

**ELECTRONIC MARKETS AND ACTIVIST NETWORKS**  
**The Weight of Social Logics in Digital Formations**

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<sup>1</sup> Cf. Latham/Sassen 2004.

Interactions between digital technology and social logics can produce a third condition that is a mix of both. When this mixed domain gets structured in electronic space we call it a digital formation.<sup>1</sup> This paper focuses on two such formations, the global market for capital, and global electronic activist networks. In both cases my organizing question concerns the operation of social logics and how they shape and are in turn shaped by these technologies. The focus is, then, on both the transformative capacities of these new computer-centered technologies as well as their limits, limits partly set by social logics. The two very different types of cases examined in this paper make legible the variable ways in which this socio-technical interaction produces outcomes.

Both cases are part of global dynamics and both have been significantly shaped by the three properties of digital networks – decentralized access/distributed outcomes, simultaneity and interconnectivity. But, I will argue, these technical properties have produced strikingly distinctive outcomes in each case. In one of the cases, these properties contribute to distributive outcomes: greater participation of local organizations in global networks and thereby help in constituting elementary forms of transboundary public spheres or forms of globality centered in multiple localized types of struggles and agency. In the second case, these same properties have contributed to higher levels of control and concentration in the global capital market even though the power of these financial electronic networks rests on a kind of distributed power, i.e. millions of investors and their millions of decisions.

This difference points to the possibility that networked forms of power are not inherently distributive, as is often theorized when the focus is exclusively on technical properties. Intervening mechanisms that may have little to do with the technology *per se* can re-shape what is, technically, a primary outcome of these networks. These two cases show us that the trajectory followed by what begins in each as the distributed power we associate with computer-centered networks can take on many forms. In the case of the global capital market it winds up as concentrated power. It indicates that technology alone does not explain outcomes: each of these two cases represents the constituting of a distinctive domain through specific imbrications of technical and social logics. We can expect these imbrications to range all the way from simple to complex depending on the type of case. One way of describing this interaction is to posit that the new technologies are partly embedded in institutional environments that have the power to inscribe technology. As a result the outcome does not reflect exclusively the features of the particular technology at work.

To capture the interactions between the technical and social logics at work in producing the distinct outcomes of each case we need to identify appropriate indicators. One type of indicator is the counterfactual. In the case of this paper, it would be that which disproves the logic at work in each case. For the global capital market, one such counterfactual can be found in the fact that this electronic, trans-jurisdictional, globally interconnected market is actually embedded in a set of dense localized environments and specific social logics rather than being a seamless global electronic space. The effort then becomes one of laying bare the ways in which this electronic market is embedded and conditioned. The new technologies have had a deeply transformative effect but they do not dislodge the fact of substantive agendas organizing market actors. The argument I develop below is that today's global capital market is a complex formation markedly different from earlier global financial markets but its extensive digitization does not necessarily mean that it is disembedded. In the case of electronic activist networks, particularly local organizations participating in global networks, the indicator would function in precisely the opposite direction – how the local can be embedded in the non-local, specifically in this case global networks and global agendas. That is to say, how can highly specific local environments and agendas be constituted as part of global scalings.

Both cases make legible how digitization can destabilize nested formalized hierarchies of scale: the global is shown to be multi-scalar and, though in a different manner, so is the local. In the first case, the multi-scalar nature of the global capital market comes about through its embeddedness in a network of financial centers located in highly institutionalized national environments. In the second case, the multi-scalar nature of the local comes about through its growing presence in global networks that maximize connectivity and interaction. Localized

2 Cf. Latham/Sassen 2004  
(Introduction).

entities become microenvironments with global span. Local organizations confined to localized actions gain cognition of the recurrence of these types of actions in locality after locality, thereby contributing to reshape these global networks for communication into global zones for interactivity – an experience of the global that gets shaped through multiple localities.

The global capital market is a particularly helpful case for examining these dynamics of transformation and embeddedness. It represents an enormously complex series of imbrications that can actually be traced given a high level of institutionalization and a considerable amount of evidence. In contrast, the global network of local organizations represents rather simple types of imbrications, at least at this point, and is far more difficult to trace given low if any institutionalization; as a field for research it has also suffered from a northern perspective that has misinterpreted and/or overlooked key aspects of southern electronic activist networks. However, the case of electronic activist networks helps us understand the fact of different trajectories and thereby illuminates the variability and specificity of the transformative capacities of these technologies.<sup>2</sup>

### I. The Locational and the Institutional Embeddedness of Electronic Financial Markets

In seeking to understand how these technologies have affected the market for capital today, it is important to recognize that there has long been a global market for capital and that there clearly would have continued to be one even if these technologies never had come about.<sup>3</sup> The question then becomes one of understanding the specific ways in which computer-centered technologies have reshaped financial markets, and to distinguish between merely derivative changes and genuinely transformative ones.

There are, in my reading, two major sets of differences that distinguish today's global market for capital from that of earlier periods.<sup>4</sup> One has to do with the level of formalization and institutionalization of the global market for capital today, partly an outcome of the interaction with national regulatory systems that themselves gradually became far more elaborate over the last hundred years. I will not focus especially on this aspect here. The second set of differences concerns the transformative impact of digital networks and the possibility of digitizing financial instruments (for short both henceforth digitization). In combination with the various dynamics and policies we usually refer to as globalization they have constituted the capital market as a distinct institutional order, one different from other major markets and circulation systems such as global trade.

One of the key and most significant outcomes of digitization in finance has been the jump in orders of magnitude and the extent of worldwide interconnectedness. I argue that there are basically three ways in which digitization has contributed to this outcome.<sup>5</sup> One is the use of sophisticated software, a key feature of the global financial markets today and a condition that in turn has made possible an enormous amount of innovation. It has raised the level of liquidity as well as increased the possibilities of liquefying forms of wealth hitherto considered non-liquid. This can require enormously complex instruments; the possibility of using computers facilitated not only the development of these instruments, but also enabled the widespread use of these instruments insofar as much of the complexity could be contained in the software. It enables users who might not fully grasp either the mathematics or the software design issues of financial instruments. Development of these instruments is further enhanced by the fact that their softwaring facilitates proprietary rights.

Second, the distinctive features of digital networks can maximize the implications of global market integration by producing the possibility of simultaneous interconnected flows and transactions, as well as decentralized access for investors and for exchanges in a growing number of countries. The key background factor here is that since the late 1980s, the trend has been for more and more countries to de- and re-regulate their economies according to a particular set of criteria that has ensured cross-border convergence and the global integration of their financial centers. This non-digital condition amplified the new capabilities introduced by the digitization of markets and instruments.

Third, because finance is particularly about transactions rather than simply flows of money, the technical properties of digital networks assume added meaning. Interconnectivity, simultaneity, decentralized access, and softwared instruments, all contribute to multiply the number of transactions, the length of transaction chains (i.e. distance between instrument and underlying asset), and thereby the number of participants. The overall outcome is a complex architecture of transactions.<sup>6</sup>

3 A strong line of interpretation in the literature is that today's market for capital is nothing new and represents a return to an earlier global era at the turn of the century. Cf. Hirst, Paul Q./Grahame, Thompson: *Globalization in Question: The International Economy and the Possibilities of Governance*. Cambridge: Polity Pr. 1996; Wade, Robert: *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton: Princeton UP 2004. I argue this holds only at a high level of generality, but that when we factor in the specifics of today's capital market, esp. digitization, some significant differences emerge with those past phases. Cf. Sassen, S.: *The Global City: New York, London, Tokyo*. Princeton: Princeton UP 2001, Ch. 4, 5 and 7. There is an emerging literature focused on electronic financial markets, e.g. Knorr-Cetina, Karin/Bruegger, Urs: *Global Microstructures: The Virtual Societies of Financial Markets*. In: *American Journal of Sociology* 107 (2002), pp. 905-950; Barrett, Michael/Susan Scott: *Electronic Trading and the Process of Globalization in Traditional Futures Exchanges: A Temporal Perspective*. In: *European Journal of Information Systems* [forthcoming]; Callon, Michel: *The Laws of the Markets*. Oxford: Blackwell 1998; MacKenzie, Donald/Millo, Yuval: *Constructing a Market, Performing Theory: The Historical Sociology of a Financial Derivatives Exchange*. In: *American Journal of Sociology* 109 (2003), pp. 107-145.

4 Neither of these has been addressed by those who argue that the current global market for capital represents a return to an older form and that hence it is nothing new.

5 For a greater elaboration of this argument cf. Sassen 2001, Ch. 5 and 7; Sassen, S.: *Towards a Sociology of Information Technology*. In: *Current Sociology* 50 (2002), pp. 365-388.

6 Elsewhere (Sassen, S.: *Denationalization: Territory, Authority, and Rights in a Global Digital Age*. Princeton: Princeton UP 2004) I have developed this thesis of finance today as being increasingly transaction intensive. In my reading financial centers become even more important today because they contain the capabilities for managing this transactivity precisely at a time when the latter assumes whole new features given digitization.

7 International Monetary Fund (IMF): *Balance of Payments Statistics Yearbook*. Washington/D.C.: IMF 2001; Bank for International Settlements (BIS): *Annual Report*. Basel: BIS 2002.

8 The foreign exchange market was the first one to globalize, in the mid 1970's. Today it is the biggest and in many ways the only truly global market. It has gone from a daily turnover rate of about US \$15 billion in the 1970s, to US \$60 billion in the early 1980's, and an estimated US \$1.3 trillion today. In contrast, the total foreign currency reserves of the rich industrial countries amounted to about 1 trillion in 2000.

9 Wholesale finance has historically had strong tendencies towards cross-border circulation, whatever the nature of the borders might have been. Venice based Jewish bankers had multiple connections with those in Frankfurt, and those in Paris with those in London; the Hawala system in the Arab world was akin to the Lombard system in western Europe. For a detailed discussion cf. Arrighi, Giovanni: *The Long Twentieth Century: Money, Power, and the Origins of Our Times*. London: Verso 1994.

10 Cf. e.g. Budd, Leslie: *Globalisation, Territory, and Strategic Alliances in Different Financial Centres*. In: *Urban Studies* 32 (1995), pp. 345-360.

11 Sinclair, Timothy, J.: *Passing Judgement: Credit Rating Processes as Regulatory Mechanisms of Governance in the Emerging World Order*. In: *Review of International Political Economy* 1 (1994), pp. 133-159.

12 Switzerland's international banking was, of course, the exception. But this was a very specific type of banking and does not represent a global capital market, particularly given the fact of basically closed national financial systems at the time.

These three features of today's global market for capital are inextricably related to the new technologies. The difference they have made can be seen in two consequences. One is the multiplication of specialized financial markets. It is not only a question of global markets for equities, bonds, futures, currencies, but also of the proliferation of enormously specialized global sub-markets for each of these. This proliferation is a function of increased complexity in the instruments, in turn made possible by digitization of both markets and instruments.

The second consequence is that the combination of these conditions has contributed to the distinctive position of the global capital market in relation to several other components of economic globalization. We can specify two major traits, one concerning orders of magnitude and the second the spatial organization of finance. In terms of the first, indicators are the actual monetary values involved and, though more difficult to measure, the growing weight of financial criteria in economic transactions, sometimes referred to as the financializing of the economy. Since 1980, the total stock of financial assets has increased three times faster than the aggregate GDP of the 23 highly developed countries that formed the OECD for much of this period; and the volume of trading in currencies, bonds and equities has increased about five times faster and now surpasses it by far. This aggregate GDP stood at about US \$30 trillion in 2000 while the worldwide value of internationally traded derivatives reached over US \$65 trillion in the late 1990s, a figure that rose to US \$168 trillion in 2001 and US \$192 trillion in 2002. To put this in perspective we can make a comparison with the value of other major high-growth components of the global economy, such as the value of cross-border trade (ca. US \$ 8 trillion in 2000), and global foreign direct investment stock (US \$ 6 trillion in 2000).<sup>7</sup> Foreign exchange transactions were ten times as large as world trade in 1983, but 70 times larger in 1999, even though world trade also grew sharply over this period.<sup>8</sup>

As for the second major trait, the spatial organization of finance, it has been deeply shaped by regulation. In theory, regulation has operated as one of the key locational constraints keeping the industry, its firms and markets, from spreading to every corner of the world.<sup>9</sup> The wave of deregulations that began in the mid-1980's has lifted many of these formal constraints to the geographic spread of the industry. Further, being a highly digitized industry today, financial outputs can circulate instantaneously worldwide, financial transactions can be executed digitally, and both, circulation and transactions, can cut across conventional borders. In principle this generates locational options that are quite specific to finance and diverge from those of most other globalized economic sectors.<sup>10</sup> The large scale deregulation of the industry in a growing number of countries since the mid-1980's has indeed brought with it a sharp increase in access to what were still largely national financial centers and has enabled innovations which, in turn, facilitated the industry's expansion both geographically and institutionally. This possibility of locational and institutional spread also brings with it a heightened level and diversification of risk, a marking feature of the current phase of the market for capital. Yet, as I will discuss below, the geography of its spread is lumpy rather than seamless because of the substantive agendas guiding the sector and its dependence on a network of, at least partly, non-digital financial centers.

### I.A. The Distinctiveness Of Today's Capital Market

Though there is little agreement on the subject, in my reading these current conditions make for important differences between today's global capital market and the period of the gold standard before World War I. In some ways the international financial market from the late 1800's to the inter-war period was as massive as today's. This appears to be the case if we measure the volume of long-term flows as a share of national economies. The international capital market in that earlier period was large and dynamic, highly internationalized and backed by a healthy dose of *Pax Britannica* to keep order. The extent of its internationalization can be seen in the fact that in 1920, for example, Moody's rated bonds issued by about 50 governments to raise money in the American capital markets.<sup>11</sup> The depression brought on a radical decline in the extent of this internationalization, and it was not till very recently that Moody's was once again rating the bonds of about fifty governments. Indeed, as late as 1985, only 15 foreign governments were borrowing in the US capital markets. Not until after 1985 did the international financial markets re-emerge as a major factor.<sup>12</sup>

But there are significant differences. One is the volume of short-term financial flows that has grown sharply and outstrips long-term flows. Further, this has brought with it the rise of

13 Bank for International Settlements (BIS): BIS Quarterly Review: International Banking and Financial Market Developments. Basel: BIS 2000.

14 United Nations Conference on Trade and Development (UNCTAD): World Investment Report: Trends and Determinants. New York: UNCTAD 1998.

15 The level of concentration is enormous among these funds, partly as a consequence of mergers and acquisitions (M&As) driven by the need for firms to reach what are *de facto* the competitive thresholds in the global market today. For more details cf. Sassen 2001, Ch. 7.

16 While currency and interest-rates derivatives did not exist until the early 1980's and represent two of the major innovations of the current period, derivatives on commodities, so-called futures, have existed in some version in earlier periods. Famously, Amsterdam's stock exchange in the 17<sup>th</sup> century – when it was the financial capital of the world – was based almost entirely on trading in commodity futures.

17 MacKenzie 2003, Callon 1998.

18 There are significant differences by country in the extent to which these innovations have been implemented. E.g., and in general terms, securitization is well advanced in the US, but just beginning in most of Europe.

types of financial institutions almost exclusively involved in such flows and hence highly speculative. More generally, there has been a growing concentration of market power in institutions, including more conservative ones such as pension funds and insurance companies.

Institutional investors are not new. What is different beginning in the 1980's is the diversity of types of funds, the rapid escalation of the value of their assets, and the sharp rise of extremely speculative institutions. There are two phases in this short history, one going into the early 1990's and the second one taking off in the later 1990's. Just focusing briefly on the first phase, and considering pension funds, for instance, their assets more than doubled in the US from \$ 1.5 trillion in 1985 to \$ 3.3 trillion in 1992. Pension funds grew threefold in the UK and fourfold in Japan over that same period, and they more than doubled in Germany and in Switzerland. In the US, institutional investors as a group came to manage two-fifths of US households' financial assets by the early 1990's, up from one fifth in 1980. Another marking feature is that today the global capital market is increasingly a necessary component of a growing range of types of transactions, such as the diversity of government debts that now get financed through the global market: increasingly kinds of debt that were thought to be basically local, such as municipal debt, are now entering this market. The overall growth in the value of financial instruments and assets also is evident with US institutional investors whose assets had risen from 59% of GDP in 1980 to 126% by 1993.

As for the phase that began in the late 1990's, besides the growth of older types of institutional investors there is a proliferation of institutional investors with extremely speculative investment strategies. Hedge funds are among the most speculative of these institutions; they sidestep certain disclosure and leverage regulations by having a small private clientele and, frequently, by operating offshore. While they are not new, the growth in their size and their capacity to affect the functioning of markets certainly grew enormously in the 1990's and they emerged as a major force by the late 1990's. According to some estimates they numbered 1,200 with assets of over \$ 150 billion by mid-1998<sup>13</sup>, which was more than the \$ 122 billion in assets of the total of almost 1,500 equity funds as of October 1997<sup>14</sup>. To put these figures in perspective, both of these types of funds need to be distinguished from asset management funds, of which the top ten are estimated to have \$ 10 trillion under management.<sup>15</sup>

It is particularly in the world of short-term flows and speculative investors that digitization has had transformative consequences. Two sets of properties need to be emphasized here. One set – instantaneous transmission, interconnectivity and speed – has transformed the character of financial transactions. A major consequence has been the sharp jump in the volume and the overall value of transactions. The other set of properties has to do with computerization, specifically, the possibility of computerizing mathematics. This has enabled the development of enormously complex financial instruments and, very importantly, their widespread use in that they could be packaged into reasonably simple-to-use software. One major consequence has been the increase in the industry's capacities to liquefy assets.

These two sets of properties have contributed to a third major difference, the explosion in and demand for financial innovations. Innovations are not new to finance, nor is the fact that an effect of innovations is to raise the supply of financial instruments that are tradable – sold on the open market. The crucial difference between earlier phases and the contemporary phase is one of thresholds and the extent to which a change in thresholds can be interpreted as a qualitative transformation. The increased digitization of both transactions and instruments discussed above has enabled the work of producing innovations and has enabled the workability of a variety of new but also older innovations. While it is true that much of this innovation centers on derivatives and that the concept of the derivative is an old one, today we have seen a multiplication of types of derivatives and a sharp increase in the complexity of many of these types of derivatives.<sup>16</sup> This in turn has led to what we might describe as the growing embeddedness of financial instrument development in academic economics.<sup>17</sup> Digitization of transactions and instruments has been central to this multiplication of types of derivatives and their increased complexity. The overall result has been a massive increase in the extent to which the financial industry has been able to securitize various forms of what were previously considered untradable assets or were simply not considered as assets, e.g. many forms of debt.<sup>18</sup> Mediated through these specifics of contemporary finance and financial markets, digitization can then be seen as having contributed to a vast increase in the numbers of transactions that in turn translates into increased volumes and values.

19 For a full description of assumptions and measures cf. International Monetary Fund (IMF): International Capital Markets: Developments, Prospects, and Key Policy Issues. Washington/D.C.: IMF 1999, p. 47.

At a macro-institutional level, the proliferation of innovative derivatives has furthered the linking of national markets by producing specific types of incentives. For instance, various kinds of derivatives make it easier to exploit, or arbitrage, price differences among diverse financial instruments. One indicator is the growing importance of cross border transactions measured in terms of their value as a percentage of GDP in the leading developed economies, and in particular the recency of this accelerated increase. For instance, the value of such transactions in the US represented 4% of GDP in 1975, 35% in 1985 when the new financial era is in full swing, a quadrupling by 1995, and reached 230% of GDP in 1998. Other countries show even sharper increases. In Germany this share grew from 5% in 1975 to 334% in 1998; in France it went from 5% in 1980 to 415% in 1998. In part, this entails escalating levels of risk and innovation driving the industry; indeed, it is only over the last decade and a half that we see this acceleration.

The drive to produce innovations is one of the marking features of the financial era that begins in the 1980's. The history of finance is in many ways a long history of innovations. But what is, perhaps, different today is the intensity of the current phase and the multiplication of instruments that lengthen the distance between the financial instrument and actual underlying asset. This is reflected, for instance, in the fact that stock market capitalization and securitized debt, before the financial crisis of 1997-98, in North America, the EU, and Japan amounted to \$ 46.6 trillion in 1997, while their aggregate GDP was \$ 21.4 trillion and global GDP was \$ 29 trillion. Further, the value of outstanding derivatives that same year in these same sets of countries stood at \$ 68 trillion, which was about 146% of the size of the underlying capital markets.<sup>19</sup>

#### I.B. In The Digital Era: More Concentration Than Dispersal?

A second major set of issues about the transformative capacities of digitization has to do with the limits of technologically driven change, or, in other words, with the point at which this global electronic market for capital runs into the walls of its embeddedness in non-digital conditions. There are two distinct issues here. One is the extent to which the global market for capital even though global and digital is actually embedded in multiple environments, some indeed global in scale but others subnational, i.e. the actual financial centers within which the exchanges are located. A second issue is the extent to which it remains concentrated in a limited number of the most powerful financial centers notwithstanding its character as a global electronic market.

In theory, the intensification of deregulation and the instituting of policies in various countries aimed at creating a supportive cross-border environment for financial transactions, could have dramatically changed the locational logic of the industry. This is especially the case because it is a digitized and globalized industry that produces highly mobile outputs. It could be argued that the one major feature that could keep this industry from having locational constraints would be regulation. With deregulation that constraint should be disappearing. Other factors such as the premium paid for location in major cities should be a deterrent to locate there, and with the new developments of telecommunications there should be no need for such central locations. Further, even accepting the notion that this market needs financial centers, given the costs of operating in major centers we might expect a shift of operations to lower order financial centers given their lower prices compared to the major centers; thus, we would expect a shift from the leading to lesser centers.

Today, then, we might expect the actual spatial organization of the industry to be a much better indicator of its market-driven locational dynamics than was the case in earlier phases with more regulation and less digitization. We have seen considerable deregulation in the industry, the incorporation of a growing number of national financial centers into a global market, and the sharp increase in digitization of transactions and instruments. This would hold especially for the international level given the earlier prevalence of highly regulated and closed national markets.

There has, indeed, been geographic decentralization of certain types of financial activities, aimed at securing business in the growing number of countries becoming integrated into the global economy. Many of the leading investment banks have operations in more countries than they had 20 years ago. The same can be said for the leading sister industries, such as accounting, legal, and other specialized corporate services that now need to deliver a global service to their corporate clients; a good indicator of this is the explosive growth in these firms'

20 Taylor, Peter J. / Walker, David R.F./Beaverstock, Jonathan V.: *Firms and Their Global Service Networks*. In: Sassen, S. (Ed.): *Global Networks, Linked Cities*. New York: Routledge 2002, pp. 93-115; cf. generally GAWC.

21 Among the main sources of data for the figures cited in this section are the International Bank for Settlements (Basle); IMF national accounts data; specialized trade publications such as *Wall Street Journal's WorldScope*, *Morgan Stanley Capital International*; *The Banker*; data listings in the *Financial Times* and in *The Economist*; and, esp. for a focus on cities, the data produced by Technometrics, Inc. (now part of Thomson Financials: 1999 International Target Cities Report. New York: Thomson Financial Investor Relations 1999).

22 The case of NY after September 2001 requires clarification. The destruction of a considerable amount of the office space of several financial firms in addition to the destruction of communications infrastructure forced many firms to either fully or partly move out of Lower Manhattan. Some of these firms will not return; some have already returned either to lower or mid-Manhattan. Most are likely to keep their strategic operations centered in Manhattan. But there is now a broader geography to the Manhattan financial sector than was the case before September 2001: it includes growing concentrations of at least partial components of firms in specific areas of New Jersey and Connecticut. In my interpretation there are two issues to factor in. One of these is that the destruction of office space can be seen as a brutal elimination of inertia in the financial sector, where many of these firms have grown enormously and have kept huge workforces – of 10,000 employees in several cases – when only a fraction of these needs to be located in a major financial center. The second issue is that, given digitization, »spatial centrality« can be constituted through diverse actual geographies; cf. Sassen 2001, Ch. 5.

The geography of the downtown business center is but one of these. A second type of geography is that of the larger metropolitan area where a variety of dense business nodes are connected via state of the art conventional infrastructure and digital networks. A third is the network of global cities, constituted through the multiple digital and other transactions among various firms in these cities. In the case of the Manhattan financial industry all three geographies have been present throughout the 1980's and 1990's; September 11 has strengthened the second type.

networks of overseas affiliates.<sup>20</sup> And it can be said for some markets: e.g., in the 1980's all basic wholesale foreign exchange operations were in London. Today these are distributed between London and several other centers (even though their number is far smaller than the number of countries whose currency is being traded).

But empirically what stands out in the evidence about the global financial markets after a decade and a half of deregulation, worldwide integration, and major advances in electronic trading is the extent of locational concentration and the premium firms are willing to pay to be in major financial centers. Large shares of many financial markets are disproportionately concentrated in a few financial centers. This trend towards consolidation in a few centers also is evident within countries. Further, this pattern towards the consolidation of one leading financial center per country is a function of rapid growth in the sector, not of decay in the losing cities.

The sharp concentration in leading financial markets can be illustrated with a few facts.<sup>21</sup> London, New York, Tokyo (notwithstanding a national economic recession), Paris, Frankfurt and a few other cities regularly appear at the top *and* represent a large share of global transactions. This holds even after the September 11 attacks in New York that destroyed the World Trade Center (albeit that this Center was not largely a financial complex) and damaged over fifty surrounding buildings home to much financial activity. The level of damage was seen by many as a wake-up call about the vulnerabilities of sharp spatial centralization in a limited number of sites. Nevertheless, the pre-September 11 levels of concentration in stock market capitalization in a limited number of global financial centers held after the attacks.<sup>22</sup> Foreign listings in the major market further indicate that location in a set of financial markets is one of the features of the global capital market; the fact that it is a global digital market does not seem to reduce the need for being present in the actual centers where the exchanges are located. London, Tokyo, New York, Paris (now consolidated with Amsterdam and Brussels as Euro-Next), Hong Kong and Frankfurt account for a major share of worldwide stock market capitalization. London, Frankfurt and New York account for an enormous world share in the export of financial services. London, New York and Tokyo account for over one third of global institutional equity holdings, this as of the end of 1997 after a 32% decline in Tokyo's value over 1996. London, New York and Tokyo account for 58% of the foreign exchange market, one of the few truly global markets; together with Singapore, Hong Kong, Zurich, Geneva, Frankfurt and Paris, they account for 85% in this, the most global of markets. These high levels of concentration do not preclude considerable activity in a large number of other markets, even though the latter may account for a small global share.

This trend towards consolidation in a few centers, even as the network of integrated financial centers expands globally, also is evident within countries. In the US for instance, New York concentrates the leading investment banks with only one other major international financial center in this enormous country, Chicago. Sydney and Toronto have equally gained power in continental sized countries and have taken over functions and market share from what were once the major commercial centers, respectively Melbourne and Montreal. So have Sao Paulo and Bombay, which have gained share and functions from respectively Rio de Janeiro in Brazil and New Delhi and Calcutta in India. These are all enormous countries and one might have thought that they could sustain multiple major financial centers; and even though many of the secondary centers may be thriving, the point is that the leading centers have gained national share. This pattern is evident in many countries, including the leading economies of the world.<sup>23</sup> Consolidation of one leading financial center in each country is an integral part of the growth dynamics in the sector rather than the result of losses in the losing cities.

There is both consolidation in fewer major centers across and within countries *and* a sharp growth in the numbers of centers that become part of the global network as countries deregulate their economies and the global economy expands accordingly. Bombay, for instance became incorporated in the global financial network in the early 1990's after India (partly) deregulated its financial system. This mode of incorporation into the global network is often at the cost of losing functions that these cities may have had when they were largely national centers. Today the leading, typically foreign, financial, accounting and legal services firms enter their markets to handle the many of the new cross-border operations. Incorporation in the global market typically happens without a gain in their global share of the particular segments of the market they are in even as capitalization may increase, often sharply, and even though they add to the total volume in the global market.

Why is it that at a time of rapid growth in the network of financial centers, in overall volumes, and in electronic networks, we have such high concentration of market shares in the leading global, and in the leading national centers when it comes to countries? Both globalization and electronic trading are about expansion and dispersal beyond what had been the confined realm of national economies and floor trading. Indeed, one might well ask why financial centers matter at all.

23 In France, Paris today concentrates larger shares of most financial sectors than it did 10 years ago and once important stock markets like Lyon have become »provincial«, even though Lyon is today the hub of a thriving economic region. Milano privatized its exchange in September 19 and electronically merged Italy's 10 regional markets. Frankfurt now concentrates a larger share of the financial market in Germany than it did in the early 1980's, and so does Zurich, which once had Basel and Geneva as significant competitors.

24 This is one of the seven organizing hypotheses through which I specified my global city model. For a full explanation cf. Sassen 2001, esp. the Preface to the New Edition.

25 Sassen 2001, p. 115f.

26 Garcia, Linda. Architecture of Global Networking Technologies. In: Sassen 2002, pp. 71-91.

27 Cf. Sassen 2001, Ch. 5.

### I.C. The Continuing Utility Of Spatial Agglomeration

The continuing weight of major centers is, in a way, countercensical, as is, for that matter, the existence of an expanding network of financial centers. The rapid development of electronic exchanges, the growing digitization of much financial activity, the fact that finance has become one of the leading sectors in a growing number of countries, and that it is a sector that produces a digital, hypermobile product, all suggest that location should not matter. In fact geographic dispersal would seem to be a good option given the high cost of operating in major financial centers. Further, the last ten years have seen an increased geographic mobility of financial experts and financial services firms.

There are, in my view, at least three reasons that explain the trend towards consolidation in a few centers rather than massive dispersal.

i) *The importance of social connectivity and central functions.* First, while the new communications technologies do indeed facilitate geographic dispersal of economic activities without losing system integration, they have also had the effect of strengthening the importance of central coordination and control functions for firms and, even, markets.<sup>24</sup> Indeed for firms in any sector, operating a widely dispersed network of branches and affiliates and operating in multiple markets has made central functions far more complicated. Their execution requires access to top talent, not only inside headquarters but also, more generally, to innovative milieu – in technology, accounting, legal services, economic forecasting, and all sorts of other, many new, specialized corporate services. Major centers have massive concentrations of state of the art resources that allow them to maximize the benefits of the new communication technologies and to govern the new conditions for operating globally. Even electronic markets such as NASDAQ and E\*Trade rely on traders and banks which are located somewhere, with at least some in a major financial center. The question of risk and how it is handled and perceived is yet another factor which has an impact on how the industry organizes itself, where it locates operations, what markets become integrated into the global capital market, and so on.

One fact that has become increasingly evident is that to maximize the benefits of the new information technologies firms need not only the infrastructure but also a complex mix of other resources. In my analysis organizational complexity is a key variable allowing firms to maximize the utility/benefits they can derive from using digital technology.<sup>25</sup> In the case of financial markets we could make a parallel argument. Most of the value added that these technologies can produce for advanced service firms lies in so-called externalities. And this means the material and human resources – state of the art office buildings, top talent, and the social networking infrastructure that maximizes connectivity. Any town can have fiber optic cables, but this is not sufficient.<sup>26</sup>

A second fact that is emerging with greater clarity concerns the meaning of ›information‹. There are two types of information.<sup>27</sup> One is the datum, which may be complex yet is standard knowledge: the level at which a stock market closes, a privatization of a public utility, the bankruptcy of a bank. But there is a far more difficult type of ›information‹, akin to an interpretation/evaluation/judgment. It entails negotiating a series of datums and a series of interpretations of a mix of datums in the hope of producing a higher order datum. Access to the first kind of information is now global and immediate from just about any place in the highly developed world thanks to the digital revolution. But it is the second type of information that requires a complicated mixture of elements – the social infrastructure for global connectivity – that gives major financial centers a leading edge.

It is possible, in principle, to reproduce the technical infrastructure anywhere. Singapore, for example, has technical connectivity matching Hong Kong's. But does it have Hong Kong's social connectivity? At a higher level of global social connectivity we could probably say the

28 Global firms and markets in the financial industry need enormous resources, a trend which is leading to rapid mergers and acquisitions of firms and strategic alliances among markets in different countries. These are happening on a scale and in combinations few would have foreseen as recently as the early 1990's. There are growing numbers of mergers among respectively financial services firms, accounting firms, law firms, insurance brokers, in brief, firms that need to provide a global service. A similar evolution is also possible for the global telecommunications industry which will have to consolidate in order to offer a state of the art, globe-spanning service to its global clients, among which are the financial firms.



29 We now also know that a major financial center needs to have a significant share of global operations to be such. If Tokyo does not succeed in getting more of such operations, it is going to lose standing in the global hierarchy notwithstanding its importance as a capital exporter. It is this same capacity for global operations that will keep New York at the top levels of the hierarchy even though it is largely fed by the resources and the demand of domestic (though state-of-the-art) investors.

30 Thomson Financials 1999.

same for Frankfurt and London. When the more complex forms of information needed to execute major international deals cannot be gotten from existing data bases, no matter what one can pay, then one needs the social information loop and the associated de facto interpretations and inferences that come with bouncing off information among talented, informed people. It is the weight of this input that has given a whole new importance to credit rating agencies, for instance. Part of the rating has to do with interpreting and inferring. When this interpreting becomes »authoritative« it becomes »information« available to all. The process of making inferences/interpretations into »information« takes quite a mix of talents and resources.

In brief, financial centers provide the social connectivity that allows a firm or market to maximize the benefits of its technical connectivity.

ii) *Alliances Among Centers as Part of the Organizational Infrastructure of Electronic Markets.* Besides the familiar mergers and acquisitions of firms,<sup>28</sup> I would argue that an important trend in the global capital market is the »merger« of electronic exchanges that connect select groups of centers. There are a number of networks connecting markets that have been set up in the last few years. In 1999 NASDAQ, the second largest US stock market after the New York Stock Exchange, set up NASDAQ Japan and in 2000 NASDAQ Canada. This gives investors in Japan and Canada direct access to the market in the US. Europe's more than 30 stock exchanges have been seeking to shape various alliances. *EuroNext* (NEXT) is Europe's largest stock exchange merger, an alliance among the Paris, Amsterdam and Brussels bourses. The *Toronto Stock Exchange* has joined an alliance with the *New York Stock Exchange* (NYSE) to create a separate global trading platform. The NYSE is a founding member of a global trading alliance, *Global Equity Market* (GEM) which includes ten exchanges, among them Tokyo and NEXT. Also small exchanges are merging: in March 2001 the *Tallinn Stock Exchange* in Estonia and its Helsinki counterpart created an alliance. A novel pattern is hostile takeovers, not of firms, but of markets, such as the attempt by the owners of the *Stockholm Stock Exchange* to buy the *London Stock Exchange* (for a price of US \$ 3.7 billion).

These developments may well ensure the consolidation of a stratum of select financial centers at the top of the worldwide network of 30 or 40 global cities through which the global financial industry operates.<sup>29</sup> Taking an indicator such as equities under management shows a similar pattern of spread and simultaneous concentration at the top of the hierarchy. The worldwide distribution of equities under institutional management is spread among a large number of cities which have become integrated in the global equity market along with deregulation of their economies and the whole notion of »emerging markets« as an attractive investment destination. In 1999, institutional money managers around the world controlled approximately US \$ 14 trillion. *Thomson Financials*,<sup>30</sup> for instance, has estimated that at the end of 1999 (latest available data), 25 cities accounted for about 80% of the world's valuation. These 25 cities also accounted for roughly 48% of the total market capitalization of the world, which stood at US \$ 24 trillion at the end of 1999. On the other hand, this global market is characterized by a disproportionate concentration in the top 6 or 7 cities. London, New York and Tokyo together accounted for a third of the world's total equities under institutional management in 1999.

These developments make clear a second important trend that in many ways specifies the current global era. These various centers don't just compete with each other: there is collaboration and division of labor. In the international system of the post war decades, each country's financial center, in principle, covered the universe of necessary functions to service its national companies and markets. The world of finance was, of course, much simpler than it is today. In the initial stages of deregulation in the 1980's there was a strong tendency to see the relation among the major centers as one of straight competition when it came to international transactions. New York, London and Tokyo, then the major centers in the system, were seen as competing. But in my research in the late 1980's on these three top centers I found clear evidence of a division of labor already then. They remain the major centers in the system today with the addition of Frankfurt and Paris in the 1990s, and a fairly specialized division of functions and advantages among them. What we are seeing now is an additional pattern whereby the cooperation or division of functions is somewhat institutionalized: strategic alliances not only between firms across borders but also between markets. There is competition, strategic collaboration and hierarchy. Together all of these trends indicate the emergence of global formations where before there were interactions among national centers, but global formations partly embedded in networks of financial centers.



31 Cf., e.g., Salzinger, Leslie: *Market Subjects: Traders at Work in the Dollar/Peso Market*. Pres. at American Sociological Ass. Conference, August 16-19, 2003; Corbridge, Stuart/Thrift, Nigel/Martin, Ron (Eds.): *Money Power and Space*. Oxford: Blackwell 1994.

32 Sassen, S.: *Losing Control? Sovereignty in an Age of Globalization*. New York: Columbia UP 1996, Ch. 1; Sassen 2004.

33 E.g., Lehman Brothers bought Thai residential mortgages worth half a billion dollars for a 53% discount. This was the first auction conducted by the Thai government's Financial Restructuring Authority that is conducting the sale of \$21 billion of financial companies' assets. It also acquired the Thai operations of Peregrine, the HK investment bank that failed. The fall in prices and in the value of the yen has made Japanese firms and real estate attractive targets for foreign investors. Merrill Lynch's has bought 30 branches of Yamaichi Securities, Societe Generale Group is buying 80% of Yamaichi International Capital Management, Travelers Group is now the biggest shareholder of Nikko, the third largest brokerage, and Toho Mutual Insurance Co. announced a joint venture with GE Capital. These are but some of the best known examples. Much valuable property in the Ginza – Tokyo's high priced shopping and business district – is now being considered for acquisition by foreign investors, in a twist on Mitsubishi's acquisition of Rockefeller Center a decade earlier.

iii) *Towards De-Nationalized Financial Centers*. But it is important to recognize that national financial centers have themselves been transformed by these developments. National attachments and identities are becoming weaker for global firms and their customers. This is particularly strong in the West, but may develop in Asia as well. Deregulation and privatization have reduced the need for *national* centers. The nationality question does not disappear<sup>31</sup> but it plays differently in these sectors than it did even a decade ago. Global financial products are accessible in national markets and national investors can operate in global markets. For instance, some of the major Brazilian firms now list on the *New York Stock Exchange*, and by-pass the Sao Paulo exchange, a new practice which has caused somewhat of an uproar in specialized circles in Brazil. While it is as yet inconceivable in the Asian case, this may well change given the growing number of foreign acquisitions of major firms in several countries. Another indicator of this trend is the fact that the major US and European investment banks have set up specialized offices in London to handle various aspects of their global business. Even French banks have set up some of their global specialized operations in London, inconceivable a decade ago and still not avowed in national rhetoric.

One way of describing this process is as an incipient and highly specialized denationalization of particular institutional arenas.<sup>32</sup> It can be argued that such denationalization is a necessary condition for economic globalization as we know it today. The sophistication of this system lies in the fact that it only needs to involve strategic institutional areas – most national systems can be left basically unaltered. China is a good example. It adopted international accounting rules in 1993, necessary to engage in international transactions. To do so it did not have to change much of its domestic economy. Japanese firms operating overseas adopted such standards long before Japan's government considered requiring them. In this regard the »wholesale« side of globalization is quite different from the global consumer markets, in which success necessitates altering national tastes at a mass level. This process of denationalization has been strengthened by state policy enabling privatization and foreign acquisition. In some ways one might say that the Asian financial crisis has functioned as a mechanism to denationalize, at least partly, control over key sectors of economies that, while allowing the massive entry of foreign investment, never relinquished that control.<sup>33</sup>

Major international business centers produce what we could think of as a new subculture, a move from the »national« version of international activities to the »denationalized« version. The long-standing resistance in Europe to M&As, especially hostile takeovers, or to foreign ownership and control in East Asia, signal national business cultures that are somewhat incompatible with the new global economic system. I would posit that major cities, and the variety of so-called global business meetings (such as those of the World Economic Forum in Davos and other similar occasions), contribute to denationalize corporate elites. Whether this is good or bad is a separate issue; but it is, I would argue, one of the conditions for setting in place the systems and sub-cultures necessary for a global economic system, especially in global finance.

## II. A Politics of Places of Global Circuits: The Local as Multiscalar

The issue I want to highlight here concerns the ways in which particular instantiations of the local can actually be constituted at multiple scales and thereby construct global formations that tend towards lateralized and horizontal networks. I examine this through a focus on various political practices and technologies used. Of particular interest is the possibility that local, often resource-poor organizations and individuals can become part of global networks and struggles. These practices are constituting a specific type of global politics, one that runs through localities and is not predicated on the existence of global institutions. The engagement can be with global institutions, such as the IMF or WTO, or with local institutions, such as a particular government or local police force charged with human rights abuses. Theoretically these types of global politics illuminate the distinction between a global network and the actual transactions that constitute it: the global character of a network does not necessarily imply that its transactions are equally global, or that it all has to happen at the global level. It shows the local to be multi-scalar in a parallel to the preceding section which showed the global to be multiscalar – i.e. partly embedded in a network of localities, specifically, financial centers.

34 While the Internet is a crucial medium in these political practices, it is important to emphasize that beginning in the 1990's, particularly since the mid-1990's we have entered a new phase in the history of digital networks, one when powerful corporate actors and high performance networks are strengthening the role of private digital space and altering the structure of public-access digital space (Sassen 2002). Digital space has emerged not simply as a means for communicating, but as a major new theater for capital accumulation and the operations of global capital. Yet civil society – in all its various incarnations – is also an increasingly energetic presence in cyberspace. For a variety of angles, cf. e.g. Rimmer, P.J. /Morris-Suzuki, T.: *The Japanese Internet: Visionaries and Virtual Democracy*. In: *Environment and Planning A* 31 (1999), pp. 1189-1206; Poster, Mark: *Cyberdemocracy: Internet and the Public Sphere*. In: Porter, D. (Ed.): *Internet Culture*. London: Routledge 1997, pp. 201-218; Frederick, Howard: *Computer Networks and the Emergence of Global Civil Society*. In: Harasim, Linda M. (Ed.): *Global Networks: Computers and International Communications*. Cambridge: MIT Pr. 1993, pp. 283-295; Miller, Daniel/Slater, Don: *The Internet: An Ethnographic Approach*. Oxford: Berg 2000. The greater the diversity of cultures and groups the better for this larger political and civic potential of the Internet, and the more effective the resistance to the risk that the corporate world might set the standards.

For cases of ICT use by different types of groups, cf. e.g. APCWNSP (Ass. for Progressive Communications Women's Networking Support Programme): *Women in Sync: Toolkit for Electronic Networking*. In: *Acting Locally, Connecting Globally: Stories from the Regions 3*, 2000. Av. at: [www.apcwomen.org/netsupport/sync/sync3.html](http://www.apcwomen.org/netsupport/sync/sync3.html); Allison, Julianne Emmons (Ed): *Technology, Development, and Democracy: International Conflict and Cooperation in the Information Age*. Albany: SUNY 2002; *WomenAction: Alternative Assessment of Women and Media based on NGO Reviews of Section J, Beijing Platform for Action 2000*. Av. at: [www.womenaction.org/csw44/altrepeng.htm](http://www.womenaction.org/csw44/altrepeng.htm); Yang, Guobin: *Weaving a Green Web: The Internet and Environmental Activism in China*. In: *China Environment Series 6*. Washington/D.C.: Woodrow Wilson International Centers for Scholars 2003; Camacho, Kemly: *The Internet. A Great Challenge for Civil Society Organizations in Central America*. *Fundacion Acceso* 2001. Av. at: [www.acceso.or.cr/publica/challenges.shtml](http://www.acceso.or.cr/publica/challenges.shtml); Esterhuysen, Anriette: *Networking for a Purpose: African NGOs Using ICT*. *Rowing Upstream*:

Computer centered technologies have also here made all the difference; in this case the particular form of these technologies is mostly the public access Internet.<sup>34</sup> The latter matters not only because of low-cost connectivity and the possibility of effective use (via e-mail) even with low bandwidth availability, but also and most importantly, because of some of its key features. Simultaneous decentralized access can help local actors have a sense of participation in struggles that are not necessarily global but are, rather, globally distributed in that they recur in locality after locality. In so doing these technologies can also help in the formation of cross-border public spheres for these types of actors, and can do so a) without the necessity of running through global institutions,<sup>35</sup> and b) through forms of recognition that do not depend on much direct interaction and joint action on the ground. Among the implications of these options are the possibility of forming global networks that bypass central authority, and, further, especially significant for resource-poor organizations, that those who may never be able to travel can nonetheless be part of global struggles and global publics.

Such forms of recognition are not historically new. Yet there are two specific matters which signal the need for empirical and theoretical work on their ICT enabled form. One is that much of the conceptualization of the local in the social sciences has assumed physical/geographic proximity and thereby a sharply defined territorial boundedness, with the associated implication of closure. The other, partly a consequence of the first, is a strong tendency to conceive of the local as part of a hierarchy of nested scales, especially once there are national states. To a very large extent these conceptualizations hold for most of the instantiations of the local today, more specifically, for most of the actual practices and formations likely to constitute the local in most of the world. But there are also conditions today that contribute to destabilize these practices and formations and hence invite a reconceptualization of the local that can accommodate a set of instances that diverge from dominant patterns. Key among these current conditions are globalization and/or globality as constitutive not only of cross-border institutional spaces but also of powerful imaginaries enabling aspirations to transboundary political practice even when the actors involved are basically localized.

Computer centered interactive technologies have played an important role, precisely in the context of globalization, including global imaginaries. These technologies facilitate multi-scalar transactions and simultaneous interconnectivity among those largely confined to a locality. They can be used to further develop old strategies<sup>36</sup> and to develop new ways of organizing, notably electronic activism.<sup>37</sup> Internet media are the main type of ICT used. E-mail is perhaps the most widely used, partly because organizations in the global south often have little bandwidth and slow connections making the web a far less usable and effective option. To achieve the forms of globality that concern me in this paper, it is important that there be a recognition of these constraints among major transnational organizations dealing with the global south: for instance, this means making text-only data bases, with no visuals or HTML, no spreadsheets, and none of the other facilities that demand considerable bandwidth and fast connections.<sup>38</sup>

As has been widely recognized by now, new ICTS do not simply replace existing media techniques. The evidence is far from systematic and the object of study is continuously undergoing change. But we can basically identify two patterns. On the one hand it might mean no genuine need for these particular technologies given the nature of the organizing or it might come down to underutilization.<sup>39</sup> For instance, a survey of local and grassroots human rights NGOs in several regions of the world found that the Internet makes exchange of information easier and is helpful in developing other kinds of collaboration, but that it did not help launch joint projects.<sup>40</sup> On the other hand, there is evidence of highly creative ways of using the new ICTs along with older media recognizing the needs of particular communities. A good example is using the Internet to send audio files that can then be broadcast over loudspeakers to groups who lack access to the Internet or are illiterate. The M.S. Swamintham Research Foundation in Southern India has supported this type of strategy by setting up Village Knowledge Centers catering to populations that although mostly illiterate, knew exactly what types of information they needed or wanted. When we consider mixed uses, it becomes clear that the Internet can often fulfill highly creative functions by being used with other technologies, whether old or new. Thus Amnesty International's International Secretariat has set up an infrastructure to collect electronic news feeds via satellite, which it then processes and redistributes to its staff workstations.<sup>41</sup>

Snapshots of Pioneers of the Information Age in Africa. 2001. Av. at: [www.piac.org/rowing\\_upstream/chapter1/full\\_chapter\\_1.html](http://www.piac.org/rowing_upstream/chapter1/full_chapter_1.html).

35 For instance, in centuries past, organized religions had extensive, often global networks of missionaries and clerics. But these partly depended on the existence of a central authority.

36 E.g. Tsaliki, Liza: Online Forums and the Enlargement of the Public Space: Research Findings from a European Project. In: *The Public* 9 (2002), pp. 95-112; Lannon, John: Technology and Ties that Bind: The Impact of the Internet on Non-Governmental Organizations Working to Combat Torture. MA thesis, Univ. of Limerick 2002. Av. at: [home-page.eircom.net/~johnlannon/TechTies.pdf](http://home-page.eircom.net/~johnlannon/TechTies.pdf).

37 Denning, Dorothy: *Information Warfare and Security*. New York: Addison-Wesley 1999; Smith, Peter J.: *The Impact of Globalization on Citizenship: Decline or Renaissance*. In: *Journal of Canadian Studies* 36 (2001), pp. 116-140; Yang 2003.

38 E.g. Pace, William R./Pangan-Iban, Rik: *The Power of Global Activist Networks: The Campaign for an International Criminal Court*. In: Hajnal, Peter I. (Ed.): *Civil Society in the Information Age*. Aldershot: Ashgate 2002, p. 113. There are several organizations that have taken on the work of adjusting to these constraints or providing adequate software and other facilities to disadvantaged NGOs. E.g., Bellanet: *Report on Activities 2001-2002*. Av. at: [home.bellanet.org](http://home.bellanet.org), a non-profit set up in 1995, aims at helping such NGOs gain access to online information and at information dissemination to the south. To that end it has set up web-to-email servers that can deliver web pages by e-mail to users confined to low-bandwidth. It has developed multiple service lines. E.g., Bellanet's Open Development service line seeks to enable collaboration among NGOs through the use of open source software, open content, and open standards; so it customized the Open Source PHP-Nuke software to set up an online collaborative space for the Medicinal Plants Network. Bellanet has adopted Open Content for all forms of contents on its website, freely available to the public, supports the development of an Open Standard for project information (International Development Markup Language or IDML). The value of such Open Standards is that they enable information sharing.

39 For studies of particular organizations cf. e.g. Tsaliki 2002, Lannon 2002. In a study of the websites of international and national environmental NGOs in Finland, UK, Nether-

But there is also evidence that use of these technologies has led to the formation of new types of organizations and activism. For instance, Yang<sup>42</sup> found that what were originally exclusively online discussions among groups and individuals in China concerned with the environment evolved into active NGOs. Further, one result of this genesis is that their membership is national, distributed among different parts of the country. The variety of online hacktivisms examined by Denning<sup>43</sup> involve largely new types of activism. To mention what is perhaps one of the most widely known cases of how the Internet made a strategic difference, the Zapatista movement became two organizational efforts, one a local rebellion in Mexico, the other a transnational civil society movement. The latter saw the participation of multiple NGOs concerned with peace, trade, human rights and other social justice struggles. It functioned both through the Internet and conventional media,<sup>44</sup> putting pressure on the Mexican government. Importantly, it shaped a new concept for civil organizing: multiple rhizomatically connected autonomous groups.<sup>45</sup>

But what is far less known is that the local rebellion of the Zapatistas operated basically without e-mail infrastructure.<sup>46</sup> Comandante Marcos was not on e-mail, let alone able to join collaborative workspaces on the web. Messages had to be hand-carried, crossing military lines in order to bring them to others for uploading to the Internet; further, the solidarity networks themselves did not all have e-mail, and local communities sympathetic to the struggle often had problems with access.<sup>47</sup> Yet Internet-based media did contribute enormously, in good part because of pre-existing social networks.<sup>48</sup> Among the electronic networks involved, LaNeta played a crucial role in globalizing the struggle. LaNeta is a civil society network established with support of a San Francisco based NGO, the Institute for Global Communication (IGC). In 1993 LaNeta became a member of APC and began to function as a key connection between civil society organizations in and outside Mexico. In this regard, it is interesting to note that a local movement made LaNeta into a transnational information hub.

There is little doubt that the gathering, storage and dissemination of information are crucial functions for these kinds of organizations.<sup>49</sup> Human rights, large development, and environmental organizations are at this point the leaders in the effort to build online databases and archives.<sup>50</sup> Oxfam has also set up knowledge centers on its website – specialized collections around particular issues, e.g. the Land Rights in Africa site and its related resource bank.<sup>51</sup> Specialized campaigns such as those against the WTO, for the banning of landmines, or for canceling the debt of hyperindebted countries (the Jubilee 2000 campaign), have also been effective at this type of work since it is crucial for their campaigns. Special software can be designed to address the specific needs of organizations or campaigns. For example, the HR Information and Documentation Systems International (HURIDOCS), a transnational network of HR organizations, aims at improving access to, dissemination, and use of human rights information. It runs a program to develop tools, standards and techniques for documenting violations.

The evidence on NGO use of Internet media also shows the importance of institutional mechanisms and the use of appropriate software. Amnesty International has set up an institutional mechanism to help victims of human rights abuses use the Internet to contact transnational organizations for help: its *Urgent Action Alert* is a worldwide e-mail alerting system with 75 networks of letter-writing members who respond to urgent cases by immediate mailings to key and pertinent entities.<sup>52</sup>

All of this facilitates a new type of cross-border politics, one centered in multiple localities yet intensely connected digitally. Adams,<sup>53</sup> among others, shows us how telecommunications create new linkages across space that underline the importance of networks of relations and partly bypass older hierarchies of scale. Activists can develop networks for circulating place-based information (about local environmental, housing, political conditions) that can become part of political work and strategies addressing a global condition – the environment, growing poverty and unemployment worldwide, lack of accountability among multinationals, etc. The issue here is not so much the possibility of such political practices: they have long existed even though with other mediums and with other velocities. The issue is rather one of orders of magnitude, scope and simultaneity: the technologies, the institutions and the imaginaries that mark the current global digital context inscribe local political practice with new meanings and new potentialities.<sup>54</sup>

There are many examples that illustrate the fact of new possibilities and potentials for action. Besides some of the cases already discussed above, there is the vastly expanded reperto-

lands, Spain and Greece, Tsaliki 2002, p. 15 concludes that the Internet is mainly useful for intra- and inter-organizational collaboration and networking, mostly complementing already existing media techniques for issue promotion and awareness raising.

40 Lannon 2002, p. 33.

41 Lebert 2002.

42 Yang 2003.

43 Denning 2001.

44 Cleaver, Harry: The Zapatista Effect: The Internet and the Rise of an Alternative Political Fabric. In: *Journal of International Affairs* 51 (1998), pp. 621-640; Arquilla, John/Ronfeldt, David F.: *Networks and Netwars: The Future of Terror, Crime, and Militancy*. Santa Monica: Rand 2001.

45 Cleaver 1998.

46 Ibid.

47 Mills, Kurt: *Cybernations. Identity, Self-Determination, Democracy, and the Internet Effect: in the Emerging Information Order*. In: *Global Society* 16 (2002), pp. 69-87, here p. 83.

48 Cf. on this also Garcia 2002.

49 Meyer, Carrie A.: *The Political Economy of NGOs and Information Sharing*. In: *World Development* 25 (1997), pp. 1127-1140; van Tuijl, Peter/Jordan, Lisa: *Political Responsibility in Transnational NGO Advocacy*. Washington/D.C.: BIC 1999. Av. at: [www.bicusa.org/publications/politicalresponsibility.htm](http://www.bicusa.org/publications/politicalresponsibility.htm).

50 Cf. e.g., Human Rights Internet, av. at: [www.hri.ca](http://www.hri.ca); Greenpeace, av. at: [www.greenpeace.org](http://www.greenpeace.org); Oxfam, av. at: [www.oxfam.org](http://www.oxfam.org).

51 Warkentin, Craig: *Reshaping World Politics. NGOs, the Internet, and Global Civil Society*. Lanham: Rowman&Littlefield 2001, p. 136.

52 Another, very different case is Oxfam America's effort to help its staff in the global south submit information electronically quickly and effectively, no easy aims in countries with unreliable, slow connections, and other obstacles to working online. The aim was to help staff in the global south manage and publish information efficiently. To that end Oxfam adopted a server-side Content Management System and a client-side Article-Builder called Publ-X that allows endusers to create or edit local XML articles while offline and submit them to the server when work has been completed; an editor on the server side is then promptly notified ensuring that the information immediately becomes public.

ry of actions that can be taken when electronic activism is also an option. The *New Tactics in Human Rights Project* of the Center for Victims of Torture has compiled a workbook with 120 anti-torture tactics, including exclusively online forms of action.<sup>55</sup> The website of the NY based *Electronic Disturbance Theater*, a group of cyberactivists and artists, contains detailed information about electronic repertoires for action.<sup>56</sup> The International Campaign to Ban Landmines, officially launched in 1992 by six NGOs from USA, France, the UK and Germany, evolved into a coalition of over 1000 NGOs in 60 countries. It succeeded when 130 countries signed the *Landmines Ban Treaty* in 1997.<sup>57</sup> The campaign used both traditional techniques and ICTs. Internet based media provided mass distribution better and cheaper than telephone and fax.<sup>58</sup> Jubilee 2000 used the Internet to great effect. Its website brought together all the information on debt and campaign work considered necessary for the effort; and information was distributed via majordomo listserve, database and e-mail address books.<sup>59</sup> Generally speaking pre-existing online communication networks are important for these types of actions and for e-mail alerts aiming at quick mobilization. Distributed access is crucial: once an alert enters the network from no matter what point of access it spreads very fast through the whole network. Amnesty's Urgent Action Alert described above is such a system. However, anonymous websites are definitely part of such communication networks: this was the case with *S.11.org*, a website that can be used for worldwide mobilizations insofar as it is part of multiple online communication networks. The Melbourne mobilization against the regional Asian meeting of the WEF (Sept. 11-13, 2000) brought activist groups from around Australia together on this site to coordinate their actions, succeeding in paralyzing a good part of the gathering, a first in the history of the WEF meetings.<sup>60</sup> There are by now several much studied mobilizations that were organized online, e.g., against the WTO in Seattle in 1999 and against Nike, to mention two of the best known.<sup>61</sup>

An important feature of this type of multi-scalar politics of the local is that it is not confined to moving through a set of nested scales from the local to the national to the international, but can directly access other such local actors whether in the same country or across borders. One Internet based technology that reflects this possibility of escaping nested hierarchies of scale is the online workspace, often used for Internet-based collaboration. Such a space can constitute a community of practice<sup>62</sup> or knowledge network.<sup>63</sup> An example of an online workspace is the *Sustainable Development Communications Network*, also described as a knowledge space<sup>64</sup> set up by a group of civil society organizations in 1998; it is a virtual, open and collaborative organization aiming at doing joint communications activities to inform broader audiences about sustainable development and build members' capacities to use ICT effectively. It has a tri-lingual *Sustainable Development Gateway* to integrate and showcase members' communication efforts. It contains links to thousands of member-contributed documents, a job bank, and mailing lists on sustainable development. It is one of several NGO's whose aim is to promote civil society collaboration through ICTs; others are the Association for Progressive Communications (APC), One World International, and Bellanet.

At the same time, this possibility of exiting or avoiding hierarchies of scale does not preclude the fact that powerful actors can use the existence of different jurisdictional scales to their advantage<sup>65</sup> and the fact that local resistance is constrained by how the state deploys scaling through jurisdictional, administrative and regulatory orders.<sup>66</sup> On the contrary, it might well be that the conditions analyzed, among others, by Morrill and Judd force the issue, so to speak. Why work through the power relations shaped into state centered hierarchies of scale? Why not jump ship if this is an option. This combination of conditions and options is well illustrated by research showing how the power of the national government can subvert the legal claims of first nation-people<sup>67</sup> which has in turn led the latter increasingly to seek direct representation in international fora, bypassing the national state.<sup>68</sup> In this sense, then, my effort here is to recover a particular type of multiscale context, one characterized by direct local-global transactions or by a multiplication of local transactions as part of global networks. Neither type is marked by nested scalings.

There are many examples of such types of cross-border political work. We can distinguish two forms of it, each capturing a specific type of scalar interaction. In one the scale of struggle remains the locality and the object is to engage local actors, e.g. a local housing or environmental agency, but with the knowledge and explicit or tacit invocation of multiple other localities around the world engaged in similar localized struggles with similar local actors. It is this combination of multiplication and self-reflexivity that contributes to constitute a global con-

53 Adams, Paul C.: Protest and the Scale Politics of Telecommunications. In: *Political Geography* 15 (1996), pp. 419-441.

54 Elsewhere (Sassen 2002) I have posited that we can conceptualize these »alternative« networks as countergeographies of globalization because they are deeply implicated with some of the major dynamics and capabilities constitutive of, esp. economic globalization yet are not part of the formal apparatus or of the objectives of this apparatus, such as the formation of *global* markets. The existence of a global economic system and its associated institutional supports for cross-border flows of money, information and people have enabled the intensifying of transnational and translocal networks and the development of communication technologies which can escape conventional surveillance practices. For one of the best critical and knowledgeable accounts cf. e.g. *World Information Order: World-Information Files. The Politics of the Info Sphere*. Vienna, Berlin: Inst. for New Culture Technologies, Center for Civic Education 2002; Lovink, Geert/Schultz, Pit (Comp.): *Nettime: Net Critique*. Berlin: Ed. ID-Archive 1997. These counter-geographies are dynamic and changing in their locational features. And they include a very broad range of activities, including a proliferation of criminal activities.

55 [www.cvt.org/new\\_tactic/tools/index.html](http://www.cvt.org/new_tactic/tools/index.html)

56 [www.thing.net/rdom/ecd/EDTECD.html](http://www.thing.net/rdom/ecd/EDTECD.html)

57 Williams, Jody/Goode, Stephen: *The International Campaign to Ban Landmines*. In: Cameron, M.A./Lawson, R.J./Tomlin, Brian W.: *To Walk Without Fear: The Global Movement to Ban Landmines*. Ontario: Oxford UP 1998.

58 Scott, Matthew J.O.: *Danger-Landmines! NGO-Government Collaboration in the Ottawa Process*. In: Edwards, Michael/Gaventa, John (Eds.): *Global Citizen Action*. Boulder: Lynne Rienner 2001; Rutherford, Kenneth R.: *Essential Partners: Landmines-Related NGOs and Information Technologies*. In: Hajnal 2002.

59 But, it must be noted, that even in this campaign, centered as it was on the global south and determined as it was to communicate with global south organizations, the latter were often unable to access the sites. Cf. Kuntze, Marco/Rottmann, Sigrun/Symons, Jessica: *Communications Strategies for World Bank and IMF-Watchers: New Tools for Networking and Collaboration*. London: Bretton Woods Project and Ethical Media 2002. Av. at: [www.bretton-woods.org](http://www.bretton-woods.org)

dition out of these localized practices and rhetorics. It means, in a sense, taking Cox's notion of scaled »spaces of engagement« constitutive of local politics and situating it in a specific type of context, not necessarily the one Cox himself might have had in mind. Beyond the fact of relations between scales as crucial to local politics, it is perhaps the social and political construction itself of scale as social action<sup>69</sup> that needs emphasizing.<sup>70</sup> Finally, and crucial to my analysis, is the actual thick and particularized content of the struggle or dynamic that gets instantiated.

These features can be illustrated with the case of SPARC (Society for the Promotion of Area Resources). This is an organization that began as an effort to organize slum dwellers in Bombay to get housing. Its purpose is to organize urban and rural poor, especially women, to develop their capabilities to organize around issues of concern. The focus is local, and so are the participants and those whom they seek to reach, usually local governments. But they have established multiple networks with other similar organizations and efforts in other Asian countries and now also some cities in Latin America and Africa. The various organizations making up the broader network do not necessarily gain power or material resources from this global networking, but they gain strength for themselves and vis-à-vis the agencies to which they make their demands.

The second form of multi-scalar interaction is one where localized struggles are aiming at engaging global actors, e.g. WTO, IMF, or multinational firms, either at the global scale or in multiple localities. Local initiatives can become part of a global network of activism without losing the focus on specific local struggles.<sup>71</sup> This is one of the key forms of critical politics that the Internet can make possible: A politics of the local with a big difference – these are localities that are connected with each other across a region, a country or the world. From struggles around human rights and the environment to workers strikes and Aids campaigns against the large pharmaceutical firms, the Internet has emerged as a powerful medium for non-elites to communicate, support each other's struggles and create the equivalent of insider groups at scales going from the local to the global.<sup>72</sup> The possibility of doing so transnationally at a time when a growing set of issues are seen as escaping the bounds of nation states makes this even more significant.

Yet another key scalar element here is that digital networks can be used by political activists for global transactions but they can also be used for strengthening local communications and transactions inside a city. The architecture of digital networks, primed to span the world, can actually serve to intensify transactions among residents of a city or region, it can serve to make them aware of neighboring communities, gain an understanding of local issues that resonate positively or negatively with communities that are right there in the same city rather than with those that are at the other end of the world.<sup>73</sup> Recovering how the new digital technology can serve to support local initiatives and alliances inside a locality is conceptually important given the almost exclusive emphasis in the representation of these technologies of their global scope and deployment.<sup>74</sup>

Coming back to Howitt's<sup>75</sup> point about the constructing of the geographical scales at which social action can occur, let me suggest that cyberspace is, perhaps ironically, a far more concrete space for social struggles than that of the national political system. It becomes a place where non-formal political actors can be part of the political scene in a way that is much more difficult in national institutional channels. Nationally, politics needs to run through existing formal systems: whether the electoral political system or the judiciary (taking state agencies to court). Non-formal political actors are rendered invisible in the space of national politics. Cyberspace can accommodate a broad range of social struggles and facilitate the emergence of new types of political subjects that do not have to go through the formal political system.<sup>76</sup> Individuals and groups that have historically been excluded from formal political systems and whose struggles can be partly enacted outside those systems, can find in cyberspace an enabling environment both for their emergence as non-formal political actors and for their struggles.

The types of political practice discussed here are not the cosmopolitan route to the global.<sup>77</sup> They are global through the knowing multiplication of local practices. These are types of sociability and struggle deeply embedded in people's actions and activities. They are also forms of institution-building work with global scope that can come from localities and networks of localities with limited resources and from informal social actors. We see here the

woodsproject.org/strategy/com-mosrpt.pdf.

60 Redden, Guy: Networking Dissent: The Internet and the Anti-Globalization Movement. In: *Mots Pluriels* 18 (2001). Av. at: [www.arts.uwa.edu.au/MotsPluriels/MP1801gr.html](http://www.arts.uwa.edu.au/MotsPluriels/MP1801gr.html).

61 There are many other, somewhat less known campaigns. E.g., when Intel announced that it would include a unique personal serial number in its new PentiumIII processing chips, privacy advocacy groups objected to this invasion of privacy. Three groups in different locations set up a joint website called Big Brother Inside to provide an organizational space for advocacy groups operating in two different countries, thereby also enabling them to use the place-specific resources of the different localities (Leizerov, Sagi: Privacy Advocacy Groups versus Intel: A Case Study of How Social Movements are Tactically Using the Internet to Fight Corporations. In: *Social Science Computer Review* 18 (2000), pp. 461-483). The Washington DC based group Public Citizen put an early draft of the MAI agreement (a confidential document being negotiated by the OECD behind closed doors) on its website in 1997 launching a global campaign that brought these negotiations to a halt about eight months later. These campaigns do not always directly engage questions of power. For instance, *Reclaim the Streets* started in London as a way to contest the Criminal Justice Act in England that granted the police broad powers to seize sound equipment and otherwise discipline ravers. One tactic was to hold street parties in cities across the world: through internet media participants could exchange notes, tactics with how to deal with the police and create a virtual space for coming together. Finally, perhaps one of the most significant developments is Indymedia, a broad global network of ICT based alternative media groups located all around the world. Other such alternative media groups are MediaChannel.org, Zmag.org, Protest.net, McSpotlight.org.

62 Sharp, John: Communities of Practice: A Review of the Literature. 1997. Av. at: [www.tfriend.com/cop-lit.htm](http://www.tfriend.com/cop-lit.htm).

63 Creech, Heather/Willard, Terry: Strategic Intentions: Managing Knowledge Networks for Sustainable Development. Winnipeg: Int. Inst. for Sustainable Development 2001.

64 Kuntze et al. 2002.

65 Morrill, Richard: Inequalities of Power, Costs and Benefits Across Geographic Scales: The Future Uses of the Hanford Reservation. In: *PO*

potential transformation of actors »confined« to domestic roles, into actors in global networks without having to leave their work and roles in their communities. From being experienced as purely domestic and local, these »domestic« settings are transformed into microenvironments located on global circuits. They do not have to become cosmopolitan in this process, they may well remain domestic and particularistic in their orientation and remain engaged with their households and local community struggles, and yet they are participating in emergent global politics. A community of practice can emerge that creates multiple lateral, horizontal communications, collaborations, solidarities, supports. I interpret these are micro-instances of partial and incipient denationalization.

### Conclusion

The two cases focused on reveal two parallel developments associated with particular technical properties of the new ICTs that have become crucial for both financial markets and electronic activism. And they reveal a third, radically divergent outcome, one I interpret as signaling the weight of the specific social logics at work in each case.

First, perhaps the most significant feature in both cases is the possibility of expanded decentralization and simultaneous integration. The fact that local political initiatives can become part of a global network parallels the articulation of the capital market with a network of financial centers. The fact that the former rely on public access networks and the second on private dedicated networks does not alter this technical outcome. Among the technical properties that produce the specific utility in each case is the possibility of being global without losing the focus on specific local conditions/resources. As with the global capital market, there is little doubt that digital networks have had a sharp impact on resource-poor organizations and groups engaged in cross-border work.

Second, once established, this condition of expanded decentralization and simultaneous integration enabled by global digital networks produces threshold effects. Today's global electronic capital market can be distinguished from earlier forms of international financial markets due to some of the technical properties of the new ICTs, notably the orders of magnitude that can be achieved through decentralized simultaneous access and interconnectivity, and through the softwaring of increasingly complex instruments. In the second case, the threshold effect is the possibility of constituting transboundary publics and imaginaries rather than being confined to communication. Insofar as the new network technologies strengthen and create new types of cross-border activities among non-state actors, they enable the constitution of a distinct and only partly digital condition variously referred to as global civil society, global publics and commons.

Third, the significant difference lies in the substantive rationalities, values, objectives and conditionings, each of these two types of cases is subject to. Once we introduce these issues, we can see a tendency towards cumulative causation in each case leading to a growing differentiation in outcomes. The constitutive capabilities of the new ICTs actually lie in a combination of digital and non-digital variables. It is not clear that the technology by itself could have produced the outcome. The non-digital variables differ sharply between these two cases, even as digitization is crucial to constituting the specificity of each case. The divergence is evident in the fact that the same technical properties produced greater concentration of power in the case of the capital market and greater distribution of power in the second case.

litical Geography 18 (1999), pp. 1-23.

66 Judd, Dennis R.: The Case of the Missing Scales: A Commentary on Cox. In: Political Geography 17 (1998), pp. 29-34.

67 Howitt, Richard: Recognition, Respect and Reconciliation: Steps Towards Decolonisation? In: Australian Aboriginal Studies 1 (1998), pp. 28-34; Silvern, Steven E.: Scales of Justice: Law, American Indian Treaty Rights and Political Construction of Scale. In: Political Geography 18 (1999), pp. 639-668.

68 Sassen 1996, Ch. 3. Though with other objectives in mind, a similar mix of conditions can also partly explain the growth of transnational economic and political support networks among immigrants, e.g. Smith, Michael Peter: Can You Imagine? Transnational Migration and the Globalisation of Grassroots Politics. In: Social Text 39 (1994), pp. 15-33; Smith, Robert C.: Transnational Migration, Assimilation and Political Community. In: Crahan, Margaret/Vourvoulias-Bush, Alberto (Eds.): The City and the World: New York's Global Future. New York: Council of Foreign Relations 1997, pp. 110-132; Cordero-Guzmán, Hector R./Smith, Robert C./Grosfoguel, Ramón: Migration, Transnationalization, and Race in a Changing New York. Philadelphia: Temple UP 2000.

69 Howitt, Richard: 'A World in a Grain of Sand': Towards a Reconceptualisation of Geographical Scale. In: The Australian Geographer 24 (1993), pp. 33-44; Swyngedouw, Erik: Neither Global nor Local: 'Glocalization' and the Politics of Scale. In: Cox, Kevin R. (Ed.): Spaces of Globalization: Reasserting the Power of the Local. New York: Guilford 1997, pp. 137-166; Brenner, Neil: Global Cities, Glocal States: Global City Formation and State Territorial Restructuring in Contemporary Europe. In: Review of International Political Economy 5 (1998), pp. 1-37.

70 Some of these issues are well developed in Adam's 1996 study of the Tiananmen Square uprisings of 1989, the popular movement for democracy in the Philippines in the mid-1980's, and the US civil rights movement in the 1950's. Protest, resistance, autonomy and consent can be constructed at scales that can escape the confines of territorially-bounded jurisdictions.

71 E.g., Cleaver 1998; Espinoza, V.: Social Networks Among the Poor: Inequality and Integration in a Latin American City. In: Wellman, Barry (Ed.): Networks in the Global Village: Life in Contemporary Communities. Boulder: Westview Pr. 1999; Ronfeldt, David/Arquilla, John/Fuller, Graham/Fuller, Melissa: The Za-

patista »Social Netwar« in Mexico. Santa Monica: Rand 1998; Mele, Christopher: Cyberspace and Disadvantaged Communities: The Internet as a Tool for Collective Action. In: Smith, Marc A./Kollock, Peter (Eds.): Communities in Cyberspace. London: Routledge 1999, pp. 264-289. One might distinguish a third type of political practice along these lines, one which turns a single event into a global media event which then in turn serves to mobilize individuals and organizations around the world either or both in support of that initial action or around similar such occurrences elsewhere. Among the most powerful of these actions, and now emblematic of this type of politics, are the Zapatistas' initial and several subsequent actions. The possibility of a single human rights abuse case becoming a global media event has been a powerful tool for human rights activists.

72 The Internet may continue to be a space for democratic practices, but it will be so partly as a form of resistance against overarching powers of the economy and of hierarchical power, e.g. Calabrese, Andrew/Burgelman, Jean-Claude: Communication, Citizenship, and Social Policy: Rethinking the Limits of the Welfare State. Lanham: Rowman&Littlefield 1999; cf. also Warf, B./Grimes, J.: Counterhegemonic Discourses and the Internet. The Geographical Review 87 (1997), pp. 259-274, rather than the space of unlimited freedom that is part of its romantic representation. The images we need to bring into this representation increasingly need to deal with contestation and resistance to commercial and military interests, rather than simply freedom and interconnectivity (Sassen 2002).

73 Riemens, Patrice/Lovink, Geert: Local Networks: Digital City Amsterdam. In: Sassen 2002.

74 One instance of the need to bring in the local is the issue of what data bases are available to locals. Thus the World Bank's Knowledge Bank, a development gateway aimed at spurring ICT use and applications to build knowledge, is too

large according to some (Wilks, Alex: A Tower of Babel on the Internet? The World Bank's Development Gateway. Bretton Woods Project 2001. Av. at: www.brettonwoodsproject.org/topic/knowledgebank/k22gatewaybrief.pdf). A good example of a type and size of data base is Kubata-na.net, an NGO in Zimbabwe that provides website content and ICT services to national NGOs. It focuses on national information in Zimbabwe rather than going global.

75 Howitt 1993.

76 I have made a parallel argument for the city, especially the global city, being a more concrete space for politics. In many ways, the claim-making politics evident today in cyberspace resonates with many of the activisms proliferating in large cities: struggles against police brutality and gentrification, struggles for the rights of the homeless and immigrants, struggles for the rights of gays, lesbians and queers.

77 This has become an issue in my current work: the possibility of forms of globality that are not cosmopolitan. It stems partly from my critique of the largely unexamined assumption that forms of politics, thinking, consciousness that are global are *ipso facto* cosmopolitan (cf. Sassen 2004).

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