

CHAPTER ONE

INTRODUCTION:
INFORMATION TECHNOLOGIES
AND THE CHANGING SCOPE OF
GLOBAL POWER AND GOVERNANCE

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With the steamship, the electric telegraph, the newspaper,
the wholesale engines of war,
With these and the world-spreading factories he interlinks all
geography, all lands;
What whispers are these O lands, running ahead of you,
passing under the seas?
Are all nations communing? Is there but going to be one
heart of the globe?
Is humanity forming en-masse? For lo, tyrants tremble,
crowns grow dim,
The earth, restive, confronts a new era, perhaps a general
divine war,
No one knows what will happen next, such portents fill the
days and night;

—Walt Whitman, *Songs of Parting*

It is somewhat ironic, and a tad unpoetic, to note that in 1865 as Walt Whitman conjectured about the whispers passing under the seas, across the Atlantic in Paris the industrializing Western powers met to found the International Telegraph Union.¹ Zacher echoes Whitman's concerns in pointing out later in this volume that capitalism in general, the world-spreading factories, and the electric telegraph in particular, came with a "mandate for interconnection." The workings of that mandate have spiraled outward for 135 years.

This volume studies the relationship between information technologies and global politics, a relationship whose intricacies and the broad meanderings are still being understood. For this reason, the authors return to the bricks and mortar of political science: power and governance. Reflecting a view offered by many international relations researchers, they grapple with the way the spread of information technologies is shifting power and the locus of authority away from the state. The intent and contribution of the book are to show how this conclusion is valid with respect to information technologies by examining several issue-areas. The overall context of the volume is, of course, what information technologies have now wrought—global information networks. Networking, entailing communication and information exchange, is changing both the way power is exercised and governance is organized in global politics.

Information technologies in this volume refer to all technologies that help to produce, gather, distribute, consume, and store information. These may include, though are not limited to, print and broadcast media, telecommunications (telephone, fax, Internet, World Wide Web, etc.), channels of communication (satellite, different types of cable including fiber optics), computers, and storage devices (DVD, CD-ROM). Except for Aronson (chapter 2) and Rosenau (chapter 11), the authors focus on specific information technologies and issue-areas.

This chapter puts the rest of this volume in a theoretical and, where necessary, a historical, perspective. The chapter shows how “multiperspectival” identities, actors, and issues are supplementing national identities, states, and the salience of high-politics, or strategic security issues, in global politics. The chapter first discusses how the rise of information networks is facilitated by changes in technology. The chapter then turns to the changing scope of power. It shows how power with respect to technology needs to be understood as much in terms of capability (instrumental and structural power) as in terms of the ability of information technologies to constitute new identities and agendas—what this chapter terms “meta-power.” Finally, this chapter discusses the scope of governance. The argument is that the locus of authority, order, and legitimacy are shifting away from the state toward pluralism and actor advocacy.

The volume’s authors are attempting to grasp the quotidian and the transformational effects of information networks over global politics. Information technologies and global politics have been studied before, and there are a few classics in the field (Zacher with Sutton 1996; Sandholtz 1992; Krasner 1991; Cowhey 1990; Aronson and Cowhey 1988; Gilpin 1981). However, debates continue on basic questions such as the impact of the information networks on the identities of actors, and what these actors do unto each other in areas such as power, authority, and governance.² The authors in this volume try to build upon the nascent body of literature that endeavors to grasp these effects (for example, Keohane and Nye 1998; Deibert 1997; Der Derian 1990; Luke 1989). Fundamental

changes, as those being brought about by information technologies, take time and are thus hard to analyze when they have just begun. By critically analyzing issues of power and governance, and by building on conclusions offered by international relations scholarship, it is hoped that a few in-depth answers may be provided on the relationship between information technologies and global politics.

THE RISE OF NETWORKS

The import of transactions conducted over networks is such that all conceptual frameworks now speak of networked organizations. In one form or another, scholars of various hues refer to these networks in speaking of the actors that international relations scholars study. Rosecrance (1996) refers to the virtual state; Deibert (1997) and Arquila and Ronfeld (1997) to networked security; Spar with Bussgang (1996) to networked marketplaces; Gereffi (1995) to networked transnational enterprises; Mathews (1997) and Keck and Sikkink (1999) to NGO-based advocacy networks; and all forms of networked organizations as preeminent in world political economy are referred to by Aronson (chapter 2), Keohane and Nye (1998), and Castells (1998, 1997, 1996). In Castells's (1996, 469) words: "Networks constitute the new social morphology of our societies, and the diffusion of networking logic substantially modifies the operation and outcomes in processes of production, experience, power and culture."

Technologies propose change; they do not determine it. The effects of networking on states, businesses, and international organizations transcend any kind of technologically deterministic logic. Nonetheless, two developments are important for understanding how technologies proposed the rise of networks that replaced earlier organizational forms. These developments are: digitization and the fall in marginal costs. Skeptics of the effects of information technology often question, not just the effects, but also the technological changes that facilitate them. It is thus important to understand technology as well as its effects on power and governance in the context of this volume.

Digital technology changed the way information industries were organized.³ Historically, different types of information technologies evolved as distinct industry types dominated by one or more firms. The vertical dimension of Figure 1.1a captures the tasks performed by the different types of information industries. Vertically integrated industries developed different pipelines for different functions needed to deliver information. (Aronson discusses similar processes by referring to conduits in the next chapter.) Thus, the telephony industry deployed a combination of transmission media with high bandwidths (to carry messages over long distances) and narrow bandwidth copper wires (to deliver voice messages to particular homes, known as the "local loop" in industry jargon). The inability of

FIGURE 1.1
THE INFORMATION INDUSTRY

1.1a
Influence of Analog Technology

		INFORMATION				
		VOICE	TEXT	IMAGE	DATA	VIDEO
FUNCTION	Create and Collect (Content)	TELECOMMUNICATIONS	PUBLISHING	PHOTOGRAPHY	COMPUTING	ENTERTAINMENT
	Display (Communication Devices)					
	Store (Memory Devices)					
	Process (Applications)					
	Distribute (Transport)					

1.1b
Influence of Digital Technology

		INFORMATION				
		VOICE	TEXT	IMAGE	DATA	VIDEO
FUNCTION	Create and Collect (Content)	Digitized Content				
	Display (Communication Devices)	Multimedia Devices				
	Store (Memory Devices)					
	Process (Applications)	Information Highway				
	Distribute (Transport)					

Source: Sheth and Singh (1994)

these networks to carry high amounts of data (the first parallel horizontal frontier that the telephony industry broached) over the local loop is still being felt. In a few national markets, telecommunications providers were specifically barred from providing any services other than telephony in return for monopoly privileges. Similarly, cable television later distributed its content on a network capable of handling high bandwidths, but not particularly capable of switching it (as in telephony), because of the separation of industry types. Analog technology thus helped to separate voice, text, image, data and video industries.

Digital technology has undone the technological logic behind separate industry types and pipelines. This in turn has also spurred multimedia interactive instruments and fiber-optic cables capable of carrying all types of messages at high speeds and low costs (including over the local loop). Earlier technology was “analogous” (therefore the term analog) to sending information in electrical waves and was time-consuming and often inefficient. New technology allows information to be encoded in streams of binary digits (digitization) which can be sent efficiently and at relatively low cost over long distances. Digitization impacts all aspects of the information industry allowing various types of media (voice, text, image, data, and video) to be digitized and sent over the same pipeline and accessed by a single instrument. As shown in figure 1.1b, this offers the potential for horizontal integration of industry types. Even though the telecommunications industry is still catching up with this horizontal integration, multimedia interactive devices are already a trillion-dollar industry.

The vertical and horizontal integration of pipelines due to digitization is expanding and deepening information networks. The expansion is coming as different types of vertical pipelines merge. For example, the fact that cable networks can now accommodate telephony and vice versa allows for better and expanded geographic coverage. Deepening occurs due to horizontal integration, allowing for a variety of functions to be performed over the same network with the use of a multimedia device. It is this vertical and horizontal integration, whose genesis lies in digitization, that is leading to the oft-discussed information superhighway. Negroponte (1995, 231), in a popular book written about digitization, notes that the “information superhighway may be mostly hype today, but it is an understatement about tomorrow.”⁴ This raises the stakes for the firms involved in physically laying out the information superhighway, and also underscores the importance of the number of transactions conducted over this infrastructure. Kim and Hart (chapter 6) reflect the former concern in noting the battle over intellectual property rights and Aronson (chapter 2) explains the transactions in terms of what he labels conduit and content issues. The chapters by Zacher, McDowell, and Singh deal with similar themes of market access, user demands, and telecommunication providers’ rivalries.

The second technological feature of importance is the way technological innovation pushes down the unit cost of products. Anyone who buys a computer

one year to see its price halved the next season is familiar with this logic. Digital technology comes with high fixed costs and minuscule marginal costs, a development popularly known as Moore's Law (after Intel Chairman Gordon Moore). For example, a computer disk, once produced, can be reproduced a million times over at negligible cost. Selling one disk for \$1 million is hard, but a million can sell for \$1 each. Success for information age products derives in large measure from the ability to rapidly generate large volumes of demand in a short time. Microsoft Windows 95, with \$700 million of sales on its first day, is one dramatic example. It helps to explain the push by firms like Microsoft to develop global standards and intellectual property rights in their favor. Superior and better microprocessing chips are also helping to do increasingly complicated tasks at faster and cheaper rates.⁵ Generating large amounts of demand helps to recover costs.⁶

Declining marginal costs are facilitating network deepening and expansion at a rapid rate. A poor country with access to some capital can, if it has the political will, leapfrog the technological frontier by using inexpensive satellite based terminals and bringing a variety of multimedia services to remote areas. Furthermore, network distance matters less and less. Consumers in the United States are familiar with this logic through the one-rate long distance plans which replaced distance sensitive plans of the past. But the extent to which networking comes about, and the global impact it has, cannot be measured by technological developments alone. The fundamental points made in this volume about the impact of information technologies are thus rooted in the political, economic, and cultural context of their deployment and analyzed through the lens of the changing scope of power and governance.

THE CHANGING SCOPE OF POWER

Global politics are inherently relational. Equations of power can be simplified to "who does what to whom." This may entail who is empowered versus disempowered (instrumental power); who is constrained in a given situation versus who gets to write the rules (structural power); and, finally, how basic identities, interests, and issues themselves are reconstituted or transformed in particular historical contexts, in turn redefining other relations of power (called meta-power here). To political science's traditional notion of instrumental or structural power, this volume adds the notion of meta-power to which, one way or another, this volume's authors allude. This section explores how these three types of power may be understood in relation to information technologies. Two arguments are extended: the way information technologies are enabling formerly underprivileged groups to play a role in global politics, and the way in which all actors' identities and issue-areas are being reconstituted.

INSTRUMENTAL POWER

Instrumental power focuses on the capacity or capability of power holders to effect particular outcomes. Information technologies, or any technology for that matter, are then forces that enhance these capabilities.⁷ This was one of the first ways in which political scientists and policy makers examined the relationship between information technologies and power. Information technology enhances the capabilities of traditional global actors, like states and firms, but it also empowers other actors (like transnational social movements or terrorist groups) and may even offer a few surprising insights into who is getting empowered and disempowered in global politics.

Early conceptualizations of the impact of technology on power, in scholarship and public policy, revolved around notions of instrumental power.⁸ The instrumentality of the telecommunication infrastructure is apparent historically in the U.S. Department of Justice's concerns about AT&T's use of monopoly power in the early 1940s. These concerns were initially sidetracked, as the infrastructure was deemed too important for national security to warrant an investigation. The post-war investigation led to restrictions on AT&T in 1956 to stay out of information services. The Pentagon, however, continued to support AT&T until its breakup, deeming the latter a threat to national security.⁹

Security concerns began to spill over into the economic realm in the 1960s when enhancing national wealth through information infrastructures surfaced and became linked to concerns about national power. By the late 1960s, the Japanese had encouraged an entire school of scholars to think about "johaka shakai" or information society (Snow 1988). Powerful ministries such as MITI (Ministry of International Trade and Industry) got involved as the economic implications of information technologies became important (Aronson and Cowhey 1988). The French noted explicitly by the late 1970s that unless they enhanced their information infrastructure, they would be left behind politically and economically. A report written for President Valéry Giscard d'Estaing began with the following statement: "If France does not respond effectively to the serious new challenges she faces, her internal tensions will deprive her of the ability to control her fate. The increasing computerization of society is a key issue in this crisis and could either worsen it or help solve it" (Nora and Minc 1980, 1). Studies from international organizations like the ITU and IBRD, beginning in the 1960s, also advocated that developing countries could accelerate their pace of economic growth by expanding their information infrastructures (Saunders et al 1994/1983; ITU 1984; Hudson et al. 1979).

Instrumental power concerns were most obvious in the 1980s in national debates about economic competitiveness. The case of France was mentioned earlier. However, the prioritization of the information infrastructure also took place at a

European-wide level with the European Commission's 1987 Green Paper and the 1993 White Paper laying down the necessity of having suitable information superhighways for European industry (Bruce et al. 1988; Fuchs 1993; Sandholtz 1992; Singh and Sheth 1997; Wellenius and Stern 1994, part IV). In Asia, countries like Japan, South Korea, Singapore, and India launched national initiatives to boost infrastructural development (Singh 2000 and 1999; McDowell 1997; Melody 1997; Petrazzini 1995; Larson 1995; Wellenius et al. 1994; Sisodia 1992; Bruce et al. 1988). South Korea's waiting list of nearly 700,000 for telephones in the late 1970s was reduced to provide universal or country-wide coverage by 1987. Singapore began to see an information infrastructure as vital to its entrepot role, articulated best through its "second industrial revolution" launched in the 1980s. Singapore's vision of an "intelligent island" is exemplified in the availability of 100 percent ISDN in 1989 and expected availability of 100 percent fiber optic broadband network by 2005.

The competitiveness concerns in the United States reached a crescendo in the late 1980s with the growing fears about competitiveness in key sectors like automobiles and steel (Tyson 1992; Tyson and Zysman 1983; Hart 1992). These concerns spilled over into infrastructural development (Aronson 1992). Reports pointed out deficiencies in the U.S. infrastructure while pointing out others' strengths (see NTIA 1991; NTIA 1988; NTIA 1985).¹⁰ Policymakers were soon implementing initiatives to stem the tide. Even laissez-faire minded Reagan boosted federal funding for Sematech in Texas to thwart the decline of competitiveness in the semiconductor industry. Vice President Gore years later touted schemes for a National Information Infrastructure, a broadband initiative. The Telecommunications Act of 1996, now considered a failure, was designed to help expand the information infrastructure.

Instrumental concerns about economic power and technologies were joined by traditional concerns like security and political change by the end of the century. Conceptions of security changed in two ways. First, information technologies were deployed to enhance capabilities in tasks ranging from making of "smart weapons" to organizational ones like defense preparedness (Arquilla and Ronfeldt 1997; Deibert 1997; Nye and Owens 1996). Second, protecting national information infrastructures against varied threats became a regular concern of states. The latter ranged from individual hackers getting hold of crucial information to well-publicized cases of "cyberwars." It was discovered in 1998 that Russians, for example, got access to the Pentagon's computers lifting information, the extent of which even the U.S. government did not know. Instrumental power advocates focused on enhancing capabilities to protect these infrastructures. While recognizing that central control by states over decentralized networks is improbable, instrumental notions of another sort are apparent in the solutions. A White House report on ensuring infrastructural

reliability against natural and human calamities noted, “The national interest can only be served with the sustained engagement of industry, utilities, the public, and government at all levels” (Executive Office of the President 1997, 3). How this other type of central coordination can be effected beyond acts of moral suasion is not apparent.¹¹ Deibert shows in chapter 5 that conjectures about trying to enhance national power are unlikely to be sustainable in an age of networks.

Political change was also influenced by information networks. Unlike the 1980s, when the United States was seen as lagging behind in infrastructural provision, confidence re-emerged about the country’s political role in the next decade. The United States got a renewed lease on its hegemony after the fall of the Soviet Union, East Asian financial crises, and Europe’s economic slowdown. “In a world in which the meaning of containment, the nuclear umbrella, and conventional deterrence have changed, the information advantage can strengthen the intellectual link between U.S. foreign policy and military power and offer new ways of maintaining leadership in alliances and ad hoc coalitions” (Nye and Owens 1996, 20). The country had come round a full circle, from being an infrastructural laggard to possessing an information advantage.

The instrumental features of information technologies, of course, extend beyond state concerns. The way that these technologies empower less privileged groups is especially important in recognizing the promise of technology in instrumental contexts.¹² The spread of democracy in Russia, as Rosenau points out in chapter 11, was in crucial ways tied to the proliferation of information networks and accessibility of information for individuals and groups. While Litfin (chapter 3) and Braman (chapter 4) go beyond merely positing instrumental contexts, both of them do acknowledge how technology may empower NGOs (Litfin) and result in defense technologies enabling civil groups (Litfin, Braman) or even terrorist groups (Braman).

Chapter 10 offers a counterintuitive result flowing from instrumental notions of technology and underprivileged groups. Contrary to current wisdom, developing countries came away with significant concessions from developed countries during the recent WTO telecommunications negotiations. This results from the presence of multiple issues and actors in the global economy, themselves a result of the information age, providing more alternatives to weak states instead of the ‘take it or leave it’ scenarios that usually confronted them in the past.

Spar (1999) elsewhere has argued that MNCs, especially those producing consumer goods, have an incentive to improve their human rights practices as a result of what she calls the “spotlight phenomena,” or the increasing tendency of information networks to spread the word about human rights abuses quickly. The spotlight phenomena that Spar mentions is related to the proliferation of “public eyes” that Litfin outlines in chapter 4.

Information technologies, in particular, are making us re-examine and reinforce several cherished ideas about instrumental power. First, we need to go beyond a focus on states and firms. State capabilities are no longer dependent, for example, on merely using these technologies, but also from working in concert with a host of actors in enhancing their power. Second, the ways in which non-state actors are privileged is important. There is ground for optimism as human rights practices improve, democracy spreads, and the underprivileged make gains. However, the latter argument must not be overstated. States and firms have better access to information technology and information than others. Hackers, terrorist groups and nations engaging in acts of information warfare are also difficult to control. That instrumental power can have negative as well as positive consequences unhinges the original positive connotation of instrumental power.

STRUCTURAL POWER

Instrumental and structural power both deal with capabilities, but whereas the former emphasizes the ability to effect outcomes, structural power is about the ability to effect rules and institutions that govern these outcomes. The famous formulations of structural power in international relations include Waltz's (1979) positing of nation-states as a structural hierarchy of power capabilities, exhortation by Keohane and Nye (1977) examining structural power within issue-areas at the macro-level of the world system, and Cox's (1987) contribution to how material capabilities, ideas and institutions constrain human action. By definition, structural power is concerned with the constraints and the fit of particular activities with given institutions, or the ability to change the institutions rather than with notions of empowerment.

Structural power issues, like their instrumental counterparts, used to be about states and firms. In many ways, they continue to be so. But information technologies are making us appreciate the ways in which information, knowledge and ideas shape these structures and, in turn, human behavior. Strange's (1991, 1988) four structures (security, production, finance, knowledge) constraining options for international actors are determined by states, markets and technology. Cox borrows from Gramscian thought to note that material and institutional structures cannot be examined without reference to ideational hegemonic contexts.¹³ Finally, Rosenau (1997) shows that individuals are now performing increasingly skillful tasks amidst complicated issue structures, in part sustained by information technologies.

The reciprocal relationship between technology and structures is noted in three ways. First, technology influences the structures of security or economic affairs. Second, existing structures or institutions shape technologies themselves.

An in-between case may be the so-called best fit scenarios between particular technologies and governance institutions.

The case of technology shaping structures is made foremost in radical scholarship.¹⁴ Relatively doctrinaire Marxian schema posit so-called ‘forces of production’ (including technology) to be essential in the unfolding of history, shaping social relations (as between capitalists and workers). The dialectical relationship is held in place by the superstructure, including the state that “exists to guarantee the reproduction of these social (including economic) relations as a whole” (Fine and Harris 1979, 95). Following Marxian footsteps, Winner (1977, 82) concludes that “technologies are structures whose conditions demand the restructuring of their environments.” To Winner, these structures and processes represent a “technological order” where technological adaptation is a “reverse adaptation,” co-opting individuals into its workings. Unlike Faustian instrumental versions, Winner presents a technological Frankenstein—technology out of control of human agency (Singh 1994). Ends no longer follow from the means. “The true price is loss of freedom,” a major theme that gets reiterated by historians such as Polanyi (1944) Hobsbaum (1968) and scholars like Postman (1985) and Castells (1996, 1997, 1998). In a famous formulation by Polanyi (running contrary to Zacher’s and Rosenau’s in this volume), technology does not create freedoms, the so-called freedoms serve the purposes of technology owners. “There was nothing natural about laissez-faire; free markets could never have come into being merely by allowing things to take their course” (Polanyi 1944, 139).¹⁵ The radical tradition is reflected by Comor in this volume who argues that, in the context of capitalist social-economic relations, information technologies are being used to ‘deepen’ and ‘broaden’ the commodification of our daily lives. Capitalism here directly affects media contexts, sustaining the market system, generating a range of tensions and potential contradictions.

In a “technological order,” information networks are governed not by an invisible hand, but by an invisible master. Network interconnections, countermovements, and interdependencies lead to a hierarchical positing of structural power with limited choice for human agency. A slightly different notion of structural power comes from those who see existing structures constraining the use of information technology. Structure determines what technology can or cannot do, instead of vice versa. Rosenau emphasizes this when he notes in chapter 11 that technology is neutral but that its use is shaped by the environment in which it finds itself.

The property rights literature in general has examined how rules or rights governing property lead to different uses of technology. Why is it that England took the lead in deploying technology that originated on the continent? North and Thomas (1973) argue that it was because of the nature of England’s property rights that fostered industry.¹⁶ When these property rights are not captured by

small influential groups, the benefits are the greatest (Olson 1982, 1965). There are thus contexts in which technology and structures, or political-economic institutions, adapt to each other. Again, information technology can claim older counterparts. Landes's (1969) famous formulation of industrial technology and economic growth, *The Unbound Prometheus*, was about how English institutions and culture fostered constant innovation and technology usage while continental Europe lagged behind. Since then, there have been several best fit arguments noting how particular technologies falter or are adapted because of the institutional mix in place (Hart 1992; Best 1990; Sabel 1982).

Comparative analysts examine how and why it is easier for a few countries to expand their information infrastructures while others lag behind. Types of states and other institutions are examined to posit levels of infrastructural provision (Singh 1999; Levy and Spiller 1996; Wellenius et al. 1994; Duch 1991). Kim and Hart (chapter 6) cite similar literature to show how the institutional mix in the United States might be best suited to take advantage of Wintelist information technologies, epitomizing in the synthesis existing between Microsoft Windows and Intel.

Analysts also note that information networks are decentralized organizations ill suited for institutional contexts that try to centralize or control information flows. Frequent media accounts abound about Singapore or China controlling information flows. There are also subtler variations. Daniel Bell (1980) cited Stanley Hoffman's term *societe bloquee* or "a society that has become increasingly rigidified in its bureaucratic and political institutions" for characterizing France as it readied itself for information networks in the late 1970s. Two decades later, *The New York Times* (February 11, 1997, A1) characterized the country's dilemma as follows: "In other words, how do you leap into the age of the Internet and still remain French?" Deibert (chapter 5) reflects these concerns about the decentralized and nonhierarchical nature of information networks to show how these networks will themselves foster particular institutions.

In summary, three notions of structural power have been noted—one where technologies shape institutions, one where institutions determine technological use, and lastly the best fit scenarios where institutions and technology shape each other. In each case, information technologies may not increase the structural power of traditionally powerful actors.

META-POWER

Technologies not only impact existing actors and issues but, as an increasing body of knowledge notes, networked interaction itself constitutes actors and issues in global politics. If we merely focus on actor capabilities and take their identities and

interests as given, as most instrumental and structural power versions do, the transformation being brought about by information networks is missed. Networking is highly interactive. Meta-power thus refers to how networks reconfigure, constitute, or reconstitute identities, interests, and institutions. Such power is referenced in this volume by Braman (chapter 4) in drawing attention to meta-technologies and genetic power; Litfin (chapter 3) to constitutive power; Kim and Hart (chapter 6) to meta-power and post-structural power; and Deibert (chapter 5) in referring to the constitution of 'collective images' about security. These authors also note that as ideas, interests and institutions are reconstituted, power shifts away from the original powerholders. The very nature of power itself and the actors who wield it is also changed.

The distinction between meta-power and instrumental or structural power made earlier is now increasingly recognized by those working within and outside traditional international relations scholarship. Interestingly enough, even neo-realists implicitly recognized the notion of meta-power early on. Gilpin (1981, 39), for example, distinguishes between regular interstate interactions and changes in systemic governance versus fundamental changes of the system dealing with "the nature of the actors or diverse entities that compose an international system." He notes that the latter change is understudied but that it is "particularly relevant in the present era, in which new types of transnational and international actors are regarded as taking roles that supplant the traditional dominant role of the nation-state, and the nation-state itself is held to be an increasingly anachronistic institution" (Gilpin 1981, 41). However, while recognizing these transformations, Gilpin does not deviate much from the instrumental notions of power.

Krasner (1985) refers directly to meta-power when noting post-colonial Third World advocacy. Meta-power would allow these states to steer the structure and rules of the market-based liberal international economy toward an authoritatively distributive structure. Krasner sees Third World calls for the creation of UNCTAD, New International Economic Order, and New World/Information Communication Order as strategies for power maximization. He then returns to a familiar conclusion—meta-power itself depends on capabilities, the Third World must suffer what it must. It can not reconstitute the system.

A few neoliberals, too, come close to delineating a notion of meta-power. Keohane and Nye (1988) point out the ascendance of soft power, or power through persuasion and attraction rather than force, as a new salient feature of global politics when information networks proliferate. The cognitive and interpretative insights offered by other neoliberal scholars also address issues of interest and preference formations (Haas 1989; Sell 1998; Odell 2000).

Nonetheless, most neoliberal and neorealist analysts, with few exceptions, take their cues from rational choice analyses, in which the identities and interests of actors, mostly nation-states, are posed *ex-ante*. Gilpin's concern is not how

identity gets constituted but how new types of actors (be they empires, nation-states, transnational enterprises) influence the international system. Krasner's meta-power is about weak nation-states clamoring for power in the world system. Keohane and Nye's soft power is related to actor interests that have been taken as given. These static notions are under scrutiny by analysts situating their arguments in historical sociology, a growing tradition in international relations, now called "the constructivist turn."¹⁷ The challenge is best summarized by one of constructivism's chief proponents, Alexander Wendt (1992, 393–394): "Despite important differences, cognitivists, poststructuralists, standpoint and postmodern feminists, rule theorists, and structurationists share a concern with the basic sociological issue bracketed by rationalists—namely, the issue of identity- and interest-formation. . . . They share a cognitive, intersubjective conception of process in which identities and interests are endogenous to interaction, rather than a rationalist-behavioral one in which they are exogenous." Wendt recognizes that there are scholars, especially in the neoliberal tradition, who have craved such analysis, and he is answering the critics of constructivism as well as trying to bring about a gestalt shift in them. Keohane (1988), years earlier, had called these traditions reflectivist. While appreciating the historical contextuality of intersubjective interest and identity formation, Keohane (1988, 381) noted that "the sociological approach has recently been in some disarray, at least in international relations: its adherents have neither the coherence nor the self-confidence of the rationalists."

Keohane's critique notwithstanding, other disciplines have long offered the kind of empirical insights that he demands. Halbwach's (1992/1941) early work on collective memory showed how images and symbols that societal groups hold can be traced historically and shape the preferences of group members.¹⁸ Halbwach (1992/1941, 189) concludes that "all social thought is essentially a memory and that its entire content consists only of collective recollections or remembrances. But it also follows that, among them, only those recollections subsist that in every period society, working within its present-day frameworks, can reconstruct." Berger and Luckmann (1966) call attention to primary and secondary socializations to argue that reality is a social construction.¹⁹ "Identity is formed by social processes. Once crystalized, it is maintained, modified, or even reshaped by social relations" (Berger and Luckmann 1966, 173). Anthropologist Geertz (1973, 20) was a forceful early advocate: "To set forth symmetrical crystals of significance, purified of the material complexity in which they are located, and then attribute their existence to autogenous principles of order, universal properties of the human mind, or vast a priori *weltanschauungen*, is to pretend a science that does not exist and imagine a reality that cannot be found." Putting it bluntly, "there is no such thing as a human nature independent of culture" (Geertz 1973, 49). Sociologist Castells (1997, 7) would agree: "It is easy to agree on the fact that,

from the sociological perspective, all identities are constructed. The real issue is how, from what, by whom, and for what.”

While postmodernists deliberately eschew what they term “instrumental empiricism,” they provide a conceptual antidote to Keohane’s universal rationalistic notions. Foucault’s analyses (1977, 1970) painstakingly reconstruct the social circumstances that privilege particular knowledge. All forms of knowledge then reveal micro-power relations carrying subtle means of co-opting or marginalizing individuals. Said (1978, 40–41), acknowledging an intellectual debt to Foucault, shows how colonizing Europe in fact created the Orient as a location, idea, and homogenous culture: “Knowledge of the Orient, because generated out of strength, in a sense *creates* the Orient, the Oriental, and his world. . . . Orientalism, then, is knowledge of the Orient that places things Oriental in class, court, prison, or manual for scrutiny, study, judgment, discipline, or governing.” The construction and domination of the Orient are inextricably linked.

Indeed, while the constructivist turn is somewhat new in international relations scholarship, conceptually it stands to benefit from constructivist claims made elsewhere. To refine the concept of meta-power, this is a valuable exercise. The constitution of identities and interests in global politics may be related to similar conceptualizations by other social theorists.

The link between information networks and constructivism can now be made explicit. The collective meanings that actors hold about themselves, or meanings imposed upon them, are shaped by networks and in turn influence networks. But the constitution and effects of such identity formation remain contested among scholars. A few theorists see technology as merely playing a catalytic role in accelerating or reinforcing extant or incipient processes. Others see technologies as allowing for new types of identity and collective meanings. A quote from Said (1978, 26) is illustrative: “One aspect of the electronic, postmodern world is that there has been a reinforcement of the stereotypes by which the Orient is viewed. Television, the films, and all the media’s resources have forced information into more and more standardized molds.” Here technology remains neutral, reinforcing existing stereotypes.

Litfin (chapter 3) offers a nuanced empirical case of the complicated, and somewhat serendipitous, processes governing network effects. Building on Foucault and on Jeremy Bentham’s ideas of the Panopticon, where a “disciplinary gaze” monitors and conditions the human behavior, Litfin notes that the diffusion of networks leads also to the decentralization of this gaze and the proliferation of “public eyes.” In understanding such shifts, therefore, we must move beyond analyses which view technology only in an instrumental fashion. Litfin shows that information networks are in fact facilitating a new social episteme that not only changes the definition of issues in question (security, environment and human

rights in her chapter) but also allows for new actors (NGOs in her case) to start playing key roles in global politics.²⁰ Her analysis, therefore, illustrates “both of the ways in which technological change can alter international reality: instrumentally and constitutively.”

Litfin’s makes us question the technological neutrality assumption where technology merely facilitates preexisting actors and issues and does not propose new identities or action. This, however, is not technological determinism. Vatimò’s (1993, 214) notes on technology and postmodernity are instructive: “what concerns us in the postmodern age is a transformation of (the notion of) Being as such—and technology, properly conceived, is the key to that transformation.”

Medium theorists have long argued that technological media privilege particular social epistemes and identities while weakening others. Harold Innis’s (1950) famous formulation, *Empire and Communication*, pointed out that written media extend administrative control through time, while oral traditions extend it temporally. Media thus propose conditions of organization that are realized through societal interactions. Marshall McLuhan’s medium theory focuses on how media shape individual and societal experiences. At an individual level, “hot” media like radio and print are authoritative and do not allow for much audience participation, but “cool” media like television and telephone do allow for interaction and participation. McLuhan would probably argue that information networks are cool interactive media, albeit where the possibilities of conflict and cooperation are endless as we come together into a global village (McLuhan and Powers 1989). This may be explained as follows: “The alphabet (and its extension into typography) made possible the spread of power that is knowledge and shattered the bonds of tribal man, thus exploding him into an agglomeration of individuals. Electric writing and speed pour upon him instantaneously and continuously the concerns of all other men. He becomes tribal once more. The human family becomes one tribe again” (McLuhan 1964).

Benedict Anderson, while not a medium theorist, is appreciative of the transformative features of media. The spread of printed vernacular languages, as opposed to Latin, when printing began helped to form notions of nationalism and the “imagined community” of a nation-state:

These print-languages laid the basis for a national consciousness in three distinct ways. First and foremost, they created unified fields of exchange and communication below Latin and above the spoken vernaculars. . . . Second, print-capitalism gave a new fixity to language, which in the long run helped to build that image of antiquity so central to the subjective idea of the nation. . . . Third, print-capitalism created languages-of-power of a kind different from the older administrative vernaculars” (Anderson 1983, 44–45).

Technology does not determine politics but with capitalism and, what Anderson calls, fatality or preexisting conditions, technology shapes the rise of nation-states and nationalism. Technology helps modernizing Europe organize territory and time.

Deibert (chapter 5) extends medium theory and Anderson's analysis to argue that the kind of collective images that information networks or hypermedia privilege differ from authoritative nation-state oriented images of the past. Ideas of security centered around nations or states are unlikely to endure in interconnected information networks. He notes the rise of "network security" in which "the primary 'threat' of the Internet is the potential for systems 'crash,' loss, theft or corruption of data, and interruption of information flows. The primary object of security is *the network*" (131).

Gilpin (1981) had argued that developments in military technology allowed states to not think of territorial expansion as the only means and end of power. However, physical territory itself, as epitomized geographically in nation-states, continued to be of importance. Deibert and others are now positing constitutive contexts where territoriality no longer governs human interaction. The world of hyperspace challenges the idea of territorial space as the only kind of space, especially defined by nation-states. Ruggie and Castells advocate looking at "space of flows" in information networks along with "spaces-of-places" that existed earlier.

The preceding analysis postulates that each epoch's interactions are in part proposed and molded by its technologies. Information technology networks in particular show how the collective social epistemes are shifting away from hierarchical authoritative contexts privileging nation-states. Interconnected networks may flatten hierarchies, or transform them altogether, into new types of spaces where territoriality itself becomes extinct.

Luke (1989) offers an alternative view. While discarding the linear perspectivism offered by modernity, he is less sanguine about empowerment of marginal actors. For him, "informational modes of production" lead to (24) "completely commodified communication" (much like Comor in chapter 7). Combining cultural theory (Horkheimer and Adorno), Semiotics (Barthes, Baudrillard) and Marxian theory, he notes (48): "The power exercised in nonlinear, screenal space, however, is more puzzling. It seems to require continuous coproduction by those with access to behind the screens and those without access before the screens. Power here is essentially seductive, motivating its subjects with images to collaborate in reproducing or completing the codes' logic or sequence at their screens. Individuals recreate themselves continuously in the permissive coding of individual self-management. The institutional leadership of informational society recognizes that 'rebellion' within such screenal spaces is not necessarily a serious threat to the social order."

Is information technology unique in speaking of meta-power? Braman (chapter 4) proposes a conservative, yet revealing, precedent. She likens information

technology to biotechnology to show how both at their core contain genetic power that can be utilized to affect the behavior of systems through control over the informational bases of the materials, institutions, and ideas (94). Genetic power thus changes the very stuff of other forms of power. Braman's analysis of biotechnology, however unusual in a volume on information technologies, provides a fascinating contrast. She cautions us about thinking that the only technologies that create information bases to transform identities and agendas are information technologies. More importantly, that such technologies possess information bases adds a crucial element to our understanding of how meta-power works.

The constructivist turn in international relations scholarship, that supports the basis for what this volume terms meta-power, in its strongest version, is not merely supplementing, but also replacing traditional notions of power and authority. Nonetheless, it is hard to see how power based on capabilities, as in instrumental and structural variants, can be overlooked even in transformed contexts. This volume's chapters, therefore, often take into account several forms of power. The constitution of ideas, interests, and institutions is important but that should not limit us from noticing actors' capabilities within particular contexts. For Wendt (1992), while state interests may be reconstituted, they can also be taken as given in the short run. Similarly, this volume argues for noticing the changing scope of power in all three conceptualizations discussed above.

THE CHANGING SCOPE OF GOVERNANCE

Power is ultimately about capabilities, identities, and interests. Governance involves authority, concerted action, and the resultant institutions. Information networks themselves are governance networks. They allow for diffused forms of authority to emerge, for concerted action to take place, and for institutional creation or reinforcement. A major theme in this volume is how the locus of authority is shifting away from the state because of the rise of networks. Governance can hardly be uncomplicated or purely path dependent in a multi-actor, multi-issue world, in a state of flux. Governance takes place at both informal and formal levels and may be top-down, bottom-up or both. For Rosenau (1992, 4), governance is "a system of rule that is as dependent on intersubjective meanings as on formally sanctioned constitutions and charters."

This volume discusses governance and information technologies in two predominant ways. First, governance of specific issue-areas, from security to economic to cultural, is changing because of information networks. Information is deemed, in scholarship and popular opinion, to make governance less hierarchical and more plural and democratic. Second, international governance of information technologies, particularly telecommunications, may epitomize the new

forms of governance arising in global politics. Therefore, governance both *involves* information technologies in particular issue-areas and it *is about* information technologies regarding the rules that shape information networks. As noted earlier, governance may also be affected by the type of media in use.

The rise of information networks thus impacts patterns of governance in three distinct ways: (1) states are no longer the only actors in technological matters globally, (2) we now speak more of technological plurality than of a technological order, and, (3) global advocacy networks, especially among underprivileged groups, are undermining the legitimacy of existing centers of authority.

FROM STATES TO MULTIPLE ACTORS

Whether the state fostered *laissez-faire* or *dirigiste* strategies in national technological deployment, they were explicitly or implicitly tied to considerations of national power. The state thus reflected the industrial age technological compact. Considerations of state power matched businesses' need for monopoly privilege (Viner 1948). For example, Zacher and Sutton (1996, 220) note that "there was a general assumption in most publics that any self-respecting nation owned and controlled its air transport, telecommunications, and postal industries." The national competitiveness debates noted previously may even be a throwback to the industrial era. Krugman (1994) explicitly likens them to mercantilist policies.

Dirigiste strategies increasing state power are well-known in cases such as the rise of Prussia under Bismarck, Japan with the Meiji restoration, and France's mercantilist *grand projets*. Similar considerations applied even where business was purportedly free. British industrial strength and its imperial designs went together; the East India Company is an obvious example. Industry in general received many special privileges from the state. As Polanyi (1944, 139) argues, even free trade was created: "Just as cotton manufactures—the leading free trade industry—were created by the help of protective tariffs, export bounties, and indirect wage subsidies, *laissez-faire* itself was enforced by the state."

Infrastructural industries such as shipbuilding and railways were especially encouraged by states. They helped the states strengthen administrative control over existing territories (domestic and colonial) and were often instrumental in opening new frontiers. Railroads proliferated in America, sometimes through state subsidies.²¹ The building of the transcontinental railroad in the United States in 1869 and the Canadian Pacific transcontinental line in 1885 not only brought disparate frontiers together in these countries but their "lessons were not lost on the old empires in Asia, some of which similarly sought to use railroads to demonstrate sovereignty over remote territories and encourage economic and administrative development" (Pacey 1990, 150).

Industry in the United States was afforded enormous protection in the nineteenth century. An influential early exponent of the “infant industry” mercantilist tradition was Alexander Hamilton. Industry remained protectionist until its increasing international competitiveness finally allowed trade barriers to be lifted beginning with the late nineteenth century. “The ‘American system’ of moderately high tariff protection was explicitly enacted to stimulate and encourage the industrialization of the country” (Lake 1983). Industrial strength also came from state support given to scientific and engineering research beginning with the Merrill Land Grant Colleges Act of 1862. Universities specializing in applied research existed in the United States by the end of the nineteenth century (Nelson and Wright 1992, 1942). State support for this research was followed by business support through in-house research and development (R&D).

The state’s role with respect to information technologies has now changed. First, states no longer solely promote technologies nationally and internationally. International organizations, advocacy groups, and powerful individuals are often involved. Examples include: technical standards promoted by organizations such as the United Nations or the European Union; competing global standards fostered by international businesses; promotion of information networks by domestic and international NGOs; and proliferating use of the Internet by individuals beyond the control of political authorities.

Second, whereas industrial age businesses looked for state protection, post-industrial businesses increasingly petition states for free trade. The difference is related to technology costs. As noted earlier, post-industrial technologies are more demanding in terms of geographical space and populations. Businesses can also increasingly ignore national regulations by offering products over the World Wide Web through electronic commerce. As the latter expands, the state will be further marginalized in international transactions. Rosenau (1990, 17) writes that technology allows “more people to do more things in less time and with wider repercussions than could have been imagined in earlier eras. It is technology, in short, that has fostered an interdependence of local, national, and international communities that is far greater than previously experienced.”

This points to the diminishing importance of the state in human affairs. The issue here is not whether the state is a dominant political actor, which it is, but the extent to which its authority is undermined by competing domestic and international influences. Ruggie’s (1993, 144) analysis of modern and postmodern space—roughly equivalent to the state’s role in industrial and postindustrial times—is instructive: “the modern system of states may be yielding in some instances to postmodern forms of configuring space.” “The distinctive signature of the modern—homonomous—variant of structuring territorial space is the familiar world of territorially disjoint, mutually exclusive, functionally similar, sovereign states” (151). Building on Jameson’s notion of *postmodern hyperspace*, Ruggie