

eEMPIRES

Rita Raley

I really want it to be called "UntoCaesar.com."

—Kaleil Isaza Tuzman, *Startup.com*

It is the flow of money, moving quickly and silently to those who are sufficiently wise and creative to establish themselves as players in this new arena.

—Steffano Korper and Juanita Ellis, *The E-Commerce Book: Building the E-Empire*

e=M-C-M

The eEmpire has definitively entered our lexicon, both as concept and as semantic construction, with “e” continuing to operate as the value-added, universal signifier of the brave new wired world. The signifier “e,” as this essay will demonstrate, cannot be located under one set of stable descriptors. Rather, it must be understood as a fluid and intersecting set of forces, practices, technologies, and events. It is not a singular entity, but comprises communicative networks, electronic commerce, modes of production, and global financial markets. With numerous precursors, most notably associated with Microsoft, the Electronic Empire suggests a triumphant narrative of technology and capitalism.¹ However, it goes beyond that to suggest a speculative departure from the material conditions of production and circulation and toward informationalism. Such a speculative departure constitutes the now-dominant mode and stage of capital—a philosophical appraisal anticipated by Marx² and reanimated by Giovanni Arrighi and Fredric Jameson. The Electronic Empire has different rhetorical registers, ranging from cultural studies to ordinary advertisements. A

visual analysis of a recent commercial will outline my critical treatment of the electronic empire and the thematic terrain of this essay.

Beginning in April 2001, the eBusiness software company Computer Associates repeatedly ran a thirty-second advertisement entitled “Empire” on the Rupert Murdoch–owned Fox network, self-consciously combining a cyberpunk aesthetic with the elements of a sword-and-sandal picture and formally resembling both an inspirational corporate video and a promotional QuickTime movie.³ The commercial is made all the more remarkable by the visual absence of the computer as fetish object, yet the mechanism is message via its operation as interface and substrate. The verbal script illustrates what initially appears to be a morphological shift from classical Rome to the global electronic empire, which is communicated with even greater complexity by the visual iconography. Both in its audio and visual tracks, it establishes a direct, continuous, and naturalized link connecting the Roman empire, the British empire, and the contemporary eBusiness at the center of Wall Street: the shared governing idea, after all, is the controlling of new domains through new technologies. Concluding with a voice-over whose celebratory and pedagogic intonations are replicated throughout the commercial tech sector, the script runs as follows:

Roar of the crowd: “Caesar, Caesar, Caesar.”

Caesar: “Hail, Romans! Today our nation is great, far greater than it has ever been.” [punctuated by camera shutters and flashes]

Voice-over: “If you manage it correctly, even the largest empire will adapt and continue to thrive. Our software has helped more companies evolve their infrastructure than anyone else on earth. Hello, tomorrow. We are Computer Associates, the software that manages eBusiness.”

The sense of continuity, inheritance, and an evolution from the historical empire to the contemporary American electronic empire is further facilitated by the visual trajectory of the commercial. Marked by all of the signifiers of imperial Rome, it begins with Caesar’s march through a palatial stateroom and out through majestic curtains onto a balcony to address the multitudes below.

That address and the unfolding narrative are equally marked by all of the signifiers of digital culture: the address is simultaneously

projected onto a giant high-resolution screen, while the production cameras pan quickly to show that those in the audience not cheering are equipped with their own high-tech camera equipment. A helicopter descends as if from the outtakes of *The Matrix*, and the urban landscape picked up by the rapid cuts and sweeping cameras includes London city buses, taxis, bobbies, and citizens of both the Roman and the British empires. In order to evoke the fiction that the re-enacted empire is global, then, the phantasmagorical urban landscape is also powerfully resonant of the imaginative Far East of William Gibson, an exoticized colonial-era Bombay, and the futurist Los Angeles of Ridley Scott. Such a historical and technological compression is augmented by a comparable pastiche of architectural styles: in a panorama shot, Caesar speaks from and alongside neo-classical buildings; the London Houses of Parliament and Big Ben are visible at the end of the extensive mall; and, further emphasizing the teleology from Rome to contemporary finance capital, he concludes his triumphant appearance with an equally triumphant exit over a bridge leading to Manhattan, Wall Street, and the afterlife of empire, the passage into New York overseen by an iconic statue of Caesar in



"Empire." Courtesy of Young & Rubicam Advertising, New York: Ann Hayden, managing partner, creative; Rachel Howald, copywriter; Ahmer Kalam, art director; Rich Rosenthal, producer.

the place of the Statue of Liberty. And, with the destruction of the twin towers now in mind, the narrative and semiotic arc that begins with Ionic columns and culminates with the now-memorialized New York skyline clearly communicates the symbolic and material value of these towers and their embodiment of empire and finance capital. In that it materializes and fuses the territorial city with the apparatuses of media, “Empire” both advertises and enacts the electronic empire in its collapse of the historical and the contemporary within the frame of the commercial itself.

Notwithstanding its formal density, there are no negative connotations of empire here; neither are the links between business and empire hidden. In its partially ironic celebration of gladiatorial capitalism and well-managed empires, the commercial, like the CEO of the fallen Internet company documented in the film *Startup.com*, embraces an ideology of empire presented as inherent to the ruthlessness of business: in order to survive, rule, and “manage correctly,” material strength, power, and compliance are required by nation and corporation alike. (The emperor’s march, after all, is itself presided over by Praetorian guards and a variety of armed soldiers



“Empire.” Courtesy of Young & Rubicam Advertising, New York: Ann Hayden, managing partner, creative; Rachel Howald, copywriter; Ahmer Kalam, art director; Rich Rosenthal, producer.

and all of the visible manifestations of crowd and riot control.) That survival should be a Darwinian survival is evinced by the verbal rhetoric of evolution and adaptation, which in part indicates a retreat to the biological and material and a flinching back from a wholesale embrace of the electronic.

My essay examines this kind of organic paradigm and its relation to various speculative visions of the futures, logic, and possible destruction of capitalist history; of late finance; and of informational capitalism. It reviews the current field of study of technology, information, and global capitalism, and it reviews the idea of the American century—beginning with Henry Luce’s manifesto on the rights and responsibilities of America as a new world power—yet it is embedded in both the literal and the metaphoric idea of the network and so looks to the question of new, uncertain, and future reincarnations. In this respect, my essay addresses both the material transformations that the electronic age has brought about and our means of analyzing these transformations.

While this essay is not directly about communications and computer companies and microchips, it is about the operation of networks such as CHIPS: a private-sector clearing house and money-movement system that handles over 242,000 bank-to-bank transactions and business payments per day, which correlates to an average daily circulation of \$1.2 trillion.⁴ An electronic system that purports to handle over 95 percent of all global dollar payments must necessarily turn for its administration to software specialists, programmers, and systems analysts, but in some respects the system authenticates, regulates, and generates itself. It does this partly by assigning every participant a net position of debit or credit at the end of the day so as to stabilize the instantaneous movement of stateless money. (The CHIPS system assigns each participant a universal identification number [UID] that tracks account and bank information.) The system also operates as an information database that helps to set monetary value and coordinates the very financial transactions that it needs to operate. The worldwide financial telecommunications system called SWIFT functions alongside CHIPS by standardizing and facilitating the automation of payment messages between networked banks. Both systems regulate transactions, financial data, and themselves;

both are purely instrumental and commodifiable.⁵ As is the case for Claude Shannon's mathematical theory of communication, neither can account for either the creation or the significance of financial information. Both are in a sense meaningless; rather, their function and performance are their meaning.

We might move from this specific instance of economic self-regulation and self-governance to more general conceptions of the operational principles of the global financial markets. Michael Pryke and John Allen draw on Georg Simmel's philosophy of money in their analysis of derivatives, the merger of technology and money, speed, and the new forms of money post-Bretton Woods, and they suggest that money "has made itself adaptable to a new set of circumstances and, in so doing, seeks to 'impose its rhythm and pace' on the contents and co-ordinates of life" (2000, 270). Strongly echoing Lyotard's commentary on the status of truth and knowledge in a postmodern moment, Jean-Marie Gu henno further argues that functionality constitutes the significance and structure of the principal financial markets, which lack a "clear architecture," generally lack a "territorial logic," and are, as he notes, "increasingly defined by the rules by which they run themselves."⁶ Such operationalism is precisely the mode of the network, which is simultaneously organizational model and killer app of the global informational society.⁷

The transition into the informational, network society has in general terms been articulated, and the critical work linking technological change and capitalist and social development is appropriately expansive, as is the critical work delineating the period in which information is the prime commodity and source of value, productivity, and power.⁸ From the representative opening lines of Daniel Bell's treatise on the postindustrial society (1973), to Simon Nora and Alain Minc's report to the president of France (1978), to the first volume of Manuel Castells's trilogy devoted to the Information Age (1996), a revolutionary transition has been announced. This technological revolution paradoxically "centered around information technologies, [and] began to reshape, at accelerated pace, the material basis of society" (Castells 1996, 1). Operating within a language of revolution symptomatic of their retroactive situation within a general Enlightenment, progressivist paradigm—and echoing Henry Luce's declaration that "ours is a revolutionary century," but revolutionary in

science and industry—numerous works have set out both to predict and document as precisely as possible the scope, scale, and general consequences of the “computerization of society.”⁹ One general question asked in the discourse concerns revolution and historical change itself. Is our current moment, in other words, structurally and paradigmatically different from the moment of the telegraph, the printing press, or the railway, or do we remain within the same technology of empire and the same capitalist system?¹⁰ As Nick Dyer-Witheford proposes, the idea of revolution is central to the discourse on the information society because it has rewritten the Marxist “notion of historical progress toward a classes society . . . but reinscribe[d] technological advance rather than class conflict as the driving force in this transformation” (1999, 37). The ideological and conceptual rifts within the historical assessments of the informational and electronics revolution are well documented, and lines are generally drawn between promoters and skeptics, and between harbingers of the new and historians of precursors. (The latter would argue that the electronic revolution is on par with earlier technological revolutions, and its transformative effects, therefore, not qualitatively different.) Accounts of these continuities and of transformations, shifts, and epistemological ruptures alike can be traced through academic and mass-market texts, managerial manifestoes, and cyberlibertarian treatises.¹¹

The grand narrative of this informational society holds that global capitalism is at once facilitator and structural logic, especially as both capital and society have progressed, ascended, or mutated from earlier stages of mercantile capitalism and finance capital.¹² Castells, for example, uses the phrase “informational capitalism” to describe the new “techno-economic system,” the structure of which was ultimately determined by the neoliberalism of the 1980s.¹³ In contrast to the evolutionary and transformational narrative of the new information economy, Arrighi has articulated a theory of finance capital that holds it to be fundamentally cyclical, and as such, “a recurrent phenomenon which has marked the capitalist era from its earliest beginnings in late medieval and early modern Europe” (1994, ix). The moment when capital takes flight from production and becomes speculative constitutes its third and final stage. This last and highest stage is recurrent, and the long twentieth century—the title of Arrighi’s study—is just one of four systemic cycles of accumulation

that he identifies within capital's lifespan.¹⁴ So it is that we have the basic operational logic of capital for Arrighi: regeneration, a thesis that comes from his exegesis of Marx.

According to Marx's formula for capital, value had an "occult" power of self- and automatic expansion, that of being able to augment or "add value to itself" (Marx 1995, 98). Such a quality of self-reproduction would, in the mid-nineteenth century, almost necessarily be described in quasi-biological terms: so, value "brings forth living offspring, or, at the least, lays golden eggs" and operates in the guise, mode, and form of money so as to bring about "its own spontaneous generation" (98). Marx suggests that value, while always linked to material labor, nonetheless postures as capital and commodity and implicitly emerges as auto-generative and "self-multiplying," as that which lays its own golden eggs (1973, 537). Jameson's amplification of the third stage of Marx's formula, C-M, picks up on this abstraction. In his commentary on the passage from commodity-form to money-form—"it must spend some time as a cocoon before it can take off as a butterfly" (Marx 1973, 548–49)—and Arrighi's own exegesis of this stage, Jameson notes: "Capital itself becomes free-floating. It separates from the concrete context of its productive geography. . . . Now, like the butterfly stirring within the chrysalis, it separates itself from that concrete breeding ground and prepares to take flight" (1997, 251).

These biological metaphors for the evolutionary movements of capital are appropriately creative in their vision of birth via metamorphosis and the shedding of a decayed structure, echoing as they do Joseph Schumpeter's famous theory of the birth, regeneration, and essential truth of capital, that of "creative destruction."¹⁵ In concrete terms, creative destruction suggests the dislodging of one product or process by another, such as the replacement of mimeograph machines by photocopiers. For Schumpeter, capital operates according to a biological process of "industrial mutation," whereby the economic structure "incessantly revolutionizes . . . *from within*, incessantly destroying the old one, incessantly creating a new one" (1950, 83). But what exactly is the relation between revolution and a biological paradigm? Schumpeter's formulation suggests that a certain degree of destruction is inherent to any systemic change and that there can be no change without energy, but situating capital within a

biological paradigm allows him also to speculate both on genesis and its corollary, termination or degeneration. It places him within a dialectical model of growth and decline.¹⁶ Linking capital to organic matter lends it continuity and coherence on a path from genesis to decay and eventual death. It further suggests a process of self-reproduction, with capital giving birth to its own offspring, laying its own golden eggs, or decomposing and reorganizing its own larval tissues.

Such a vision of auto-generation reaches an apotheosis in Marx's figural reading of commodities and money's power, both of accrual and origination, which is part of the same general formula for capital. "However scurvy they may look, or however badly they may smell," he writes, commodities "are in faith and in truth money, inwardly circumcised Jews, and what is more, a wonderful means whereby out of money to make new money."¹⁷ This is of course value's "occult" power: literally hidden, concealed, and secret. Circumcision here may serve as an identificatory marker, but an inward circumcision is also suggestive of Schumpeter's mutation "from within." By implying that the potential for procreation lies almost exclusively within the system, Marx suggests that capital has the capacity, perhaps the genetic material, both to reproduce and to destroy itself.¹⁸ Arrighi performs a similar analysis with his explicative suggestion that capital already has an inherent "'flexibility' and 'eclecticism'" rather than consisting of "concrete forms" (1994, 4). Such a critical move assimilates the unpredictability, uncertainty, and indistinctness of the "after-life" of the current cycle of capitalist accumulation—the long twentieth century marked by the ascendance of information as a commodity—to the flexibility and mobility of the network.

The impetus of this essay, then, is to situate the Electronic Empire within the network, both as object and facilitator. My starting point is Arrighi's argument that capital is bound to perpetual and cyclical mutation and to regeneration, with capital read as a viral epidemic that is nearly impossible to vaccinate against. But biological and genetic metaphors do not provide a fully adequate lens through which to view the operational logic of the current financial markets or with which to project along a diachronic axis so as to imagine the ends and the futures of capital, U.S. capitalism, and historical epoch. Because it cannot account for the complexity of global, neoliberal capitalism, the

organic is a limited and insufficient figure with which to trace a strategic and conceptual break from the rhetoric and paradigms of the American century. The limitations of organic metaphors within economic discourse have also been identified by J. K. Gibson-Graham, who focuses specifically on the representation of the economy as an organic body. In a collaborative study of capitalism “as we know it,” Gibson-Graham (Katherine Gibson and Julie Graham writing in one voice) critiques the dominant articulation of capitalism within the Marxian tradition as unified, singular, and totalizing (1996, 253–65). This tendency to read capitalism as a unified, self-reproducing organism is manifest, Gibson-Graham suggests, in the physiological metaphors used to characterize the economy.¹⁹ Such a reading, in her view, fails to account for capitalism as a “disaggregated and diverse set of practices unevenly distributed across a varied economic landscape” (117). Reconceptualizing capitalism in terms of heterogeneity, fragmentation, and permeability, rather than organic unity, requires that we recognize noncapitalist economic practices, and it also allows for a more widely integrative notion of revolutionary praxis.

Tariq Ali has suggested that the “old empires developed organically.” The Electronic Empire, on the other hand, develops non-organically. Thus, in contrast to the organic figures and evolutionary paradigms so prevalent in current critical theory of capital, information, and Empire, I would like to suggest that the automatism of the network is instead paradigmatic for our period, the speculative stage of finance capital, and thus befits our move into the twenty-first century. Mid-World War II, nearly post-Depression and coterminous with Luce, Schumpeter suggested in *Capitalism, Socialism, and Democracy* (1942) that, when we are dealing with capitalism, “we are dealing with an organic process” (83). However, sixty intervening years have brought us to a point whereby we must now consider the process as not inorganic, but nonorganic. The nonorganic is a complex system that has energy, movement, and dynamism. It is not biologically alive, but neither is it an inert, inanimate, material structure: it functions like an organic entity, yet it is not. In order to speak to the Electronic Empire, the apparatus of our time, we need the figure of the network, that which subtends the organic and the nonorganic. The inchoate, indeterminate abyss beyond the long twentieth century

may, in my view, best be articulated in terms of the electronic network, that which writes, coordinates, and implements its own rules of operation.

THE ELECTRONIC EMPIRE

However tenuous or temporary their claims to unprecedented wealth and hegemony, the IT (information technology) and mass-media markets continue to be delineated as electronic empires, part of them evil, with colonial and anticolonial tactics of territorial warfare replaced both by vicious and constant competition and by industrial espionage.²⁰ So, too, are these markets delineated as the province of the new class, the wealth not of nations but of innovative, “wise and creative” and often renegade individuals, whether they be “Silicon Samurai,” tycoons, teenage hackers, or ordinary players.²¹ The IT market in particular—the domain of eCommerce—has been particularly dominated by emergent corporations and emergent technologies, and it consists of both Net-based transactions and the goods themselves.²² It is the main site of U.S. managerial and corporate capitalism, and, as has been extensively articulated, it functions with information as its chief commodity.

Popular opinion may have it that the speculative bubble has burst and the market destabilized, but in fact most recent qualitative research shows that eCommerce is not just surviving but growing, particularly in the area of b2b, the direct linking of buyers and sellers.²³ As almost any industry article will argue, the power of the IT or “e-conomic” market is not registered on the NASDAQ, nor does it lie with its current dominant interface, the Web. And, as prone as market and economic commentary is to forecasts, judicious commentators will acknowledge that the exact form and contour of the impact of IT is as yet unknown and uncertain, and that it is even unpredictable without analogies to past technological developments, usually electricity, the printing press, and the assembly line. What we do know is that the IT network is pervasive and invasive; that it promises to go anywhere and allow everyone access; that its strength is its mobility, flexibility, and reprogrammability; and, most important, that its value increases as it grows, as knowledge is accumulated,

more computers are linked to the system, and information processing becomes more complex. IT network and market alike, in other words, are themselves self-generating—a feature epitomized by the composition and programming of the Windows NT operating system with its own code.²⁴

The linking of IT and the new technologies with imperialism and the concept of Empire has given us new historical descriptors, among them the virtual empire, the virtual universal, and my concept of choice, the Electronic Empire, chosen because of its resonance with the electronic network and with computer processes. The electronic, as well, signifies the commodity itself and the means of circulation. It is, in other words, a communicative network. Although organically or biologically based computing developments may eventually make electronics obsolete, in the present moment we can say that electronics, especially microprocessing, has made other technological developments possible (e.g. digital telecommunications, bioengineering, biotech, materials science) and has historically been not just bound to but also constitutive of the concept of Empire. However, thus far within cultural criticism, information technology has been linked to empire primarily by way of both parallelism and pretext. Debbie Lee and Tim Fulford, for example, analyze the Microsoft-sponsored Web site and adventure magazine, *Mungo Park*, which shares its name with the eighteenth-century Scottish explorer who mapped parts of the interior of Africa during two famous and chronicled expeditions.²⁵ They argue that such an instance of naming is not simply fortuitous but rather suggests that the logic of empire and neocolonialism is intrinsic to monopolistic software companies. But this radical extension of the meaning of “virtual empire,” such that it encompasses a British colonial epistemology of science and an American postindustrial, neocolonial epistemology of IT, attenuates the force of the insight, and there are other links one might establish between the electronic and the empire.

The industry understanding of “eEmpire” suggests a convergence of electronics and commerce, marked by the elimination of geographical boundaries for the client base and global sales and marketing, and by the extension of communication and information networks into what are imagined as highly improbable spaces. Put simply, according to a well-circulated business guide, the Electronic

Empire is “the newest pairing of global business and top-notch technology.”²⁶ Yet for industry, Electronic Empire is not just the convergence of global business and technology, but also the integration of technologies, whereby various modes of consumption may be synchronized and syncretized into one platform (as in the convergence of e-mail, shopping, entertainment, and information). From the perspective of the mainstream media and much academic writing in the area of communication, cultural, and media studies, the Electronic Empire signifies the control of distribution and of content by a few familiar transnational corporations: Viacom, AOL Time Warner, Sony, Disney, GE, and Seagram, with companies such as Microsoft and Intel controlling the standards, performance, and distribution of digital technologies.²⁷ Oliver Boyd-Barrett has formulated a thesis of media imperialism that calls for the extensive study of the “colonization of communications space” based on a political concern with U.S. hegemony and ideology, with detailed empirical analyses of generic media imperialism. Such colonization, for Boyd-Barrett and others, differs over temporary and geographic horizons, differs in the intensity of imposition, dependence, and resistance that it generates, and differs according to media forms and governmental regulation. The difference is in degree and kind.

Herbert I. Schiller’s assessment of *Mass Communications and American Empire* in 1969 remains remarkably relevant and worth repeating here because he hints at a mode of empire that is not strictly territorial but networked: “If free trade is the mechanism by which a powerful economy penetrates and dominates a weaker one, the ‘free flow of information,’ the designated objective incidentally of UNESCO, is the channel through which life styles and value systems can be imposed on poor and vulnerable societies.”²⁸ For Schiller, the issue is information imperialism, specifically with reference to U.S. hegemony and the “invasions,” exportations, and impositions of information. He thus uses the notion of electronic empire to signify an “informal” empire based on the ideology of free trade, such that controlling the flows of information and communication amounts to controlling the world economy and hence the world. For him the concept is metaphoric, albeit with profound material effects, and it lies behind the American ideology of concern, freedom, cultural exchange, and benevolence, an ideology present from Luce to the Coca

Cola refrain, “I’d like to teach the world to sing.” (We know well that the Project for the New American Century is not articulated in terms of benevolence, but in terms of dominance and military strength.) For such a problem as the American century, one must necessarily return to Schiller’s observation that “to ‘own’ a century is to own an empire,” but qualitatively new economics and electronics alike need revisiting if we are now to articulate the connections between them. Thirty years on, academic and popular critics still abide by the persistence of U.S. media hegemony, and such a position is almost unavoidable (H. Schiller 1969, 2; Boyd-Barrett 1984, 162). In fact, the popular electronic empire—that of IT and mass-media market domination—is symptomatic of the synecdoche of the economic realities of globalism, whereby part of the world substitutes for the whole, a claim made with respect to the putative ascendancy of the United States and/or the West. This synecdoche is generally corroborated and its threat of cultural homogenization viewed as a nightmarish possibility that must be countered if pedagogy and the idea of critique are to be resuscitated.

The threat of corporate imperial takeover also motivates Daya Thussu’s intervention, which is similarly bound to the age of basic cable and TV satellites. In the eponymous *Electronic Empires*, he uses “empire” to refer to the command of content and the sheer massification and extension of transnational media corporations, comparable to the imperial institutions and administrators of the nineteenth century only in their geographic and cultural ambition. Their aim, he says, “is not to subject alien populations to imperial dictates but to persuade consumers, through their global electronic networks, to use their media or buy the products advertised and to accept as inevitable the global progress of the market.”²⁹ McChesney makes a similar diagnosis of commercial media as a constitutive and reflective component of global capitalism: “The rise of a global commercial media system is closely linked to the rise of a significantly more integrated ‘neo-liberal’ global capitalist economic system” (1998, 27). Thussu as well argues that the emergence of a new and “corporate colonialism” of mass broadcast media no longer means the accrual power and capital for the state, but that capital accrues power for itself. With a similar focus, A. Sivanandan follows Harold Innis in claiming a coextensiveness of empire and media monopolies and

argues: "It is no longer the ownership of the means of production that is important, but the ownership of the means of communication. Not Britannia, but Murdoch, rules the waves. What I am talking about here is the centralization of power behind a democratic facade" (Sivanandan 1997, 288; Innis 1950, 9).

The rhetorical power of the analogy notwithstanding, in our current critical and technological moment, and in light of the significant scholarly work on the historical meaning of imperialism, we might say instead that the old imperial paradigm is no longer applicable precisely because that stage of capitalist and territorial accumulation and that episteme (with an attendant understanding of race and nation) has given way and mutated into a "global networked and information society." In the new mode of Empire, power may be consolidated by transnational corporations, but the logic of power is capitalist and not territorial.³⁰ Finance capital, to return to Jameson, is "free-floating," mobile, and "footloose" (Jameson 1997, 251; Cerny 1994, 337). The ascendance of finance over "real" material goods and the separation of capital from the "concrete context of its productive geography" facilitates this shift from imperial territory to "modulating networks of command."³¹ This understanding of the capitalist logic of power works in concert with many articulations of the emergent mode of empire. For example, Gu henno envisages a future in which "Rome will no longer be in Rome, and no territorial given, no dominant group, will be able to impose itself. This empire will be neither a supernation nor a universal republic. It will not be governed by an emperor" (1995, 47). Similarly, Thussu notes that the "virtual empires of the electronic age do not depend on territorial conquest" (1998, 1). However, in his implicit reference to Murdoch as the new emperor, he has recourse to an Enlightenment-era notion of a single controlling human entity: "the digital globe under construction by Murdoch will lead to empires which have no territories but span the world, with the potential of being more powerful than the territorial-based ones of the past" (6). (Even the "colonization of communications space" involves a figurative space, territory that is mediatized, dematerialized, commodified, and the province of speculation.) We might go further to observe that the current incarnation of Empire presents us with an interface between the territorial and the nonterritorial. Territories are certainly less materially situated than they are

subject to recurrent proclamations of definitive, yet arbitrary, boundaries; thus, on the one hand, there are continual battles for territory (Kashmir, Israel-Palestine). But, Empire depends on entrepreneurial zones and high-tech corridors, which suggests a gridded networking of territory, as with the electronic and physical movement of military bases across national borders.

Within a capitalist logic of power, the nation-state acquires a kind of temporary obsolescence. In spite of one of the more prevalent dramas within the Western imagination, which stages a national contest between American capital and that of the Far East, usually Japan, the new mode of Empire does not maintain the nation-state as either categorical foundation or operational center.³² Michael Hardt, Antonio Negri, and numerous others suggest that it is not simply that the nation-state has lost power and that the United States no longer occupies the center of an imperial order, which is itself defunct, but also that a supranational economic, political, and communicative network has ascended in its place. Hardt and Negri put the point succinctly: *“The United States does not, and indeed no nation-state can today, form the center of an imperialist project. Imperialism is over”* (2000, xiii–xiv). The discourse on financial globalization tends to corroborate this challenge to the power of nation-states and testify to their undermining by financial markets. Philip G. Cerny provides a representative claim: *“financial markets, not states, represent the closest thing to a new hegemony in the contemporary international system”* (1994, 339).³³

To go further than the displacement of the nation-state from the position of center requires noting that the very notion of a center has become meaningless. Instead we have nodes within interconnected financial and informational networks—*“centers”* for the coordination, standardization, and transmission of payment messages. These centers often battle for control within the network, as with the efforts of Al-Jazeera and CNN to develop competing archives to store and produce the *“truth”* of a dominant cultural memory. The network, then, is by nature a counternetwork and thereby embodies contradiction, internal contest, and multiplicity.³⁴ For instance, even transnational corporations maintain nodal centers that often grow in size, importance, and complexity relative to the corporations’s own rhizomatic development and expansion. In this respect, I find productive the syncretic concept of Empire delineated by Hardt and Negri,

which not only “establishes no territorial center of power and does not rely on fixed boundaries or barriers,” but is also “a *decentered* and *detritorializing* apparatus of rule that progressively incorporates the entire global realm within its open, expanding frontiers” (xii).³⁵ We have seen other instances of the claim for Empire’s decentered and a-territorial quality. What Deleuze and Guattari’s paradigm contributes to this analytic is the sense that the new mode and system of Empire has its own forces of operation. Imperial power no longer maintains a positive, “actual and localizable terrain or center”; rather, it is “distributed in networks, through mobile and articulated mechanisms of control” (Hardt and Negri 2000, 384). Displacing Caesar and Murdoch from the helm, Empire now operates itself. In terms of practice, then, the Electronic Empire signifies the convergence of global capitalism and the new technologies and thus the complete imbrication of media and market and control over the content and distributive flows of the communication networks. But the concept of the Electronic Empire is more complexly paradigmatic, encompassing as it does the ascendance of information, the mode and operational logic of the network, and neoliberal global capitalism. It is in fact the paradigmatic concept for the moment beyond or after the American century.

THE AGE OF ELECTRONIC NETWORKS

In his wide-ranging study of world-economies, Fernand Braudel meditates upon the periodic movements and conjunctural rhythms of history, contemplates our existence in both the short and the long term, within periods that precede and outlive us, and then asks whether it is “possible to identify a finite plane or body which, being the site of a movement, fixes its time-span” (83–85). The question is apposite: can we identify a point of closure, an end, an afterlife—temporal, geographic, psychic, or otherwise—perhaps a post-American century, or a fourth wave? But, what exactly is at an end: is it history; finance capital; “culture,” now ceded to the commercial; the nation; a particular conception of imperialism; the organic body (supplanted or overcoded by biotech); the human; politics (replaced by a categorically different reign of the image and of spectacle); the century of

“total war”; the ‘real’; the (old) mass media; or industrial and material productivity (supplanted by information, symbols, and the immaterial)? What indeed will be the replacement mythologies, or will a nonmythology function in that capacity?³⁶

Is, in other words, the American century, or U.S. hegemony or U.S. capitalism, an infinitely expanding idiom, or has the idiom, and its time, expired, its spectacular and apocalyptic conclusion elegiacally captured on tape on September 11? A different version of this question comes from Arrighi in *The Long Twentieth Century*, in which he addresses the most recent systemic cycle of accumulation, the temporal unit named in the title of the book, and asks whether capitalist history has reached its ends with U.S. capitalism, whether “the structures of US capitalism constitute the ultimate limit of the six centuries-long process through which capitalist power has attained its present, seemingly all-encompassing scale and scope?”³⁷ The answer he gives is no: the ends are more imaginable than realizable, and capitalism will undoubtedly survive in new forms, in new guises.³⁸ Both its own “spontaneous generation” and its own destruction are, as Arrighi says elsewhere, coded into capital’s “genes” (1990, 55–56).

Schumpeter’s main argument holds that it is the successful and regenerative runs of capitalism, and not its crises and failures, that damage and potentially short-circuit it, much like the successful run of the butterfly, which after all dies shortly after its metamorphosis. The power of this insight notwithstanding, Schumpeter’s basic premise about capitalism still holds, even through the doubts of Arrighi and other theorists of late capitalism and economic globalization on the question of its ultimate survival: capitalism “not only never is but never can be stationary.”³⁹ Such is the fundamental logic of finance capital, echoed as well in Gertrude Stein’s oft-quoted axiom on the durability and perpetuity of money—“The money is always there but the pockets change”—a sentiment accepted as axiomatic precisely like the fundamental physical law echoed in my first section title ($e=mc^2$). It is not just the pockets that change, however, but also the form, matter, and function of capital, as well as its mode of circulation. This is the crux of the regeneration thesis, both for Marx and for Arrighi, and in a different sense for contemporary CEO-turned-financial-guru Walter Wriston, who suggests that the virtual and immediate changing of pockets in the late twentieth century

constitutes a theoretical, essential, and ontological difference, such that money is in fact still here, but now has a qualitatively different power of mutability: “The increased volition of money gives you a difference in kind—not just degree. It’s like a piece of lead: you put it on your desk, it’s a paperweight; put it in a gun, it’s a bullet” (Marx 1973, 536, 667–68; Wriston quoted in Bass). Although it is not my primary concern here, more substantive academic commentary on the range and targets of these guns is required—on the damage inflicted on “human material” by the mechanisms of production—and this is largely the province of a recent article by Jerry Harris, who, in the context of an exposé of the operations of informational capitalism, as well as of its comparatively underdocumented material consequences and abuses, hits upon a particularly apt metaphor for the regenerative operation of capital: “Like a man in a sinking ship looking for a way out, capitalism found in information technology a life boat to a new world of profits” (1998/1999, 34). It would indeed be a ship seeking passage to a “new world of profits,” suggestive as it is of other inaugural moments of Empire and world economy.

If it is the case, as it is also for Arrighi and Jameson, that capital is bound to inevitable regeneration, doomed to repeat and exhaust the three stages of accumulation, production, and speculation (M-C-M), the question before us is what lies beyond the limit of U.S. capitalism and the American century; it is even whether they have in fact reached their limit. One could argue that the recent display of U.S. military power was compensatory and suggests that U.S. economic and cultural hegemony is coming to an end.⁴⁰ An analysis of this problem, however, must necessarily veer into the imaginative rather than the descriptive, and appropriately enough, into speculation.⁴¹ It makes perfect conceptual sense, then, that Arrighi and Beverly Silver together figure the afterlife of U.S. hegemony as “a yet unknown destination” (1999, 35). Terence Hopkins and Immanuel Wallerstein also comment upon the dynamic and diachronic quality of a historical system, which “is evolving second by second such that it is never the same at two successive points in time” (1996, 8). Further, they suggest that the “trends” that disturb the equilibrium of the system eventually destabilize it in a permanent fashion, in effect creating a “real ‘crisis,’ meaning a turning point so decisive that the system comes to an end and is replaced by one or more alternative successor systems”

(8). The form and content of this crisis—the disequilibrium and bifurcations of the system—is unpredictable and approximately Borgesian: as Hopkins and Wallerstein note, “there is always more than one possibility at this point, and there is no way of determining in advance what the outcome(s) will be. All one can do is assess the likelihood that we are approaching a bifurcation (or are already in the midst of one)” (8–9). It is also the case for Arrighi that the futures of world systems should resemble forking paths, that the regeneration of capital comes with an escape clause, a set of parenthetically noted alternative futures (which I will come to) for the histories and futures of capital. Capitalism’s futures, in other words, are marked by a significant degree of indeterminacy. Because the outcomes of capitalist history are essentially unknowable, the moment of its end, its futures, the afterlife, and the subsequent cycle of accumulation have all been thought in terms of crisis, turbulence, unpredictability, chaos.⁴²

For Hobsbawm and Wallerstein, this crisis is prefigured in the upheavals of 1989.⁴³ And, though the outcomes of capitalist history are not determinable in advance, for Arrighi, the ends of capitalism are imaginable in bifurcating apocalyptic visions: “finally, to paraphrase Schumpeter, before humanity chokes (or basks) in the dungeon (or paradise) of a post-capitalist world empire or of a post-capitalist world market society, it may well burn up in the horrors (or glories) of the escalating violence that has accompanied the liquidation of the Cold War world order. In this case, capitalist history would also come to an end but by reverting permanently to the systemic chaos from which it began six hundred years ago and which has been reproduced on an ever-increasing scale with each transition” (1994, 356). For Arrighi, like for Braudel in his meditation on the beginnings of world economies, the ends of capitalism haunt it from its inception in the fourteenth century. Schumpeter’s rhetoric of internal mutation is apropos here: capitalism bears within itself the elements of its own destruction and the capacity to bring itself to crisis. Capitalism’s dynamic quality and tendency toward destructive biological shifts was, for Schumpeter, understandable in terms of extreme weather phenomenon: creative destruction manifests as a “perennial gale” (1942, 84, 87). In that he theorized the evolutionary movements of capitalism in terms of cataclysmic discontinuity, then, Schumpeter’s organic paradigm was fundamentally unstable.⁴⁴

The rhetoric of “systemic chaos” and of complexity was not available to Schumpeter, but it permeates the discourse on global or neoliberal capitalism. Given the sheer range of disciplinary schema brought to bear on the problem of the “global,” it is not surprising that it lacks a certain semantic and analytic clarity, but the more germane and also ubiquitous models for our historical period, the current cycle of accumulation, the world system, and even global culture comment directly upon this lack of clarity and suggest that the “global” and the global economy are best understandable in terms of abstraction, elasticity, unknowability, and complexity.⁴⁵ For example, Bill Maurer draws on the discourse linking economics to computer science and evolutionary biology in order to understand the architectures of offshore finance as “complex, networked, evolving, and adaptive systems” (1995, 114–15). As another example, Fernando Coronil similarly critiques the new forms of wealth by citing Bankers Trust CEO Charles Sanford’s disquisition on “particle finance,” which analogizes the speculative futures of capital to quantum physics and modern biology, with the attendant implication of unpredictability.⁴⁶

The discourse of complexity theory has also been incorporated into the discourse on Empire, which, for Hardt and Negri, “cannot be represented by a juridical order, but it nonetheless is an order, an order defined by its virtuality, its dynamism, and its functional inconclusiveness” (41). And, for Guéhenno, the age of networks is in fact “the age of complexity . . . an age of incompleteness and disequilibrium” (49). Richard Lee also works with the dialectic of order and disequilibrium to outline the conceptual and critical links between computer systems and world systems: “Since the late 1960s, dynamical-systems research has led to a reconceptualization of the world as one of complexity, determinate but unpredictable: order within chaos (strange attractors); order out of chaos (dissipative structures); visual representation of pathological functions and natural forms exhibiting non-integer dimensions (fractal geometry)” (1996, 197). While a delineation of the analytic conjunctions between scientific paradigms, specifically those related to computer systems, and those of world systems would require a more detailed study, we may say by way of an overview that it seems particularly appropriate that the dynamism and flexibility of world system and network society alike should find its descriptive embodiment in complexity theory: both turn to

excess and the remainder, that which cannot be captured by, or forecast within, the system. The global system, in other words, cannot ultimately be contained in, or explained by, discursive structures. Linking system, category, and historical period alike to complexity theory marks a productive and powerful anxiety about both knowing everything and about the unknown. As Castells notes in *The Power of Identity*, “the turbulence of information flows will keep codes in a constant swirl”—an energy and movement that is nonorganic by interpretation and not by essence (1997, 360).

The Electronic Empire is not particularly locatable or containable, but it nevertheless has effects that can be discerned. It does not easily align with the watchwords, or adjectival buzzwords, of what is called the world economy and cannot as such be integrated, total, systematized, synchronized, compatible, balanced, or complete. Jameson speaks of the contemporary world system in terms of an “impossible totality” and the only “dimly perceivable” (1991, 38). The Electronic Empire epitomizes his account of the contemporary world system in this respect, rather than that of Hopkins and Wallerstein, who describe it as “a single, imperfect, organic whole, each vector quite dependent on the others” (2). To go further than the “dimly perceivable,” we have only to posit that the Electronic Empire is not only neither organic nor whole, but arguably not even a system at all. Rather, it is a loose assemblage of relations characterized by another set of terms: flexibility, functionality, mobility, programmability, and automation.

The paradigm for such an assemblage is the network, which involves new geopolitical orderings, a reconfigured sense of center and periphery and an attendant complication of the world-system idea. Networks are by nature connective, suggestive of traceable and identifiable affiliations, alliances, and group politics, and their connective tissues provide a fantasy of community, of sociality, of collectives, of utopias.⁴⁷ Annelise Riles notes that “the Network offers a poignant case study of institutionalized utopianism, an ambition for political change through communication and information exchange, of universalism *after* cultural relativism” (2000, 3). The need to reimagine a nontechnicist and nonmercantile internationalism or a philosophical and ethical universalism is not unique to our moment, but the substitutive figure of the network as a complex interconnective

system has a particular currency, resonance, and ubiquity within the context of coalition building and the events of September 11 (including the need to fix Al Qaeda as a mappable network), as well as the expansion of mass media and communication, information, and electronic technologies over the course of the last two centuries.⁴⁸ It follows, then, that Armand Mattelart's *Networking the World* would trace the network back to Henri Saint-Simon and the dawn of the age of modern corporate administration as a way to historicize not just a contemporary figure, but also a contemporary understanding of globalization and global social organization: "In this project of planetary restructuring, the network, as a model of rationality, became the emblematic figure of the new organization of society."⁴⁹ In a related analysis of the city of London, Andrew Leyshon and Nigel Thrift employ the figure of the "actor-network" to describe the constitutive function of communities of everyday social practices associated with finance.

Jameson has followed Ernest Mandel and suggested that the global network is the emblematic figure of late capitalism, that "the whole new de-centered global network of the third stage of capital itself" constitutes "a network of power and control even more difficult for our minds and imaginations to grasp."⁵⁰ Such a "great global multinational and decentered communicational network" must for Jameson necessarily involve new spatial and geopolitical arrangements that the individual mind can neither wholly perceive nor wholly chart (44). The complexity of the networked world system, while allowing for new and reconfigured local connective links, as well as circuits of transmission and exchange, quite simply escapes our totalizing representation and our cognitive reach.⁵¹ For Jameson, then, the "network" is implicitly, as it is explicitly for me, the means to give a provisional, flexible, and paradoxically concrete form to the complexity and abstraction of neoliberal global capitalism. So, too, does it evince the general quality of communications space, which, as Boyd-Barrett notes, is its "astonishing elasticity" (1998, 163). The network, then, is not static but mobile and highly changeable, of which technical and cultural re-encoding, the disappearance of servers, and the constant change of DNS entries and Web addresses are fitting symptoms.

Thus, in its conceptual and figural manifestation as a network, the Electronic Empire maintains a mutable configuration of command

and control; it has “lost its pivot”; and it is without point of origin and end, even given the frequent and fantastic imagining of its apocalyptic destruction. Situated in its unsituatedness, it is rather “always in the middle, between things, interbeing, intermezzo” (Deleuze and Guattari 1980, 6, 25). Rather than dichotomies and binary distinctions, then, the network of Empire presents interstices, interconnecting lines, and autonomous flows. The paradigm of “acentered systems” within *A Thousand Plateaus* is itself paradigmatic: “finite networks of automata in which communication runs from any neighbor to any other, the stems or channels do not preexist, and all individuals are interchangeable, defined only by their state at a given moment—such that the local operations are coordinated and the final, global result synchronized without a central agency” (17).

Even though the electronic imperial network does not yield to a single, central agency, there are still various forces at work trying to co-opt its movement. Former chair and CEO of Citicorp/Citibank Walter Wriston speaks to the paradox: “Money goes where it is wanted and stays where it is well treated. . . . This huge pool of money is destabilizing. It can move instantly, and it does. . . . But money really has no volition of its own. It all depends on the people who own it and use it” (Bass). But the notion that there is a single, central agent, whether nation, subject, or corporation, operating the network of Electronic Empire is contestable. It is, as an asset manager and former International Monetary Fund official notes, “extremely powerful. Nobody can stand in front of it.”⁵² Although the instantiation of knowledge and administrative monopolies, the “expert system,” and various control apparatuses indicate the desire and attempt to manage, restrain, and centralize the operations of the network of global capital, it nevertheless remains the case that it is marked by aleatory movement and general unpredictability. Further, the network has the capacity to evade its own annihilation in a worldwide systems crash, so that ultimately “no breakdown, no sabotage is decisive.”⁵³

The events of September 11 have been strongly illustrative of this idea. While one might have expected that the leveling of the towers and the bombing of the Pentagon would result in a disruption of the network circuits, precisely the opposite has been the effect. Indeed, the electronic network is not disrupted by but constituted around

such events, which it has the capacity to absorb, rework, and replay. This knitting function indicates that the electronic network corresponds to the new mode of Empire, which is, as Hardt and Negri articulate, a “machine for universal integration” (191). Again, however, Empire is less a machine or “apparatus of rule,” which would suggest some kind of human agency or supervisor at the controls, than it is a system.⁵⁴ This systemic integration is manifest in the set of communication networks that comprise the Electronic Empire, networks that, as I have previously stated, are responsible for the circulation of finance and information in the period of late capitalism.

In either its old or its current manifestation, then, the concept of Empire is an “indication of the efficiency of communication” (Innis 9). This insight has a place within Mattelart’s rich and essentially axiomatic understanding of communication and information technologies as instrumental facilitator of Empire, economic, and cultural power alike. However, the new system of Empire need not necessarily operate through domination, subjection, and imposition, albeit under the guise of “free flow,” because it now operates through insinuation, which is a modal switch of power and consists of hosts accepting rather than rejecting or being forced to accept. As a counterpoint and strong reminder of the continued material force of the “old” empire, Arrighi and Silver ask whether globalization and “the phoenix of high finance . . . can rule the roost without the support of strong states more effectively than it has in the past.”⁵⁵ Mixed metaphor notwithstanding, the use of the phoenix as figure is significant because finance capital is continually imagined as emerging in a new form from the ashes, shell, structure, or chrysalis of the old.

It is these properties of malleability, mutation, and adaptation that will lead Jameson to link capital to a virus in his reading of Arrighi, wherein he describes the movements of late capitalism in similar terms, with metaphors drawn from biology and genetics: “the system is better seen as a kind of virus (not Arrighi’s figure), and its development is something like an epidemic (better still, a rash of epidemics, an epidemic of epidemics)” (1997, 249). In the displacement of capital onto a battle of viruses, or their exponential magnification as epidemic, or better still, a plague, there is an attendant promise that capitalism might indeed carry a fatal disease and bear within itself the elements of its own destruction. Pryke and Allen articulate

the potential for disruption in similar terms: monetized time-space is that “through which ‘infections’ may pass simultaneously” (2000, 270). Indeed, the promise of a future vaccination against this infectious disease and the very idea of biological mechanisms of self-protection and self-preservation serve as a screen for the whole repertoire of tactics Mattelart and others have in mind when they speak of resistance to the forces of global media and capital. But, as Hardt and Negri suggest via their commentary on the viral spread and regeneration of the imperial order, not only is vaccinating against the global network of capital impossible, but transmittal and contamination are inevitable: “*The age of globalization is the age of universal contagion,*” they note, and the Empire is formed partly “on the basis of its capacity to develop itself more deeply, to be reborn, and to extend itself throughout the biopolitical latticework of world society” (41).

This, however, is the mode of the network: an autotelic, auto-generative, and autodidactical “smart” system that drives the global economy and provides its most appropriate figure. Informational capitalism mutates not as an unavoidably communicable virus, but as a nonorganic, electronic network whose operative criterion is performativity. Lyotard notes that the computer “could become the ‘dream’ instrument for controlling and regulating the market system, extended to include knowledge itself and governed exclusively by the performativity principle. In that case, it would inevitably involve the use of terror” (1984, 67). The electronic network operates according to the Lyotardian technological performative in that its very nature and truth is constituted by its performance and efficiency.⁵⁶ The networked structure of information and technologies exists in the moment of “the great unknown” (Arrighi and Silver), and it is differentiated and defined by its rules of operation. It has its own operating force and thus Lyotard’s conception of terror is also a necessary component: the function is that which rules the waves. The general belief at the end of the long twentieth century is that capital itself is given to mutation and flexibility, not to self-destruction, but to autotelic reproduction and regeneration. This is the mode of the network, which is forced to function or else it risks being destroyed. It must perform, not optimally or creatively, but basically. The difference is the nonorganic, networked status of Empire and (late) capital, no longer linked to the organicism of the body—Marx’s commodities

as “inwardly circumcised Jews” or Marshall McLuhan’s “nervous system” in a “global embrace”—but coded in the form of the electronic network. Organicism merely disguises a progressivist narrative, and we can perhaps imagine a conceptual break with Enlightenment paradigms of growth and progress and with nineteenth-century paradigms of degeneration (equally organicist and biological) only in terms of a complex network with unknown effects. But, as this essay has tried to demonstrate, one thing we can say about the nature of the network is that it retains an inherent plasticity and carries along with it the power to reconstitute itself.

Notes

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1. See Wallace and Erickson 1992; Drummond 1999; Andrews 2000; Tsang 2000.

2. Marx’s famous delineation of a general formula for capital and of the difference between money and capital, or what Jameson calls the “expanding dialectic of accumulation,” comes partly in volume 1, part 2, chapter 4 of *Capital*: “The simplest form of the circulation of commodities is C-M-C, the transformation of commodities into money, and the change of the money back again into commodities; or selling in order to buy. But alongside of this form we find another specifically different form: M-C-M, the transformation of money into commodities, and the change of commodities back into money; or buying in order to sell. Money that circulates in the latter manner is thereby transformed into, becomes capital, and is already potentially capital” (1995, 93–94). Also see the chapter on capital in *Grundrisse*. See Jameson 1997, 250.

3. Stills and a RealVideo version of the Young and Rubicam “Empire” spot were stored on the Computer Associates Web site, <http://www.cai.com/hellotomorrow>, through August 2001. A sixty-second version of the spot was also completed and aired with a more detailed “classical” opening and extended street scenes. I am grateful to Russell Samolsky for alerting me to this commercial. The cyberpunk aesthetic is all the more suggestive in that a proposal calling for the

testing of *interplanetary* Internet protocols was put before the standard-bearing Internet Engineering Task Force at the time the commercial was airing. See Robert Lemos, "Internet Gurus Aim for the Stars" (May 24, 2001), <http://news.cnet.com/news/0-1003-200-6029873.html?tag=dd.ne.dhm.nl-sty.0>.

4. Clearing House Interbank Payments Company, CHIPCo, <http://www.chips.org>. In *The Twilight of Sovereignty* (1992), Walter Wriston makes a representative comment on the extent to which the telecom network began radically transforming the global financial markets with the introduction of Reuters's video terminal, "Monitor," in 1973; see especially 40–42, 59–61. On the topic of "e-money," or "virtual money," and its informationalism, see Ingham 2002; Leyshon and Thrift 1997, especially 20–22; Solomon 1997; Hart 2001; and, in a futurist context, Kelly 1995, 203–29.

5. With regard to regulation, Masao Miyoshi briefly considers the role of CHIPS in relation to the weakened power of national banks. On the theme of self-facilitation, Ingham notes that "circuits of economic exchange obviously have been able to create their own *media of exchange*" (1993, 139). Payment systems, in other words, require a network, hardware, and software.

6. Guéhenno 1995, 54. Also see Richard J. Barnet and John Cavanagh's discussion of "money without a home" (1994, 385–402). Employing a somewhat literal definition of the deterritorial in their discussion of financial markets and monetized time-space, Pryke and Allen conclude that money "has become increasingly deterritorialized . . . as previously separate financial markets have lost their regulatory and geographical distinction" (2000, 282). In response, much contemporary work on global capital markets and the hazards of derivatives calls for the international and national regulation of speculative trading, e.g. Tickell 2000.

7. In *The Rise of the Network Society*, Castells notes that "one of the key features of informational society is the networking logic of its basic structure" (1997, 21). Barnet and Cavanagh cite *New York Times* writer Peter Passell on the reliance of global banking and financial systems on electronic communications networks. Passell also uses the language of the body to characterize the operation of the network: it is "the computer system that is the heart of global capitalism" (387). Leyshon and Thrift use the same metaphor, but figure the city of London as the electronic "heart" of the "international imperium of commercial capital" (1997, 336).

8. For one example of work linking technological change and capitalist development, see Castells 2000, 52–74. Also see Jessop 2001. Similar themes are evident in Jessop 2002. Representative of the many varied commentators on the order of information, economist and scholar Jean-Pierre Dupuy names the postindustrial society as the "informational society" in "Myths of Informational Society," (Woodward 1980, 3–17). Management theorist Peter Drucker names the substance of the world economy as "information capitalism," a globalized world that is in actual fact Westernized (1993, 166). Walter Wriston delineates the shift from material commodities to information as the "new source of wealth" (1992, 19, 55–73). Hardt and Negri summarize earlier work on the qualitative shift from the assembly line to the network and outline three modes of production, which now

predominantly tends toward becoming “informationalized” (2000, 286). Finally, Castells outlines the crucial differences between information and informational in *Network Society* (1996, 21).

9. Henry Luce 1941, 28. Alvin Toffler names roughly the same epistemological and chronological period, which is “post-smokestack” and originates in the mid-1950s, as the “third wave.” See *The Third Wave* (1980) and *Powershift: Knowledge, Wealth, and Violence at the Edge of the 21st Century* (1990). In *The Gutenberg Galaxy: The Making of Typographic Man* (1962), Marshall McLuhan argues that new technologies will result in the end of print culture and ultimately forge a new and more democratic society. An exemplary and frequently cited claim that the digital revolution is precisely that—a revolution—and also uniform and homogeneous in character is made by Nicholas Negroponte in *Being Digital* (1996).

10. An early study of the possible connections here, with particular reference to Canada, is George Grant, *Technology and Empire* (1965). I would come down on the side of rupture, difference, variation (as would many theorists of information and the informational society such as Daniel Bell, Castells, and Hardt and Negri), rather than on the side of strict continuity and extension (as would other neo-Marxists such as David Harvey, Herbert Schiller, and Immanuel Wallerstein), although I would abide by the idea that the network and the global both have a more extensive and prolonged history than popular commentary might suggest. On the long-term discourse of the network, see Armand Mattelart, *Networking the World, 1794–2000* (2000). In order to trace the network society back to the eighteenth century, he performs an analysis of the internationalization of communication by surveying the literal networks of telegraph transmissions, railway lines and rail gauges, the metrical system, undersea cables, radio communication, telephone lines, cinema and images, and electricity. Leyshon and Thrift similarly trace the origins of the contemporary networked, telematic city back to the telegraph (1997, 323–54).

11. The popularization of these discussions in Europe and the United States was initiated, in some sense, by Nora and Minc’s report to the President of France; Marc Porat’s nine-volume report, *The Information Economy: Sources and Methods for Measuring the Primary Information Sector (Detailed Industry Reports)* (1977); Daniel Bell, *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (1973); Michael L. Dertouzos and Joel Moses, eds., *The Computer Age: A Twenty-Year View* (1979); Christopher Evans, *The Mighty Micro: The Impact of the Computer Revolution* (1979); Joseph Weizenbaum, *Computer Power and Human Reason* (1976); and the continual recovery, “translation,” and reference to the work of Norbert Wiener, particularly *The Human Use of Human Beings: Cybernetics and Society* (1950).

12. On the ascendance of finance capital over mercantile capitalism and the export of commodities, see Lenin’s essay on imperialism.

13. *Network Society* 18–21, 143–4. In a related analysis, Dan Schiller focuses on the role of neoliberal policies in facilitating “an epochal political-economic transition” into “digital capitalism” (1999, xvii). Dyer-Witford also points out

that the expansion of the global financial markets is “inseparable from the expansion of information technology” (1999, 139).

14. Eric Hobsbawm speaks of a short twentieth century (1914–1991) abbreviated by two decades of crisis and culminating in the collapse of communist regimes and subsequent political instability and uncertainty. See Hobsbawm 1994, 10–11. Similarly, Wallerstein designates 1989 as the end of the modern world system begun in the “long” sixteenth century.

15. Schumpeter 1950, 83. For a comparison of Schumpeter and Marx’s views of capitalism’s future, see Elliott 1980.

16. See Chamberlin and Gilman 1985.

17. *Capital: An Abridged Edition*, part 2, chapter 4 (99). Another link can be made to Ricardo’s concept of the “organic structure of capital,” which, according to Schumpeter, concerns the relation between “constant and variable capital” (1950, 26). Though it is not concerned with Marx or this passage, extended commentary on the representation of the Jewish body and circumcision as a “marker” of incompleteness, identity, and difference “within the parameters of ‘healthy’ or ‘diseased’” can be found in Gilman 1991, 155.

18. Among the many subsequent exegeses of *Capital* on this point, see Benjamin Lee and Edward LiPuma on capital’s “self-propelling treadmill structure” and the economy as “an autonomous, self-regulating system” (2002, 208) and Robert Heilbroner: “capitalism’s most striking historical characteristic is its extraordinary propensity for self-generated change” (1993, 41).

19. Kathleen Woodward also notes the prevalence of the biological metaphor in 1970s analyses of the self-replicating quality of information, partly beginning with Daniel Bell’s commentary on information as that which reproduces itself: “Underlying the process of the reproduction of information are metaphors drawn from biology and fission, both of which proceed at an exponential rate. . . . We speak of an information explosion that triggers an ever-accelerating growth in information” (Woodward 1973, xv).

20. However, the rhetoric of the old imperialism remains: Dan Schiller argues that the Internet and “cyberspace itself is being rapidly colonized by the familiar workings of the market system” (1999, xiv).

21. See Forester 1993, 2–5 and 201–7. Forester’s concerns are Japanese business and economic strategies and the corresponding displacement of the United States and Europe, facilitated by the corporate weakness and haplessness of the Americans, which is epitomized by the famous episode of regurgitation: “Unless the West learns the lessons of Japan’s high-tech business strategy and changes course, there is a grave danger that America and Europe could become little more than industrial museums—and Japan’s economic triumph will be complete” (x).

22. For recent industry information on eCommerce and e-economics, see Pam Woodall, “Untangling e-economics,” *The Economist*, September 21, 2000, <http://www.economist.com/surveys/showsurvey.cfm?issue=20000923>. Also see the U.S. Department of Commerce Report, *Digital Economy 2000*, <http://www.esa.doc.gov/dezk.htm>. Finally, the NRF Forrester Online Retail Index lists the

most recent business and technology consumer data (<http://www.forrester.com/NRF/1,2873,0,00.html>). It is worth noting that the claims for the power of the “new” postindustrial society, the information age, and the computerized society, were made at a time of more severe economic recession and while the United States was losing the war in Vietnam (all calling into question the putative power of the “American century”).

23. See the latest data from the independent emerging-technology research firm, Forrester (<http://www.forrester.com/ER/Press/Release/0,1769,533,00.html>). In February 2001, 13.5 million U.S. households made online purchases totaling \$3.4 billion. By 2004, Forrester predicts that global Net commerce—including b2b (business-to-business) and b2c (business-to-consumers)—will reach \$6.8 trillion on the strength of the Asian Pacific and European markets. See <http://www.forrester.com/ER/Press/Forrfind/0,1768,0,00.html>.

24. For an account of the work of software engineer David Cutler and the Microsoft programming team, see Zachary 1994.

25. <http://www.mungopark.com>. See also Mungo Park, *Travels in the Interior Districts of Africa* (1799). For Lee and Fulford, the matter at hand is representation, which is why their concern is with virtuality (2000, 3–28).

26. Korper and Ellis 2000, xiii. Also see Barnet and Cavanagh 1994. For extensive, academic, and rigorous studies of the convergence of telecommunications, computers, and global business in the 1990s, see Bradley, Hausman, and Nolan 1993.

27. In late 2000 and early 2001, Monash University and the Australian Broadcasting Corporation sponsored a thirteen-part radio series on the digital revolution and included one segment on “electronic empires,” with scholars such as Dan Schiller and Robert McChesney participating. Transcripts are available from <http://www.abc.net.au/pipeline/radio/programs/prog4.htm>. Also see Daya Thussu 1998, as well as Herman and McChesney 1997.

28. Herbert Schiller 1969, 8–9. Schiller’s text is an inaugural and still-influential study of the economic and political functions of mass communications in the United States up to 1968. His primary concern is the integration of commercial communications and U.S. business interests and with the cultural consequences of the global broadcast of American images.

29. Thussu 1998, 1. Miyoshi takes a similar general position in “A Borderless World?” (1993): “Cable TV and MTV dominate the world absolutely” (747). However, a critical space must open here to address the space outside of these communication networks and those, often in the south, who do not have access to the equipment required to receive MTV, CNN, or Murdoch’s Star TV network. On the development of Murdoch’s electronic empire, see Rohm 2002. For Murdoch’s News Corporation’s vast holdings and the equally vast and diversified Disney and Time Warner, see McChesney 1998, 27–46. Extensive and detailed analysis of the problem of imperialism, communication, and “global ideological control” may also be found in Mattelart and Siegelau 1979.

30. For an expansive articulation of the two logics of power, see Harvey 2003.

31. Jameson 1997, 251; Hardt and Negri 2001, xii. Žižek pursues the point further to note that capital and commodities may be mobile, but the circulation of people is rigidly controlled (2002, 149). Trebor Scholz and Carol Flax make the same argument in their hypermedia work, *Tuesday Afternoon* (2001), <http://rhizome.org/object.rhiz?4069>.

32. Guéhenno also suggests that the new idea of empire “describes a world that is at once unified and without a center” (1995, xii). In contrast, Luce envisions “America as the dynamic center of ever-widening spheres of enterprise, America as the training center of the skillful servants of mankind” (1941, 39). In the new imperial contest, the empire as such is not industrial but postindustrial and linked to IT and to knowledge work. See Arrighi 1994 and Arrighi and Silver 1999, 5–15; see the latter also on the contest between capital and the nation-state.

33. This hegemony, Cerny argues, was “legislate[d] away” as states gradually relinquished nonliberal capital controls (1994, 321). In his comprehensive study of the function of states within the process of financial globalization, Eric Helleiner (1994) also shows that the post-World War II international economic order did not directly produce global financial markets; rather, industrial states played a significant role in the liberalizing of capital controls and the deregulating of domestic markets. Wood similarly argues that capitalism depends on the “extra-economic coercion” of territorial states (2003, 9–25).

34. Dyer-Witheford’s reading of the information age as the new battleground in the contest between capital and its laboring subjects is apposite here. In his articulation of the relevance of Marxism in the current moment, Dyer-Witheford suggests that the networks of communication that facilitate the instantaneous circulation of capital also facilitate resistance and “oppositional networking” (1999, 155). These “circuits of struggle” both promote increased control and provide the means by which social organizations and antiglobalization movements can develop and strengthen (124–28, 147–64, 232–38).

35. On the decentered quality of Empire and the new world order, Hardt and Negri are also preceded by Frederick Buell’s *National Culture and the New Global System* (10–11). At this point the secondary criticism on *Empire* is too extensive to review here, although Balakrishnan is exemplary. The concept of the multitude is frequently regarded to be the great contribution of Hardt and Negri’s text, and it has reintroduced many productive questions about social multiplicity and agency. Laclau notes that *Empire* fails to provide “any coherent theory of political subjectivity,” but I read this as a sign of their investment in the relations between an autotelic network system and the collective power of the multitude to trigger massive changes in that network (2001, 8).

36. Catherine Bargh, Peter Scott, and David Smith catalog the many distinguishing features, complexity among them, attributed to the “new society” in their *Governing Universities: Changing the Culture?* (1996, 13).

37. Arrighi 1994, 19. In the study, he periodizes the long twentieth century with respect to finance capital: “As this approximate and preliminary periodization implies, consecutive systemic cycles of accumulation overlap, and although

they become progressively shorter in duration, they all last longer than a century; hence the notion of the 'long century,' which will be taken as the basic temporal unit in the analysis of world-scale processes of capital accumulation" (6–7). Arrighi's periodization of the long twentieth century is based on three periods of crisis: the Great Depression of 1873–1896, the thirty-year crisis of 1914–1945, and the economic crisis of the 1970s.

38. In contrast, Samir Amin argues that the current crisis of the world system "reveals that the polarization of the world really constitutes a historic limit for capitalism" (1992, 13).

39. Schumpeter, 82. Schumpeter summarizes his position vis-à-vis Marx in a 1949 address: "Marx was wrong in his diagnosis of the manner in which capitalist society would break down; he was not wrong in the prediction that it would break down eventually" (424–25). Though they focus primarily on the efforts to prolong hegemony, and not on the successful hegemonic runs, Hopkins and Wallerstein suggest a systemic logic similar to that articulated by Arrighi for what they call the capitalist world-economy, whereby "the very efforts made to prolong the power themselves tend to undermine the base of the power, and thus start the long process of relative decline" (1996, 9).

40. On the new Empire and the contemporary relations between American military and economic power, see Wallerstein 2003; Joxe 2002; Wood 2003; Mann 2003.

41. Moreover, an analysis of the interface between global capitalism and new technologies could only really be in the mode of the speculation, partly because there are no strict answers for these questions, partly because of the uncertain futures of the market, but also because the market and capital itself exist now in the mode of global financial speculation, as do the new technologies, which cannot eliminate (or shake off) either vaporware or the system of initial public offerings (IPOs).

42. Arrighi and Silver review the criticism linking chaos theory to changes in the global political economy, especially 21–26. Also see Amin 1992. In contrast, Joxe draws on the rhetoric of equilibrium in his commentary on the question of the "end of capitalism" (2002, 189).

43. Hopkins and Wallerstein begin *The Age of Transition* with the extended question, "The World-System: Is There a Crisis?" Also see Hobsbawm, *The Age of Extremes*, and Arrighi and Silver, 2.

44. I am grateful to Alan Liu for pointing me to this passage in Schumpeter as a means to bridge organicism and the language of complexity. The importance of rhetoric and speech performance in Schumpeter's analysis is underscored by Robinson.

45. For (often indirect) allusions to a complexity model, with implications of the inconclusive, unpredictable, and nontotalizable, for the "global," global culture, and global orderings, see Ó Tuathail 1996, 15; Hardt and Negri 2000, 41; Richard Lee 1996, 197; and Arrighi and Silver 1999. Alvin and Heidi Toffler make very general use of the chaos and complexity paradigms in *War and Anti-War*:

Making Sense of Today's Global Chaos (1993). Ulf Hannerz also loosely links global culture to complexity theory by arguing that “people like the cosmopolitans have a special part in bringing about a degree of coherence; if there were only locals, world culture would be no more than the sum of its separate parts” (1996, 111).

46. Coronil 2001, 79. Also Sanford 1994.

47. For one reverential tribute to the values and virtues of interdependence, reimagined as “connexity,” see Geoff Mulgan, *Connexity: How to Live in a Connected World* (1997). An academic precursor for his work is that of French anthropologist André Leroi-Gourhan, who has argued that in precapitalist social systems, space has the property of “connexity”—wherein any two points can be connected by a psychic and experiential continuous path—which suggests that space is not experienced as discrete or isolated. See *Le Geste et la parole* (1964). For the place of networks in utopian thinking, particularly on “the ideology of redemption through networks” dating at least from Michel Chevalier, a follower of Claude-Henri de Saint-Simon and prophet of the “circulating civilization,” see Mattelart, *Networking the World*, especially 16–21, 117–20. Lee and Fulford remark on the possibilities of networks as well (2000, 4).

48. For efforts to think and imagine an ethical universalism, at times in conjunction with a contemporary cosmopolitanism, see Robbins 1999 and Cheah and Robbins 1998, for whom, according to Robbins, “*cosmopolitics* represents one effort to describe, from within multiculturalism, a name for the genuine striving toward common norms and mutual translatability that is also part of multiculturalism” (12–13). For a call to read the mechanisms and practices of communications through the lens of community rather than through market economics, see Carey 1997.

49. Mattelart 2000, 15. See also Ionescu 1976 and Taylor 1975.

50. See Ernest Mandel’s tripartite structure of capitalism in his *Late Capitalism* (1978), on which Jameson builds in *Postmodernism*. For the quoted text, see Jameson 1991, 38. On Mandel, see Nick Heffernan, *Capital, Class, and Technology in Contemporary American Culture* (2000). For a similar claim for the coextensiveness of networks and the global market, see Dan Schiller, especially xiv.

51. For a discussion of critical, and fictional, geopolitics, see Arrighi, Hui, Ray, and Reifer 1999; Ó Tuathail 1996; Parker 1998; and O’Loughlin 1994.

52. Quoted in Collier 1996. Reiterating this basic point, Hardt and Negri name three sources of global control: the bomb, ether, and money (345).

53. Guéhenno, 120. On the expert-system and knowledge monopolies, see Harold Innis on the hoarding of IT information (1950, 210); Sean Cubitt on Net culture’s “fully administrable knowledge world” (1998, 12); and Armand Mattelart on technicians and experts (1994, 229).

54. Hardt and Negri, xii. Mark Poster’s critique of Hardt and Negri is that the multitude-as-new-proletariat thesis presumes a liberal humanist subject. Because they are not attuned to the technological specificity of digital information, Poster suggests, their text remains mired in a problematic of another episteme—the subject—and does not fully engage with the radical rearticulation, if

not evacuation, of the subject prompted by the rise of intelligent machines. “The Information Empire,” *Comparative Literature Studies* (forthcoming).

55. Arrighi and Silver 10. Their discussion of “a dominant state [that] becomes the ‘model’ for other states to emulate and thereby draws them into its own path of development” (27) follows the critical path of Gramsci on hegemony and George Modelski and William R. Thompson (1995). With respect to the reconfiguration of the function of the state vis-à-vis contemporary capitalism, Harris also notes, “[Transnationals use] government to help penetrate new markets, keep labour and environmental costs low and subsidise their global activities. This is not the disappearance of states, but the redefinition of their role” (33).

56. By extending speech-act theory to economic practices, Lee and LiPuma (2002) investigate the performativity of capital. I am grateful to the anonymous reviewer for *Cultural Critique* for directing me to this discussion of another performative.

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