Representing Spatiality in the Transnational Corporate Network

William K. Carroll
Sociology Department
University of Victoria
wcarroll@uvic.ca

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Introduction

Since the 1980s a good part of my research effort has tried to map structures of corporate power, using interlocking directorates as the key indicator.[1] The literature on interlocking directorates is vast,[2] and theoretical interpretations range from organizational models of exchange and resource dependence (Pennings 1980; Pfeffer 1992) through radical elite formulations of C. Wright Mills (1956) and William Domhoff (1998). In my research program I have drawn primarily upon two streams of Marxist theory. One, beginning with Hilferding (1981[1910]), situates corporate interlocking within the **circuitry of accumulation** under conditions of monopoly capital; the other, beginning with Gramsci (1971), sensitizes us to the importance of corporate networks as vehicles for **class hegemony**. These formulations enable us to grasp two complementary forms of corporate power, the first residing within the actual practices of surplus value appropriation and capital circulation that fall under the strategic control of corporate directors, the second entailing the formation of business communities whose shared world view underwrites an ongoing bid for hegemony in civil society and the state (Carroll 2004, chapter 1).

Most research in this field has focused on specific countries, where, in conjunction with broader structural tendencies toward capital concentration and centralization, and the integration of the forms of capital within larger blocs of finance capital, specific legal and cultural histories have given rise to distinctive business systems (Scott 1997; Whitley 1999). My 2002 study, “Is there a transnational business community,” conducted with Meindert Fennema, emphasized the difference between the voice-based systems of organized capitalism that have prevailed particularly on the European continent, generating dense corporate networks on the basis of long-term capital relations, and the Anglo-American exit-based systems, centred more around stock markets, that have generated sparser corporate networks and weaker inter-corporate ties. In that study we found a modest increase in transnational interlocking, but also a persistence of national specificities, and a trend away from the strong inter-corporate ties that have been distinctive of organized capitalism. We concluded that a transnational business community, centred on the North Atlantic, is in the making, and that its practices seem directed more toward socio-cultural class formation than toward the strict instrumentalities of transnational strategic control of capital accumulation.

A subsequent study with Colin Carson, published in the *Journal of World-Systems Research* (Carroll and Carson, 2003), broadened the network analysis to include 350 corporations as well as five policy-planning groups that have been important promoters of neoliberal globalization in one form or another, namely the World Economic Forum (WEF), International Chamber of Commerce (ICC), Trilateral Commission (TC), Bilderberg Conference and World Business Council for Sustainable Development (WBCSD). Although we considered only one point in time – year-end 1996 – our analysis was able to establish the enormously integrative role that the policy boards (themselves extensively interlocked) play in pulling together directors of the world’s largest corporations into the social spaces within which they can forge collective political projects. We found, however, that the policy boards performed this integrative function unevenly, in effect reinforcing the relations of centrality and marginality in the corporate network of interlocking directorates.

Today I want to take the network analysis of the Global 350 corporations and the policy groups a bit further. My emphasis will be concrete and empirical, and in keeping with the theme of this workshop I will highlight the spatiality of the network, although I will not be able to do justice to the theme of change. The key issue is what a spatial network analysis, mapping corporations by their countries and cities of domicile, can reveal about the structure of global corporate power at the close of the 20th century.

Participation and Centrality in the Global Network

This analysis is limited to a subgroup of the 622 interlocking corporate directors that Colin Carson and I studied; namely, the 222 people whose corporate and/or policy-board affiliations actually carry the entire **transnational** network. In leaving aside the 400 directors who direct only corporations in one country, we can derive a clearer sense of positions in the transnational network, one uninfluenced by the purely domestic ties that actually predominate in the global corporate network.[3]

I want to focus first on the network that is created by the 94 individuals whose corporate directorships span national borders – the transnational linkers. These 94 cosmopolitans hold 266 directorships in a total of 122 leading corporations. That is, **only 122 of the Global 350 participate at all in transnational interlocking**, underlining the relative rarity of this practice, compared to the traffic among the boards of companies based in the same country.

Consider, first, which countries of corporate domicile emerge as heavy participants in the network. **Slide 6** breaks down the Global 350 by country of domicile and shows how many firms within each country participate in transnational interlocking. Although the US contributes the greatest number of large corporations to the Global 350, the directorates of those companies do not participate in transnational interlocking to any unusual extent. Just 35 of 90 US-based corporations engage in transnational interlocking – slightly less than the 38 (of 57) firms based in France and Germany that participate. Large firms based in Canada resemble American firms in their rate of participation. Japanese firms are particularly isolated, as are companies domiciled on the semi-periphery. It is European corporations – particularly those domiciled in north-west Europe – that are the heavy participants in the transnational network. Although corporations based in north-west Europe comprise a scant third of the Global 350 (32.9%) they make up 58.2% of the transnational corporate network. Southern European firms tend to be peripheral, with Italian and Spanish companies rarely participating and Greece and Portugal lacking any membership in the Global 350.

Now consider the distribution of network participation across cities (**Slide 7**). The 22 cities that each host four or more corporations account for 241 of the Global 350, and four global cities – Tokyo (52), London (29), New York (24) and Paris (24) – are host to a total of 129 corporate head offices. But cities vary tremendously in the degree to which the firms they host participate in transnational interlocking.[4] The network is overwhelmingly based in the cities of the northeast of North America and the northwest of Europe, with Paris, London and New York claiming the most network participants.[5] On the North American side, the zone for what Van der Pijl (1984) has aptly called a (north) Atlantic ruling class does not extend to Dallas or San Francisco; on the European side the zone does not reach Rome, although two companies based in Milan do participate. Within the zone of participation, certain cities – Zurich, Frankfurt, Dusseldorf, Paris and Chicago, for instance – are particularly hooked into the transnational network.

Network participants can be further differentiated as to how central they are. A basic measure of centrality is degree – the number of interlocks with other boards that a given board has, which varies in our network of 122 firms from 1 (28 firms have only one tie to the network) to 20 with a mean of 4.59 and median of 3.30. However, in assessing centrality we need to recognize that not all interlocks are created equally. We can distinguish between **primary and secondary interlocks**: the former carried by corporate insiders, the latter by outside directors. Simply put, a situation in which, say, the CEO of Deutsche Bank sits on the supervisory board of Daimler-Benz is more substantively important than an interlock carried by an outside director of two companies.[6]

Note further that primary interlocks may be said to have directionality, although not without some ambiguity. Typically, an executive in one company who sits on the board of another may be said to represent the interests of the former in the strategic direction of the latter. Out-degree refers to the number of interlocks in which a given board "sends" one of its executives to another board; in-degree refers to the number of interlocks in which a given board "receives" executives from other firms who are appointed to its board as outside directors .

In **Slide 8** it is clear that in relative terms companies based in the US, UK and southern Europe are minor participants in the transnational corporate network compared to firms based in northwestern Europe and Canada. This is true for all three components of degree. Anglo-American companies do not send their executives to other boards, whereas corporations based in France, Germany, the Netherlands, and Canada show substantial out-degrees.[7] It is rare for Anglo-American companies to receive executives from other companies in the network, although this also applies to firms based in Canada and especially the Netherlands, Switzerland and Sweden. Incoming primary interlocks are most common among companies based in France and Belgium, suggesting a heavy incidence of inter-corporate strategic control there. Finally, firms based in Britain and the United States average only two secondary interlocks compared to a range between four and eight for firms based in northwest Europe (except Sweden) and Canada.

So, while a considerable number of American- and British-based corporations **participate** in the transnational network, they tend to be **peripherally positioned** and to engage in only **weak ties**, compared to firms based in northwest Europe and Canada. As for companies sited outside of the North Atlantic, they rarely participate, and when they do they inhabit the margins of the transnational network.

We can get a more concrete sense of the transnational network's spatial distribution by mapping a sociogram of all interlocks among the 122 corporations. We find that all but 10 of the 122 form a single connected component (**Slide 9**), but that non-European firms tend to be on the dominant component's periphery while French and German firms are at the centre.[8] Among the US-based firms only IBM and Xerox can be said to be reasonably well-ensconced in the network. Among Canadian-based firms Seagram and especially Power Corporation are relatively central, and mainly tied in with French and Belgian capital.

Components in the Network of Primary Interlocks
In view of the importance of interlocks carried by executives in the strategic control of corporate capital, it is worthwhile to map the network of primary interlocks. In all, there are 80 primary (i.e., officer) interlocks in the transnational network, and here especially, the European firms predominate.[9] Fully 51 of the 66 firms whose boards are involved in at least one primary interlock are European-based, as are all but two of the 17 companies with three or more primary interlocks. To the extent that primary interlocks indicate functional and/or strategic relations between firms, we can say that most transnational interlocks of this sort are contained within the EU.

The dominant component shown in **Slide 10** includes 41 companies, 32 of them based on the northwest European continent, including 13 French and 14 German. Only two British, five American and two Canadian firms participate in this connected network of officer interlocks, and no companies based outside of the North Atlantic belong to the component. When we restrict ourselves to interlocks carried by executives, British and North American firms become more peripheral; while Europe appears as integrated around a Franco-German core, with participation from capital based in the Netherlands and Canada. Many of the primary ties in Slide 10, however, are contained **within** national borders, even though our methodology purposefully accentuates the transnational aspect of the network. That the core of the network is continental-European reflects the growing importance of EU as economic community, and indeed a federated state. The single exception to this pattern is Montreal-based Power Corporation, the investment vehicle for the Desmarais family, whose trans-Atlantic alliance with the Belgian Frere family has projected it into a position of shared strategic control over several large European corporations, including Fina (Carroll 2004: 64-5). The case of Fina, which largely accounts for the plethora of incoming primary ties we observed earlier for Belgian firms, shows how the network of primary ties is built around relations of strategic control and coordination – as in the shared control of Fina prior to its merger in 1999 to form TotalFinaElf.

The exceptional position of Power Corporation, a holding company whose assets are purely financial, raises the broader issue of how the two primary forms of corporate capital appear within the network. We can see in Slide 10 that financial institutions (shown as triangles) play an important role in integrating the continental-European core, but that the British and American firms on the network's periphery are industrial TNCs.[10] While Anglo-American financial institutions are conspicuous by their absence, twelve of the continental-European participants are financial institutions. Such institutions as

Deutsche Bank, Dresdner Bank and Union des Assurances de Paris interlock with their respective national corporations but also link across borders, and particularly the German-French frontier. Deutsche Bank is especially cosmopolitan in sending members of its management committee to the boards of French, British and American companies.

Mapping the Inter-Urban Network

Given that 'cities with a concentration of head offices may be considered management centers' (De Smidt, 1991:148), it is worthwhile to condense the corporate network into an inter-urban network. To do this we treat cities as points and the total number of interlocks between firms headquartered in two cities as a line, whose strength may vary (cf. Green and Semple, 1981, Kono et al., 1998). When we aggregate points and lines to the level of cities, what do we learn?

Slide 11 displays all inter-urban interlocks between the 48 cities whose firms participate in the transnational corporate network. We find major between-country differences in the extent to which transnational interlocks connect to a range of cities or are focused on the main metropole. London and Paris dominate their respective countries as singular nodal points–the network of transnational interlocks is effectively contained within these cities. But in Germany and the US there is wider social space among a plurality of cities hosting corporations in the global network. A second finding of note is the nearly complete fissure between American cities and certain major continental-European cities – particularly Paris (effectively France).[11] US-based firms hook into the European business community mainly by way of London, and secondarily via Frankfurt and Zurich. London certainly emerges from this analysis as a key articulation point in the North Atlantic network, in tandem with New York.

Consider now the 15 most central cities in the inter-urban network (**Slide 12**). Paris is by far the leader, with a total of 74 interlocks extending to corporations based in other cities – all of them outside of France, but most of them on the European continent, where Paris appears as corporate capital's dominant urban centre, with 25 interlocks to Brussels, six to Frankfurt, and 13 reaching across the Atlantic to Montreal. London is also central,[12] and again all of its interlocks extend to cities beyond Britain, with five terminating in Hong Kong, five in New York, three in Washington and three in the Hague/Rotterdam. New York, by comparison, is sixth-ranked, and seven of its 28 interlocks lead to other American cities. Still, New York's 21 transnational interlocks are spread widely among 10 cities, the key ones being London (5), Frankfurt (3), The Hague/Rotterdam (3) and Montreal (3). Overall, only three North American cities place in the Top 15, compared with twelve European cities.

To get a clearer sense of the main inter-urban linkages in the corporate network, we can reduce the network to its most tenacious relations, by sequentially ratcheting-up the criterion for inter-urban linkage. When in **Slide 14** we limit the analysis to two or more interlocks between cities, most of the ties linking North American to European cities fall away. The main exceptions are Montreal's strong ties to Paris and Brussels, New York's strong ties to London and Frankfurt, and Washington's ties to London. When we raise the level to 3, 4, or 5 interlocks (**Slides 15-17**) we find two inter-city clusters, one centred around Paris and including continental cities as well as Montreal; the other centred around London and including New York, Hong Kong and Rotterdam, where Dutch-British Unilever is based.[13] Ultimately, the inter-urban network reduces to a Paris-Brussels-Montreal axis that largely reflects the profuse interlocking within the trans-Atlantic Desmarais-Frere financial group (**Slides 18-19**).

Bringing in the Global Policy Groups

Finally, how does the picture change when we include the global policy groups and the corporate directors who in sitting on those boards provide an additional layer of transnational social organization? When we add to our 94 transnational linkers the 128 other corporate directors with at least one tie to a global policy group the number of Global 350 companies that participate in the network rises to 193, 187 of which form a single connected component. **Slide 20** maps the dominant component in a way that allows us to visualize the location of the policy groups and the spatial distribution of corporate domicile. To produce this sociogram I first included only the corporations that were interlocked directly or indirectly with each other, and mapped them in the two-dimensional space according to their proximities in the network. They appear as a dense configuration in which national clustering is quite evident. I then added the five policy groups and the firms that are interlocked with the policy groups but otherwise isolated from the corporate network. Note that elite interlocks with policy boards, particularly the TC and WBCSD, not only provide an additional layer of elite social organization for companies that already participate in the corporate network. They also bring many more Japanese and American corporate boards into the network. Although the ICC's board does not interlock with many corporate boards the other four policy boards interlock extensively with each other and serve to integrate European, North American and (in the cases of the TC and WBCSD) Japanese segments of the transnational business community.

As we did earlier, here again it is illuminating to condense this highly complex formation into the inter-urban network (**Slide 21**). Not surprisingly, we find 17 more cities now represented in the network, including several urban centres of the semi-periphery (Johannesburg, Seoul, and Istanbul), as well as such minor American centres as Bartonville, Arkansas (home to Wal-Mart, which is interlocked with the TC).

As we step up the criteria for participation (**Slides 22-27**), the minor cities fall away quickly. But in contrast to our earlier results the network does not break apart. It continues to be integrated across the three zones of the triad, with the TC and WBCSD playing the key integrative roles (see particularly Slide 23). This is hardly a startling result, but when set against the international and inter-urban differences in network participation and centrality it suggests that the key sites for transnational capitalist class formation may not be the corporate boardrooms, but rather organizations defined on the terrain of civil society. When we raise the criterion to 12 or more interlocks (**Slide 24**), the Paris-based segment of corporate capital continues to be linked into its counterparts in New York, London and Tokyo, by virtue of common participation on the TC. Ultimately, the global corporate-policy network reduces, in **Slide 27**, to the bundle of 31 interlocking directorships that link New York-based corporate capital to the Trilateral

Commission. Thus, although New York's position in the corporate interlock network is not so strikingly central, the same cannot be said once we include the policy groups.

Discussion

Let me try to place some of these findings in context and then make some methodological suggestions. Our reading of the transnational corporate network needs to take account of several tendencies that have actually been **weakening** corporate networks – the shift from relationship-based to transaction-based corporate finance and even the disintermediation of corporate finance; the pressures to reform corporate governance practices, particularly in the Anglo-American countries, in response to a seemingly unending series of scandals and collapses that have disturbed the institutional investors that control increasing concentrations of share capital. There is also the tendency, as regional trade agreements such as NAFTA take effect, for board-level interlocks between corporate parents and their foreign subsidiaries to be converted into closer ties at an operational level.[14] Thus, even as capitalism's circuitry has become more globally integrated, elite corporate networks have become lighter, and even sparser. There is no reason to expect a cumulative process of densification in the transnational corporate network, so it is not surprising that Meindert Fennema and I found only a modest increase between the mid-1970s and 1996. There are actually some tenacious obstacles to a rapid articulation of a global elite corporate network – legal (differences in corporate and financial law), linguistic/cultural, ownership-based[15] and geographic (think here about Australia's distance from Europe). From the proximities of countries and regions within the corporate network we can infer that these obstacles apply much more strongly between, say Japan and Germany than among the countries of a Europe that has embraced economic integration.

Nationally and regionally specific business systems have engendered path dependencies in the transition to globalized capitalism, which are evident in our findings. For quite different reasons, corporate interlocking is a relatively uncommon practice in Japan and the US, [16] and this alone could account for the marginality of many Japanese and American firms in the transnational network. Britain has had as diffuse a business system as the US (Scott 1997), but capital ties to the nearby European continent (especially the Dutch connection) and a colonial legacy linking London to Hong Kong raise London's profile. It is on the European continent that we find the densest clutch of transnational interlocks (including most of the primary ties), spanning mainly across countries of the north-west.[17] This network is more than just a recent by-product of the formation of EU; its path dependencies – as in the propensity for strong ties between financial and industrial forms of capital – reach back to the inception of organized capitalism. As national borders on the continent weaken, capital relations deepen, particularly along a Franco/German axis.[18]

It is clear from our analysis that the transnational network is concentrated in a few cities, some of which entirely dominate their respective countries. And it is striking how detached Paris is from New York and other American cities, and how central Paris is on the continent. Although the corporate network is essentially a North Atlantic formation, it seems to have two segments, one Anglo-American and the other continental-European, with corporations based in London and the Hague/Rotterdam conjoining the two. The parallels with recent trends in international relations are intriguing. But to comprehend inter-urban and international ties we need to consider the basic levels – those of individuals and corporations – on which the network exists (Carroll 1984). For example, we can only understand the strong link between Montreal and Brussels in terms of specific corporations and the capitalists in control of them, who comprise the only truly transnational financial group. Earlier in-depth analyses of local corporate network have yielded great insights, as in Ratcliff's (1980) study of St. Louis, or Zeitlin and Ratcliff's (1988) analyses of the Santiago-based ruling class in Chile. Case-study of local networks and their articulation with the transnational network holds promise as a means of tracing out the concrete relations that constitute global corporate power. In considering the positions of semi-peripheral cities such as Sao Paulo, Johannesburg and Seoul in that global structure, intensive case study would seem the best strategy. Such a targeted approach would be more effective than trying to represent semi-peripheral capital by adding a few dozen corporations to a collection of the world's largest firms that will otherwise be restricted to the world system's core.

Besides case studies, we need to broaden our understanding of the network to include more nodes and lines, and more kinds of nodes and lines. When we include ties to the global policy boards alongside the corporate interlocks we get a different view. Suddenly the directors of Japanese corporations are in the game. And with the Trilateral Commission in the network American (particularly New York based) corporations become anything but marginal. This shows that capitalists based in the US are heavily invested politically in the transnational business community, even if their directorate-level ties to foreign capital are sparse. It also suggests that the most important relations in the formation of a *transnational* capitalist class may not be those that are caught up in the instrumentalities of accumulation, but those that seek to forge political solidarities around hegemonic projects.[19]

Besides corporate links to business councils, economic forums and the like (whose numbers could be multiplied far beyond this study's purview – see Plehwe and Walpen, forthcoming), an additional layer of weak ties between corporations awaits further study. Many global companies have established international advisory boards, operating at one remove from corporate strategy, which in attempting to improve business scan recruit leading local and global advisors. An advisory network, running parallel to the corporate network *per se*, may be said to make its own contribution to transnational class formation. Its structure needs to be probed and mapped. As for the more instrumental relations, based in the actual control of capital accumulation, it would be worthwhile to trace the global network of inter-corporate ownership and relatedly the strategic alliances between corporations in certain sectors such as telecommunications.[20]

In short, we need to view global business networks as **multiplex** in their relations, as well as **nested**. To make sense of the transnational network we need to appreciate national and regional specificities and to shuttle analytically between the distinctive sites and levels at which a transnational business community, or capitalist class, can be discerned – those of individual capitalists and their organic intellectuals, of corporate boards, of the cities that host major corporations, of the countries that make up the inter-state system, and of the regional blocs in which the countries are embedded.

All these practices, relations and sites, are located not only in space but in time. In this paper I have focused on a single cross-section, referring to a situation seven years ago, on the threshold of the Asian financial crisis. Much has transpired since then in the political economy of the world system, and there is a pressing need for more recent data to enable a dynamic analysis that can discern change and emergent features. My advice on this issue is that where feasible a single-year time step be used, so that macro-level events (such as the Asian crisis and its aftermath in other countries) as well as micro-level events (such as major corporate reorganizations) can be fully examined with an eye to their immediate and longer term impact.

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[1] Most of my work in this area has focused on the case of Canada (Carroll, 1982; 1984; 1986; 1989; Carroll and Lewis 1991; Carroll and Alexander, 1999). My most recent book, *Corporate Power in a Globalizing World* (Oxford, 2004), attempts to place the Canadian network in a broader context.

[2] See for instance Fennema and Schijf 1979; Mizruchi 1996; Scott 1997.

[3] In view of that predominance, 'local' interlockers must be put to the side in considering a corporation's centrality in the global network – otherwise the local densities of national segments will predominate in the calculation. For instance, a firm based in France with no transnational ties but many ties to other large French companies would appear quite central in the network, although in fact it would be isolate from transnational interlocking per se.

[4] The contingency coefficient for the relationship between the two variables depicted in the graph is .522.

[5] Note that the manner in which we assembled our sample favoured British-based corporations to some extent, which is why London appears as particularly prominent. (see Carroll and Carson, 2003, for methodological details). Half of the London-based corporations, though all of them large industrial corporations, were slightly smaller than the quantitative floor criterion for inclusion in the Global 350. However, most of the London-based participants in the transnational network (10 of 14) met the quantitative size criterion. Among the 15 smaller London-based firms, only four participated in the transnational network, namely British Airways, Grand Metropolitan, Smithkline Beechham and the mining transnational RioTinto (RTZ-CRA Group). The complexities and pitfalls in assembling delimiting the network of the world's largest corporations are discussed in (Carroll and Fennema, in press).

[6] Actually, many of the secondary ties in a corporate network are created incidentally ("induced", to use the terminology of the 10 countries study – Stokman et al, 1985), when an executive in one firm sits as an outside director on several other boards. Such an executive will create secondary interlocks between each of the boards on which he sits as an outside director. For instance, an executive who is also an outside director of five firms creates five primary interlocks plus 5*4/2=10 secondary interlocks. The most extensive analysis of corporate networks in terms of primary and secondary interlocks was undertaken by Stokman, Ziegler and Scott (1985) and their colleagues.

[7] As does Broken Hill Proprietary, the sole Australian-based company in the transnational network.

[8] The network in Slide 9 was drawn according to a spring embedding algorithm -- the goal being to place every pair of vertices at a distance proportional to its graph-theoretic distance. Thus, the distances in the sociograms are meaningful indications of distances in the network. I used Steve Borgatti's NetDraw.

[9] Only one US firm has an outdegree greater than unity (Xerox: 3) and only one further US firm has an out-degree of 1 (MCI). In comparison, 5 French, 4 German, 2 Swiss, two Dutch, one Canadian and one Australian firm have out-degrees of two or more. Out-degree sometimes indicates a company's influence over other firms – eg Deutsche Bank, which is the leader in the network. Only one US firm has an in-degree greater than unity (Sprint: 2); another ten have in-degrees of one each, and, intriguingly, in most of these cases it is European executives who sit on the boards of American corporations. Nine French, four German and one Belgian firm have in-degrees of two or more. In-degree sometimes indicates dominant

influence in a firm by capitalist interests also associated with the other firms. Belgian-based Fina, which in 1999 merged with two French-based petroleum firms, has an in-degree of five.

[10] With the exception of Morgan Stanley, whose board includes an executive from Canadian-based Seagram.

[11] In 1996 there was only one director of both French and American-based companies, namely, Rand V. Araskog, former CEO of ITT and an outside director of Hartford Financial (based in Hartford), Dayton Hudson (based in Minneapolis) and Alcatel (based in Paris).

[12] Recall, however, from endnote 5 that our Global 350 includes some British-based firms whose revenues did not meet the formal size criterion. The four London-based companies in question – British Airways, Grand Metropolitan, Smithkline Beecham and Rio Tinto – are certainly large, and internationalized in their operations. Together, they participated in 11 transnational interlocks at year end 1996. If we were to leave these aside, London's aggregated degree would fall to 30.

[13] The two Anglo-Dutch transnationals in the Global 350 have head offices both in London and the Netherlands (Unilever in Rotterdam, Shell next door in The Hague). These cases of corporate bi-nationality, the only two in this study, show the difficulties in "locating" highly transnationalized capital in one domicile. My (arbitrary) categorization of both firms as based in the Hague/Rotterdam partly mitigates the over-representation of London-based firms in the Global 350. See endnotes 5 and 12.

[14] I explore these network-weakening tendencies in depth in Carroll 2004, chapters 2 and 4.

[15] Most corporations in the world are controlled within single countries, and the composition of their directorates tends to reflect that. The Anglo-Dutch examples of Shell and Unilever (50% owned in Britain, 50% in the Netherlands) are exceptional; the Daimler-Benz takeover of Chrysler is the norm.

[16] In Japan, corporate capital has been organized into tightly-knit groups on the basis of cross-ownership of shares, but corporate directorates tend not to interlock very extensively. Instead, companies send executives to each other, who later return to the original posting – the "interlock" exists as a temporal flow of personnel. This practice, perhaps combined with language barriers and the disincentives posed by Japan's spatial location, helps explains why Japanese-based corporations are so marginal in the corporate network. American capitalism has been organized more around the stock exchange than around institutionalized financial-industrial relations of organized capitalism, so the corporate network has long been loosely knit, and became looser as certain corporate governance reforms were implemented in the 1980s and early 1990s (Davis and Mizruchi 1999).

[17] As I have reported elsewhere, the mean degree of interlocking among the 81 dominant corporations domiciled in the northwestern corner of the European continent (7.605) is actually higher than the mean among the 90 US-based firms in our Global 350. In this sense, "*the corporate elite of northwestern Europe is more socially integrated than the American corporate elite*" (Carroll 2004: 142).

[18] Canada bears some resemblance to Europe in its more centralized banking apparatus with a history of dense ties to industry, and in its corporate empires based on inter-corporate ownership, one of which now links Montreal to Brussels and Paris in the strongest set of trans-Atlantic ties, and the only case of a truly transnational financial group.

[19] On the concept of hegemonic project see Jessop, 1983.

[20] Some of the small components that turned up in my analysis of primary interlocks point up the importance of these partnerships. I found a particularly strong set of reciprocated executive interlocks between US-based MCI Communications and British-based BT. An archipelago of primary interlocks reaching from Deutsche Telekom through US-based Sprint to France Telecom and then to Telefonos de Mexico was also evident.