prevent reversion to Type A. Quality control, JIT inventory, and other means to combat externalities. Periodic OD efforts.</p>	<p>Conflict resolution mechanisms. Observation of multiple witnesses with attendant consequences for “bad” behavior. Feedback loops and self-corrections. Incentive systems to appeal to all or most interests. Establishment of rights protected for members. Establishment of fair access and fair processes.</p>	<p>Conflict resolution mechanisms. Observation of multiple witnesses with attendant consequences for “bad” behavior. Feedback loops and self-corrections. Incentive systems to appeal to all or most interests. Establishment of rights protected for members. Establishment of fair access and fair processes. Attention to distribution of outcomes.</p>

commons comes to be owned by each and every organizational or networked node within the larger system. If all managers view their work in this way, then there is no longer a conflict between economizing and ecologizing (Frederick, 1995); a node cannot tend to one value-cluster without also tending to the other, because otherwise, the system itself fails.<sup>4</sup>

#### *Comparing ethics in the four classes of management processes*

To allow some analytical clarity in comparing the four classes of management processes, we address four domains in which ethical issues are likely to arise: the content and transmission of information, the nature of relationships, the market in which the company operates, and the larger social system.

#### *Ethics and authority-based management processes*

In companies where authority-based processes are dominant, the control of information is likely to be viewed as crucial for the control of the company and its goal attainment. Thus, managers will likely see themselves as the source of all relevant information and will be more tempted to distort, hide, or manipulate information as they see fit to meet company objectives. Employees are not powerless in this scenario; they too will see information as power and thus may also distort, hide, or manipulate it to achieve their own goals. For example, employee dislike of “rate-busting” and their attempts to tone down excessive performers are well documented (e.g., Levine, 1992).

Because the goal orientation is so narrow and the broader configuration of human needs and desires is not acknowledged, relationships between managers and employees are likely to be marked by coercion and exploitation on the part of managers, and by slippage, sabotage, and theft on the part of workers. When managers see that workers are slacking off, stealing, or otherwise impeding organizational performance, they will likely try to implement more coercive, more invasive management control systems. As Williamson (1975, 1979) has observed, such a situation sets off round after round of

“comprehensive contracting,” costly and ultimately ineffective attempts to seal off opportunistic behavior. There is no intrinsic respect among participants in such an organization, and trust seems unlikely to develop.

Managers working primarily with authority-based processes do not acknowledge the importance of stakeholders to organizational goal attainment, except as recipients of exploitative behavior, and this gives rise to market and systemic ethical issues. Such managers (beyond the Taylorist period) may establish external affairs units, but there is no pretense that these units are in any way oriented to the interests of the relevant stakeholders. They are strictly, in J. D. Thompson’s (1967, 2003) terms, boundary-spanning units for the benefit of the company. Such managers will tend to drive their companies to indulge in the kind of “market failures” that require systemic regulatory resolutions: externality failures, where certain costs of production are offloaded onto involuntary stakeholders; equity failures, where essential goods or services (water, transportation, communications, etc.) are not provided to some portions of the population; and monopoly failures, where companies drive out competitors and disrupt the supply-and-demand price mechanism (Stone, 1982). All of these market failures create inefficiencies (waste) in the larger socio-economic system, but managers tend to see them as inevitable and even intended consequences of acting in the firm’s self-oriented “best” interests.

#### *Ethics and persuasive management processes*

In companies where persuasive processes dominate, information is seen as a means of both control and persuasion. Managers are likely to share more information with workers, hoping that the result will be greater participation toward meeting the company’s goals, but they are not likely to share all relevant information, retaining their prerogative to control. Information-sharing may be sincere and well meant, or it may be manipulative and illusory. In the latter case, ethical issues will arise as trust is broken when one party realizes that the other is engaged in deception or trickery. Information failures can originate with either managers or workers, and because persuasive processes tend to appeal to

interests other than straight-line organizational goal attainment, all actors are likely to be more observant and better able to detect attempts to manipulate or deceive.

The possibilities for deception and manipulation of information give rise to typical broken-trust relationship issues between workers and managers when persuasive processes are dominant, but perhaps even more important is the confusion that can result from managers' views of stakeholder relationships. Managers using primarily persuasive processes see stakeholders as resources for the company. The TMT acknowledges the existence and interests of stakeholders, but managers really do not have any idea of how to deal with them comprehensively. They are still trying to "manage stakeholders" and "manage stakeholder relationships," and so the illusion of control butts up against the reality of stakeholders' independent actions and the entire system's interdependence. Confusion results and is expressed typically as "we must balance stakeholder interests," without any concrete understanding of how or even why that might be done. Managers of persuasive processes will establish external affairs units that at least *appear* to incorporate stakeholder interests in a collaborative, negotiative way. Ultimately, the TMT's aim is to benefit the company through "stakeholder management," and if external affairs functions also benefit stakeholders, that is just an added benefit.

Ethical issues arise from this situation because the TMT is attempting to achieve something that is not feasible (a vague "balancing" of stakeholder interests), and thus they will not make reliably good judgments, and because perceptual confusion yields bad decisions. For example, a chemical company's TMT perceives a need to engage in community relations, in an effort to persuade the community to support it in zoning, pollution control, and employment issues. However, the community council that is established consists of TMT-picked representatives, excluding some key groups in the community who experience harms from the company's actions. These groups, of course, can and will create difficulties for the company because their interests are being ignored. The TMT's confusion about the limits of their control and the real interests that exist creates an illusory and ineffective community relations program. If this is done on purpose,

then it is manipulation. If it is not done on purpose, then it is confusion.

A persuasive process system issue is the inefficiency in the organization resulting from defensive additions to structure and process and thus costly comprehensive contracting (Williamson, 1979). For example, in the 1980s, many large companies added departments, functions, and staff to accommodate their acceptance of the new role of stakeholders in their companies' goal achievement. Public affairs, issues management, charitable foundations, community relations, and employee daycare programs are examples. However, when hard economic times arrive, such structures and processes are easily abandoned because they have not achieved a central integral position in the TMT's thinking. This gives rise to wastages of organizational resources and can harm stakeholders.

#### *Ethics and virtuous management processes*

Companies that primarily use virtuous processes show respect for their stakeholders by engaging in stakeholder dialogue, shared governance, and collaborative or negotiated solutions to conflicts. Virtuous processes are, again, a quantum leap in management mindset. They enact the reality of an organization that is a system of networks and sub-networks. Managers using virtuous processes bring stakeholders' interests into a central position and recognize that these interests may be legitimate whether they are consistent or not with the company's goals.

Virtuous processes use a more fluid and transparent approach to information transmission, and ethical issues may arise when fluidity and transparency result (without necessarily any intent) in inaccurate, incomplete, or even deceptive information. Fluid information transmission can have opposite effects on verification efforts because inaccurate information may have an identifiable and easily corrected source, or it may have an unidentifiable and difficult-to-correct source. Think, for example, of how rumors are said to "go viral" in virtual networks. Rapid correction is only possible when all actors in the network are paying attention to what they transmit and receive and are acting in good faith.



Relationship-based ethics issues in such companies are very likely to involve conflicts of values and conflicts of interest. Even the best collaborative and communicative processes will not result in all interests being satisfied, and thus there may be claims of unfairness or rights violations as actors attempt to get their own needs and interests met. There may also be sub-network relationship failures (deception, manipulation, lying, etc.) that result in loss of trust, but a company network operating primarily by virtuous processes will be quick to recognize, halt, and contain the damage from such incidents.

Market-based ethics issues are less likely for managers operating with virtuous processes than for managers who use authority-based or persuasive processes. Virtuous-process managers tend to incorporate and thus neutralize “externalities” by recognizing that offloading the costs of production onto unsuspecting stakeholders is a violation of rights and justice; by the same token, virtuous processes can also mitigate inequities in distribution. Monopoly can be a risk for a company using virtuous processes, but if such a company were to gain that degree of market power, then it would likely fall back to authority-based or persuasive processes, acting as a “benevolent dictator” with stakeholders.

A company operating mostly by virtuous processes can experience disconnects and conflicts with its larger environment because it does not incorporate total-system sustainability into its goals in any coherent way. (An individual-level example of this problem might be the owner of a hybrid automobile who does not recycle.) In addition, because of value-interest conflicts within the firm’s networks and sub-networks, there may be very different understandings of what exactly the commons is and what should be done to protect and sustain it.

#### *Ethics and integrative management processes*

Information-based ethical issues will tend to be resolved (or stabilized) in companies dominated by integrative processes because all actors tend to understand the importance of accurate, timely, complete information to the maintenance of trust in the system and will take personal responsibility for verifying truth and validating intention before transmitting. Similarly, market failures and individ-

ual reversions to deceitful or manipulative behavior are less likely in firms with integrative processes dominating, and when they happen, they are likely to be quickly contained and damages mitigated.

In such a firm, because there is no functional separation between the firm and the system, actors will strive for mutual benefit for nodes, and for the system in general. There is a risk in this systemic view that individual rights may be overlooked or abrogated. These processes, because they are focused on long-term system sustainability, can even result in a utilitarian-like failure to accommodate the survival needs of individual nodes. Yet, integrative processes need not be destructive of node survival; nodes can transform themselves into structures and/or processes that are system sustainable. For example, an energy company whose petroleum focus becomes more and more destructive of the natural environment can transform itself into a renewable clean-energy company.

#### *Fall-back risk*

It would be tempting to think that moving through this framework would reduce the ethical problems that can emerge from business activity, as companies become more integrated with their environments. Logically, though, the opposite is true. The more complex the system one perceives, the more possibilities for ethical failure are also perceived. Within any set of processes, actors can “fall back” to perceptions of the firm and classes of management behavior that are less complex and more oriented to control, and thus fall into the ethical traps of those practices. The key to preventing widespread opportunistic behavior in a complex interdependent network is the development and enforcement of widely shared values and behavioral norms. It is this, plus a complex network’s great capacity for observation of and sanction against unethical conduct, that will cause a network operating under primarily integrative processes to be self-correcting.

#### **Conclusion**

This article has analyzed how viewing the firm as a configuration of networks and sub-networks can

change our understanding of typical management processes. A continuum of management processes emerges when one moves from a closed-system, strongly bounded view of the firm to an open-system, diffuse perspective. This important transition in management thought brought the environment squarely into management's domain. When firms are seen as strongly bounded entities, typical management processes focus on controlling the factors of production, whether through authority-based or persuasive processes. However, when firms are viewed as configurations of networks and sub-networks, management processes tend to become more negotiative, collaborative, and empathic, and ultimately will emphasize system sustainability.

Especially in this age of information technology and virtual communities, we suggest that firms have to be analyzed as organizations which are part of multiple, overlapping socio-technical networks and which are themselves configurations of networks and sub-networks. Integrative management processes, focused on the achievement of mutually satisfactory outcomes and on system sustainability, will become increasingly important as our globe's social, political, economic, and ecological interdependencies grow ever more complex and are increasingly so recognized.

## Notes

<sup>1</sup> Both definitions are from <http://wordnetweb.princeton.edu/perl/webwn?s=network>, accessed April 17, 2009.

<sup>2</sup> *Re-ontologization* is a neologism introduced by Floridi and lately extensively adopted in the literature of computer ethics. It refers to a very radical form of re-engineering that transforms the intrinsic nature of the reality. For example, virtual technologies are changing the very nature of our environment; likewise, nanotechnologies are not only changing (re-engineering) the world in a very significant way but they are reshaping (re-ontologizing) it.

<sup>3</sup> By "holographic identity," we mean that actors in a system of networks see themselves *as* the system, so that actor thriving and system thriving are not viewed as competing.

<sup>4</sup> We must note, along with one reviewer, that it seems unrealistic to think that managers would ever adopt integrative processes, which mark the endpoint of

our continuum. Nevertheless, on this same point, another reviewer remarked that logically, integrative management processes seem to represent "the open-systems view on steroids," that is, a logical, even if extreme, endpoint to our analysis.

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