A REQUIEM FOR CORPORATE GEOGRAPHY:
New directions in industrial organization,
the production of place and uneven development

By

Richard Walker


ABSTRACT. The grand claims made for the geography of enterprise have faltered for lack of supporting evidence and clear theoretical separation at the causal powers of large firms from those of capitalist development in general. Four major hypotheses of corporate geography may be greatly toned down or rejected altogether: The Fordism has in fact been a firm, a corporation-dominated spatial division of labor, the geographic importance of branch plants, and a distinctive mode of corporate spatial expansion. Industrial geography has missed the mark recognizing the place of large firms in the space-economy. New concerns emerge, like the term "geographical industrialization". It now takes in alternative forms of industrial organization and their spatial configuration, along with the possibility of multiple and changing ways of integrating complex production systems. The new industrial geography no longer stresses the dynamics of capital growth and the way industrialization creates places at the same time as it implies production units. Recent insights of industrial geography with an emphasis on production, need to be joined more fruitfully with the spatial theories of capital accumulation developed by David Harvey, however.

Industrial geography has made great progress over the years, and "corporate geography", or what in Britain is called "geography of enterprise", has held an important position in that process of advance. Two of the limitations of corporate geography became all too apparent with time, and the discipline moved on in the last decade to emphasize three critical elements - shaped by corporate geography: the organizational alternatives to the large firm, the centrality of production in industrial analysis, and the dynamics of growth - all of which add up to a rather more sophisticated understanding of uneven spatial development, or the geography of advanced capitalism. At this late date, it should be possible to resolve corporate studies into a subordinate place in the geography of industrial organization, itself part of a political geography as a whole.

I shall begin by reviewing the history of thought in our discipline briefly, before moving on to a critique of the explanatory failures of corporate geography. The bulk of the paper is a statement of alternative ways of looking at industrial organization and "geographical industrialization". It ends with a consideration of the place of capital in the organizational fabric of capitalist industrialism.

1. The theoretical evolution of economic geography

Economic geography became a field around the turn of the century, with the study of commerce, the formation of large cities and value of land uses in cities (Fellmann, 1886; e.g. Weber, 1899; Hurd, 1963). It achieved its first real theoretical rigor with the work of the German Alfred Weber (1865), whose translation in 1929 inspired Anglophone scholars to apply his ideas about industrial location in the 1930s and 40s. (e.g. Hoover, 1937; 1948; McLaughlin and Robock, 1949).

Central place theory, developed by Christaller (1933) and Lösch (1944), again in Germany, captured the best minds of the 1950s, such as Walter Isard, Forst Bonn Hägerström and the University of Washington quantitative analysis group (e.g. Hurd, 1956; Berry, 1967). In this inflation for ideas in Germany, even long-barred von Thünen was dug up, and his location and land rent model transferred to the urban context (Alonzo, 1964). Isard managed the singular achievement of marrying the Neumann locational calculus to central place theory and integrating spatial analysis fully with the prevailing neo-classical approach in economics, by inverting distance costs into the conventional production function. Su-great was Isard's influence that "classical location theory" became the textbook orthodoxy for the next twenty years (Smith, 1971).

The first challenge to this geographic orthodoxy came from those studying urban and regional development, for whom aggregate uneven initial development was the thing to be explained. The "p
porate management began to receive serious treatment from the 1930s onwards (Berle and Means, 1932; Coase, 1937; Barnard, 1938; Simon, 1947), and thinking followed two main routes thereafter. The business historian Alfred Chandler (1962: 1977) studied the evolution of modern corporate structure, while organisational sociologists tried to understand the logic of corporate decision-making (Simonton, 1957; Coyle and March, 1963). The latter became the basis for the dominant "behaviouralist" approach, focusing on the location of decisions of large firms, pioneered by Swedish geographer Gunnar Törnqvist (1968) (see also McNic, 1966; Pred, 1967; Kramme, 1969; Townroe, 1971; Dicken, 1971; Hamilton, 1974). Central to the behaviourist view is the rejection of the Marshallian single-plant family firm, operating in a world of perfect competition and perfect information. Large firms are seen as having a measure of control over their environment, acting on the basis of bounded rationality, and making strategic decisions for corpora-
tive advantage. Chandler's approach takes the spatial structure of the large firm as the starting point for geographic analysis. The geography of corporate expansion has been studied by industrial geographers, and the influence of location on corporate decisions is noted. However, the location of decisions is not the only factor influencing corporate strategy. Other factors include competition, technology, and government policies. The geography of corporate expansion is a complex interplay of economic, political, and social forces.
on vague behaviorist notions of corporate strategy and exploration (Rees, 1974; Taylor, 1975; Hay- ter, 1976; Håkansson, 1979); some tried to integra- te Christaller’s theory of central place evolution (LeHart and Wart, 1976); others brought in central place theory (Watts, 1980). Dickson (1978; also 1986) searched out to the litera- ture on multinationals to incorporate Hymer’s theory of international expansion as a means of exploiting firm-specific competitive advantages (developed further by Buckley and Casson, 1976), Dunning (1979; 1981) and adherents of the “tran- sactions cost” school (e.g. Teece, 1987; 1983; 1985). Taylor and Thrift (1982; 1983) tried to in- corporate a financial version of the dual economy theory. Most popular of all was the graft on the “pro- duct cycle” theory of spatial expansion through technological maturation, following Vernon (1966) (e.g. Thomas, 1975; Kramme and Hayter, 1975; Markesinis, 1985; Dicken, 1985). And, of course, every industrial geographer was still steeped in Weber.

At the very end of the 1970s, however, the cut- ting edge of industrial geography shifted away from corporations toward “industrial restructuring,” thanks to the work of Massey (1978; 1979). This line of inquiry was triggered by the catastro- phic deindustrialization of so much of Britain in the 1970s, followed by parts of Europe and the United States (Massey and Meegan, 1978; 1982; Hudson et al., 1983; Martin and Rowlhorn, 1986). Suddenly, the solidity of even the largest corporate empires was thrown into question (Massey and Meegan, 1982). The new movement was led very largely by a young generation of Leftists whose careers in geography and related fields were just opening up. It led to a new emphasis on industry, studies rather than enterprise research, on change in the space economy rather than management of corporate systems, and on the make-up of industri- al production operations.

The renewed interest in the shape of industrial production dovetailed, in the early years, with an intense concern on the Left with the role of labor in location. The differential exploitation of labor- forces was seen as constituted the principal basis for a “spatial division of labor”, nationally and inter- nationally (Clark, 1981; Storer and Walker, 1983; Massey, 1984). A reawakening of interest in the particulars of place appeared among Left geo- graphers, as well (Massey and Allen, 1984). This is to say that a preoccupation with large corpora- tions and their internal spatial divisions of labor disappeared. Many leftists still had one foot firmly planted in the corporate concerns of the previous decade, despite their attraction to labor exploita- tion, capital investment and disinvestment, and in- dustrial restructuring (Bluestone and Harrison, 1982; Massey, 1984; Thrift and Taylor, 1986; Smith and Feagin, 1987). A stark striking was the way in which the spatial divisions of labor approach had back to Weber in its attention to the specifici- ties of industry labor demands (even if subdivided amongst different corporate functions); and the optimal utilization (exploitation) of workers and communities by supermobile capital (Walker and Storper, 1981).

In the late 1980s, the key term has become “flexibility” instead of “restructuring,” thanks to the work of Political Scientist Simon Geographer, Charles Sabel (Bruson and Sabel, 1983; Pore and Sabel, 1984; Sabel and Zeitlin, 1985; Sabel re- discovered (and became a propagandist for) the traditional industrial district, and its empire of crafts, that had been so widespread in the 19th cen- tury. His work dovetailed with contemporary in- quiry by others, such as Bagnasco (1977) in Italy and Scott (1983; 1988) a b) in Southern California, who had come to the realization that contemporar- y capitalism is littered with burgeoning industrial districts made up principally of small and medium- sized firms and factories, or what have been called “disaggregated production complexes.”

More broadly, neither small firms nor cities have shown any serious tendency to disappear from the industrial landscape. Hybrid marketing and com- petitive arrangements such as franchising and joint ventures have been found everywhere, blurring the lines between firms (Business Week, 1984; Lucasberg, 1965). National and international sub- contracting, it turns out, was growing just as rapid- ly in the 1970s as were the multilocational corpora- tions (Froelich et al., 1977; Holmes, 1986; Dicken, 1986). In the 1980s, large corporations have been divided, dismantled and stripped down. These facts strike hard against the long-prevailing view of a modern industrial world inevitably dominated by large firms. They also converge to give an impres- sion of a new “industrial divide” between the post- war era of “Fordist” mass production and a new epoch of “flexible specialization” (Piore and Sabel, 1984; Lipsitz, 1987; Scott 1988a; Scott and Storper, 1987) - a controversy I will not pursue here.

In short, some exciting new ideas are afoot in industrial geography at the close of the 1980s.
which go well beyond the notions entertained under the rubric of the geography of enterprise. What we see is a vast opening up of the matter of industrial organization beyond the boundaries of the large firm and much greater attention to the organization of production systems rather than local decision-making. Implicit in this is an awareness of how industries develop in and through the places in which they grow up, rather than descending from the heights of corporate boardrooms. This idea of development in place must be made explicit, however. I call this process "geographical industrialization" rather than "industrial location." Inherent in such a concept is the centrality of industrial growth and capital accumulation to the process by which industries come to be implanted in certain portions of the globe. I have, along with Michael Storper, recently attempted to make these ideas clear in a book, The Capitalist Imperative (1989). In it, we try to integrate the geographic work of the last decade on industry restructuring, labor relations, technological change, industrial organization, and the significance of place to industrial practice — all the significant cut at industrial production — and to do so around the dynamics of disequilibrium growth that lie at the heart of capital accumulation. The task for the 1990s, in our view, is to understand the way that capital not only uses space (and is shaped by space) as it drives production to new heights, but how accumulation produces places at the same time as it produces commodifies and profits, and how it forever revolutionizes the space economy at the same time as it generates new industrial revolutions.

II. Explanatory failures of corporate geography

The literature on corporate geography turns on four main issues: the spatial bias in location introduced by corporate calculation, the imprint of corporate structure on spatial divisions of labor, the impact of the corporate spatial division of labor on regional development, and the geographic expansion of corporate activities. Much of this is highly empiricist, and a great deal of research energy has been expended in pursuit of evidence supporting a distinctive corporate geography inexplicable in classical location theory terms (Leiper and Watts, 1983). Indeed, the more expansive claims of some advocates of the geography of enterprise, at its peak, appear rather vain in the light of the evidentiary picture. Contemporary industrial geography suggests different answers to the corporate geographers' puzzles — and ultimately pushes beyond them to some quite different questions for geographic research.

1. Spatial biases of the large firm: Corporate geography holds that the locational calculus of the large firm will be different than that of a small firm embedded in market transactions, for the same facility. Weberian location theory expects the single-place small firm to situate itself in a cost-minimizing way with respect to the field of material supplies, labor and consumer markets: but the logic of corporate decision-making and internal organization already deforms that place location away from such sites. The presumption is that large firms manifest different spatial patterns than small because, among other things, they adjust internal prices so as to cross-subsidize operations, supply materials and labor via intra-corporate linkages rather than by external purchases, and are protected from competition by oligopolistic behavior.

When all is said and done, however, Weber's esoses off remarkably well. Watts (1980, pp. 45-57) found that the aggregate regional distribution of employees for the very largest British firms is virtually indistinguishable from that of all smaller companies. Virtually no statistical work exists at the industry level to say whether large and small firms in the same sector exhibit markedly different spatial patterns (foreign firms exhibit somewhat different locational choices than domestic companies, in aggregate and by sector, but this varies more by nationality and industry than size (Hoare, 1975; Dicken and Lloyd, 1980; Watts, 1980; Schott, 1985)). The evidence on internal price manipulations, at least among multinational firms, is not convincing (Dunning, 1981, p. 31). Oligopolistic firms are certainly protected from the exigencies of the market for certain periods of time (Rees, 1978a; Marks, 1985), but the grim reaper of competition ultimately brings them to heel, too (cf. Storper, 1985). Intra-corporate linkages have been much talked about, but poorly studied, and the data do not make a case for significantly greater internalization of commodity flows within large enterprises than small (Watts, 1980, pp. 52-57; Oakley, 1981; O'Farrell and O'Gouin, 1981).
In fact, the number and geographic orientation of linkages depends more on such things as plant size (Scott, 1982), industry type (Hoare, 1985), and scale of production run (Ofstal & Gachain, 1984). Of prime importance to the case for spatial bias is the internal organization and management system of the large corporation. The corporation is not a unified, top-down system of central control over decisions. The autonomy of individual plant managers to buy and sell outside the firm is often quite high, especially in booser subsidiary or holding company arrangements (Townroe, 1975; Hoare, 1978; Watts, 1989, p. 254). Multi-divisional companies are organized explicitly for the purpose of emulating the market by establishing relatively independent "profit centers" in place of clumsy bureaucracies, distant accountants and internal subsidies (Chandler, 1962). At a minimum, it matters for strategical strategy whether firms are vertically or horizontally integrated (Teece, 1985). There are, of course, striking instances of corporate organization treating a locational pattern clearly at odds with what independent plants/small firms would choose, such as Ford's "global car" production system (Tiratof, 1986) or IBM Europe's system of cross-responsibility for components and assemblies among its plants (Dicken, 1985). The problem arises in overgeneralizing from a few such cases— as is often the case in social science (cf. Morgan and Sayer, 1980) — and in failing to specify what is the actual organizational logic at work in spatial systems of production.

Confusion as to what corporate organization does and does not explain is rampant. Two exemplary studies often cited to support the case for a distinct corporate geography, by Tugend (1984) on Phillips and Clarke (1985) on ICI, illustrate the problem. In ICI's massive restructuring of the last ten years, the chief factors affecting its location decisions for different plants are shown to be product mix, materials costs, market share, labor costs and production technology. Similarly, Phillips' global moves have been based on the search for markets (chiefly government military contracts), cheap labor, advanced technological capability and political stability. In both cases, the locational calculus rests on conditions of production and marketing (often ante expedite on conventional Weberian grounds), to which the organizational tissue of the large enterprise adds no explanatory power whatsoever. The large organization does no more than act as a facilitator of geographical expansion and restructuring that is based on other grounds. In a parallel fashion, Townsend and Peck (1985), when challenged to compare directly their "enterprise" approach with the "industrial" approach of Massy and Morgan (1985), proceeded to discuss such commonplace locational considerations as profit equalization, capital flows, competition, labor costs, marketing, and plant-level conditions. The organizational explanation, then, comes to provide, in Malecki's (1982, p. 1572) words, "a very large umbrella" to cover virtually anything touching on the firm, rather than a form of analysis that correctly isolates the causal forces of organization, per se, on location.

This is not a call to return to Weber, but to move beyond corporate geography in two ways. First, it is necessary to separate, as best possible, the effects of industrial organization as a force in industry location from the underlying structure of production, if we are to give the former its due. The Weberian conception does not grasp production adequately, hence the continuing interest in questions of industrial restructuring, technological change, and labor relations in the 1980s. Second, the matter of industrial organization cannot be reduced to a simple opposition of the large firm and the market. The way production systems are organized is a much broader problem, encompassing both the internal structure of the firm and various intermediate forms of interfirm interaction, at a minimum. Penc (1980) has shown, for instance, that merchant trading networks are in deeper and more regular channels between big cities than between smaller places, creating systems of cities more deeply linked with each other than with their immediate hinterlands. The organizational fabric of capitalism clearly matters to spatial outcomes, and must be granted its rightful place among the forces of geographical industrialization. This has been recognized by corporate geographers in the 1980s (McDermott and Taylor, 1981; Dicken, 1986), but they have not been able to find a theoretical way out. To do so means, certainly, to drop the static terms of the search for the "organization bias" from a presumed Weberian optimum prediction pattern.

2. Corporate spatial divisions of labor: Corporate geographers have also made much of the growing internal division of labor within large firms, and its spatial imprint. The argument centers on the general distribution of such corporate facilities as headquarters, research laboratories
and manufacturing plants. That is, it moves be-

yond concern with the specific calculi of facility

location within the corporate system, as just dis-

cussed. To general tendencies toward dis-

persal and hierarchy. Overall, it is claimed, spatial

agglomeration and the close interaction of small

firms has been replaced by intra-corporate

linkages, labor pools and information flows that

allow wide dispersal of small activity within the

corps of the large firm (McDermott and Taylor,

1982, pp. 52–54; Foote, 1985). The corporate divi-

sion of labor is also frequently said to have a ver-

tical hierarchy that becomes irremedied on the na-

tional and global space-economy, as first proposed by

Hymen. The general idea is now well known: the

headquarters of giant multinational is concen-

trated in core cities of the developed countries,

higher order functions are grouped in secondary

cities, and lower order activities are shunted off to

backward regions or third world countries (West-

sus, 1974; Massey, 1984; Dicken, 1986, pp. 191–

202; Smith and Fainstein, 1982).

These claims have been based on the manifest

enlargement and separation of management, sales

and research functions from the manufacturing

arms of large corporations in Europe and the

United States. Indeed, while subfields of new eco-

nomic geography have grown up to study these new spa-

tial divisions of labor (Gudmard, 1975; Forchert,

1978; Rees, 1978b; Crum and Gudmard, 1978; Da-

nich, 1979, 1982; Malecki, 1979, 1980). But here

again, while the large corporation facilitates the

process, what is at work is an expanding social di-

vision of labor (Walker, 1985). This (social and spa-

tial) division of labor goes well beyond the bounda-

ries of the large corporation — long antedates it, in

fact. The “service sectors,” in all their rich diversi-

ty, are embraced by the widest range of firm sizes

and buyer-seller relations. The error is, we have

to, to collapse business organization and production

(the division of labor) into a single explanation.

This reductionism shows up most graphically in

the Hymen (theory of corporate spatial hierarchy/

new international division of labor. Other types of

hierarchy can develop out of the social division of

labor, cutting across the command hierarchy of the

large firm: unequal power among industrial capita-

lists, which can just as well be expressed in sub-

contracting hierarchies, the power of the finan-

ciers over manufacturers; labor force valuations

based on skill, bargaining power or gender (Mas-

sey, 1984). The higher position of, say, P & D labs

in the social hierarchy is based not at all on “com-

pany”, but rather on the elite position of scientific

workers. The confusion among analytically dis-

tinct categories implicit in the Hymen model is

most apparent in his treatment of cities. Most of

the so-called “headquarters cities” such as New

York and London are first of all financial and mer-

carial, not administrative, centers (Cohn, 1981;

Noyer and Stantack, 1984). Industrial capital has

moved both production and headquarters to major

city centers for reasons of access to “busi-

ness services” already concentrated there, not vice

versa; that is the historical reason of city-system

development. The question is how inmural geo-

graphers, who ought to have known better from re-

ading Fred (1966, 1977), could have let Hymen

go unchallenged? Dicken (1980, p. 210) has larly

admired the impossibility of sustaining the corpo-

rate hierarchy model, but can come up with no sys-

temic alternative.

The other major claim — that corporate facilities,

particularly manufacturing plants, are dispersing

over wide territories — is also, at first glance, va-

lid. Industrialization has spread into new areas of

the advanced capitalist nations and is globalizing

in our time at a fast rate (Dicken, 1984; Thrift, 1986).

Multinational enterprises clearly contribute

bureaucratically to this problem. Where the pro-

blem arises is in denying the efficacy of other cases,

such as “technology, or subsuming them under the be-

lureaucratic rubric of “corporate strategies,” (“Mcd-

ermott and Taylor, 1982; Schonberger, 1998). This

is mere gazing, once again, in the treatment of ci-

ties, which have shown no tendency whatsoever to

disappear as centers of industrialization. The be-

sought advocates of corporate geography

(McDermott and Taylor, 1992, pp. 33–54) are ere-

decrying an end to agglomeration economies (and

bureaucracy) just in time to be swept away by a

new wave of excitement over spatially concentrat-

ed “flexed production complexes” (Brusco and

Sabel, 1983; Scott, 1983, 1988a). Not only was the

isolated branch plant not universal, in many sec-

tors it plays no role at all (Watts, 1980, p. 62); and

some were thus moved to see just the opposite to

the corporatist predictions; a new world of agglom-

erated flexible production complexes (Scott, 1988b).

Most important of all, urban and regional hierar-

chies are unstable (Storper and Walker, 1989). No

spatial hierarchy theory can fit the facts for long.

Uneven development is not a static imprint of cor-

porate control, but a dynamic process by which the

fortunes of places rise and fall. This cannot be un-

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derstood in terms of control, but only in terms of the production (and destruction) of places under the revolutionary influence of capitalist industrialization.

3. Corporate branch plants and regional development:
Corporate geography continued in the Myrdal-Perrihof tradition of arguing that linkages are critical to regional development. Corporate branch plants are depicted as detrimental to regional growth because they have relatively few local linkages, hence low income multipliers (Townroe, 1975; Britton, 1976; Britton and Olmocene, 1976; Watts, 1981). They are "cathedrals in the desert" by virtue of their low impact on the immediate surroundings. They are also portrayed as unstable contributors to regional prosperity prone to closure (Erickson, 1980; Bluestone and Harrison, 1982). The new international division of labor theory projected this onto the whole world, such that "underdevelopment would continue in the Third World despite the influx of multinational direct investment (Hymr, 1976).

As we have already seen, it is not true that corporate factories are universally (or even usually) sources of external linkages to nearby buyers and sellers. Hence, there is little evidence that branch plants have fewer multiplier effects than small firm factories (Lever, 1975; Watts, 1981). The only clear difference is in utilization of business services; large corporate plants use more and they tap suppliers in the (often distant) centers of such activity (Daniels, 1982; Marinelli, 1986).

When branch plants do seek out peripheral locations, it is less because they have been shown of external linkages than they are seeking out more exploitable labor or entering new markets on the basis of a competitive advantage (better product, lower costs) (Vernon, 1966; Frobel et al., 1977; Morgan and Sayer, 1988; Storper and Walker, 1989). Moreover, often when branch plants move into greenfield areas they bring along a host of suppliers — and even some R & D functions — that help create quite vigorous local economies, as in the case of IBM in Montpellier, France, electronics semiconductor firms in South Wales, or Japanese automobile factories in the central Midwest (Oaks, 1977; Morgan and Sayer, 1988; Mair et al., 1988).

This whole approach to industrial development is misconceived. In any case, first, it assumes that the key connection between places is exchange, or commodity and service linkages. In fact, corporate — and all other — facilities are "linked" to one another through the additional relations of competition, shared technological bases, and national systems of labor relations, among other things (Morgan and Sayer, 1985). Compensatory viability in the initial condition for locational continuity and regional benefit. If a branch plant has a competitive advantage, as do Japanese consumer electronics factories in Britain, then they offer rather more favorable prospects for workers and regions than declining domestic firms.

Second, the productive successes of any company and its plants depends not only on the raw conditions of technology, demand or labor costs, but on the way the division of labor among all the units of the enterprise are organized. The current system of linkages is not given by nature, but relies on the organizational forms adopted by capitalists.

It is abundantly clear today — as it was not a decade ago — that the organizational strategies of many large corporations in Europe and America leave much to be desired, in particular, the Taylorist or Fordist type of extreme division of labor and poor inter-plant connections (the classic cathedral in the desert) seems not as effective as contemporary Japanese industrial organization (Morgan and Sayer, 1988; Florida and Keinity, 1990).

Finally, it is not income multipliers that bring development but industrialization, i.e., the development of human productive powers, the intensification of labor, the extraction of surplus value, the investment and multiplication of industrial activity in a place (Storper and Walker, 1989; Page and Walker, 1989). Trade patterns can make some local difference, to be sure, but extensive cross-trade with other regions is as old as capitalism itself, and cannot explain the rise and fall of regions. In the end, branch plant studies merely reflect the expanding spatial division of labor, and do not tell us very much about why some places develop into vital industrial districts and others do not, why some industries grow and others decline, why some firms prosper and others do not. These are exactly the questions receiving intense scrutiny in industrial geography today.

4. Corporate spatial expansion:
A final line of thinking in the geography of enterprise is that large firms create a distinctive pattern of spatial expansion, or spatial evocation. In such
corporate growth models, the enterprise establishes a core territory within which it conquers its immediate competitors and from which it gropes outward in search of new markets and resources (McNee, 1990; Taylor, 1975; Rees, 1978a; Watts, 1980; McDermott and Taylor, 1982; Clarke, 1985; Dicken, 1986). Such models provide a loose approximation of strategic exploration with considerations of Weberian optimization, central place hierarchies, innovation diffusion, international investment, oligopoly, or the product cycle (Hayter and Watts, 1983). This is consistent with the evidence for many localizing industries, which establish core territories before developing far-flung “growth peripheries” during periods of rapid growth (Storper and Walker, 1989). One is hard put to see the determining role of the large enterprise in this pattern, however. In fact, core industrial territories usually consist of dense complexes of related production activities owned by both small and large firms. Their growth depends, in part, on the dynamic economies of division of labor, scope and flexibility which such industrial districts provide (Scott, 1988b).

It will likely depend, too, on a major innovation, jump into a new technological structure, as in the case of Ford’s assembly line or the semiconductor industry (Storper and Walker, 1989). Or it might rest on successful design for a new fashion market and an influx of cheap immigrant labor, as in the case of Los Angeles’ booming garment industry. Home firms may well, in addition, enjoy local competitive advantage, or spatial monopoly, for a time (Markusen, 1986); but this is due principally to the barrier of space including the nation-states and cultures that are in particular places (Morgan and Sayer, 1988).

Competition and industry dynamics can just as easily lead to major reterritorializations of industries, however, and rude shocks to existing plants, firms and locales—regardless of their size or length of tenure. Clarke’s research into the dramatic restructuring of Britain’s ICI shows that “organizational centralities” counts for little in protecting core plants from layoffs and closouts if market share, resource costs and product productivity are better elsewhere (1985, pp. 211–12). Cost and competitive pressure still appear as decisive factors in the fate of the various pieces of the corporate division of labor, and growth of shrinkage of the industry and of firms as the context within which allocative decisions about various plant investments are made (Massey and Morgan, 1982).

All such patterns of spatial growth and change are most fruitfully explored in terms of industries rather than individual firms—as Watts (1980, p. 149) importantly recognizes by limiting the model to certain sectors. But even this is an abstraction. The great error of the corporate geographers is, once again, to promote organizational behavior over the more fundamental processes of industrialization. Indeed, by collapsing industrial growth into industrial organization, they falsely attribute broader dynamics of industrialization to the corporate form in which those processes of competition, technical change, or labor exploitation are wrapped up. The same is true for the attempt to stuff the wider complex of capital flows and the spatial dynamics of accumulation, as articulated by David Harvey (1982) or Christian Fuchs (1977), into the corporate box (e.g. Dicken, 1986). It just won’t fit.

In sum, the case for a distinctive “corporate geography” in the modern world has not been made. This is not to say that the impact of industrial organization on geographic patterns of industrialization is insignificant, but that it remains to be determined. Although there are many possible arguments one can make for corporate organization as a locational influence, the work has not been done which properly sorts out the organizational from a jumble of other forces such as technology, labor, relations and competitive conditions wrongly attributed to the corporation as such. There has been, in the end, a stability of failure of the “geography of enterprise” to show how large firms adapt to very different geographical situations. The best opportunity under capitalism in general (Storper and Walker, 1989). Corporate factions are right to be impressed by the powers of the modern corporation, as compared with the small firm of yesteryear or today. But whether these come from these incentives or not, some workers and so what ends can they apply? Both the forces of production and the drive to accumulate capital long predate and still underpin the giant form of today (Harvey, 1982). The corporation is an effective instrument of capitalist development but not the essential cause of it; that is deeper within the economic structure. Corporate geography have circled around this conclusion but never quite grasped it because they lack a systemic understanding of capitalism (see e.g. Watts, 1981, ch 5). This introduces the large firm as an exogenous player that alters the rules of the
industrial economy rather than as one that arises
and acts according to those rules.

We must therefore back off a bit and rethink the
"organizational problem" under capitalism, and
possession the large firm among the various forms of
industrial organization, such as firms, industries
and cities. After that, we must return to the issue of
organization to the broader problems of produc-
tion and the accumulation of capital. Early in the
decade, Hayter and Watts (1983, p. 157) said, "The
pace would appear ripe for reappraisal of the geo-
graphic context."

"As industrial geography has
pushed on to new territory, it has, rather, transfor-
mized corporate geography altogether"

III. Division of labor and the organizational problem

The question of industrial organization has hardly
been tested in economics and geography. Solving
the organizational puzzle means framing it in
terms of the division and reintegration of labor.
The division of labor refers to the range of tasks
any human society creates to meet its needs. In
the capitalist epoch, the division of labor has been
vi gorously expanded to include work on vast num-
bers of final products, long series of processing
steps, hundreds and thousands of component
parts, minutely divided tasks for individual work-
ers, great amounts of engineering and design la-
bor, armies of sales and transport workers, legions
of managers, laboratory scientists, and the like.
Why? Competitive advantage and greater
surplus value from new products, greater labor
productivity, lower materials costs, better sales ef-
fort, greater labor control and intensity, and so
forth.

An expanding division of labor, while advan-
gaging to capital, also aggravates the organiza-
tional problem facing capitalists. The myriad pie-
ces of production systems must be unified, and
with a certain degree of competitive efficiency. This
requires an institutional structure provided by
various modes of organization, which are under-
going persistent improvement and change over
time.

1. The tasks of labor integration.

The first element of productive integration is to
forge physical links between work units — groups of
laborers. The life-blood of production — flows of
materials, information, money and labor power —

must find its way to the various limbs of every pro-
duction system, and through sales workers to final
consumers, as well. The principal means of link-
age, or arteries of circulation, are transportation,
communications, storage, distribution and bank-
ing networks. These cannot be treated as mere ap-
purtenances to production, lying outside the sфе-
re of work, because all labor processes depend on
such flows both within and between work units.

One cannot proceed to assemble a car without the
requisite dies from the machining department, en-
geine from the motor works, or windshields from
the glass company. And all such movements must
be accompanied by monetary exchanges, stock
records, and other forms of information and ac-
counting (Walker, 1983).

The geographic importance of linkages has long
been recognized. The configuration of "link-ups" and
the capabilities of the points of circulation are
vital data in the geographic patterning of industry.

Many valuable insights into location have been de-
crived from the study of transport rates, shipment
weights, break-bulk points, telephone net-
works, access to airports, shifts in transport mode
and flows of information (e.g. Chinitz, 1960; Pred,
1973).

Linkage analysis is not enough, however. Be-
sides mere connection, labor processes must be
eordinated. This is an absolutely fundamental
condition for the functioning of "the collective
worker". Oil must not just be sent down a pipeline
from well to refinery and by truck from refinery to
gas stations; it must be delivered to a refinery that
handles that grade of crude, arrive when needed,
be processed into the right mix of byproducts to
meet current demands, moved to the correct areas
of use, and delivered to outlets at the right time.

In complex production systems, researchers, de-
signers, production engineers, line workers, mar-
et executives and salespeople must coordinate
their efforts in order to produce things that will be
competitive and sell. Too often the coordination
function is taken for granted, as if the mere fact of
being in the same building, the same company or
the same country meant that workers knew what
their counterparts were doing. Coordination of dis-
parate divisions of labor is particularly impor-
tant to the dynamics of creating new products
that work better and production processes that cost
less or improve producer quality (Morgan and Sayre,
1988). The pieces must be made to fit even though
all are changing over time as production capabili-
ties ("technology") improve.
Third, labor, materials and machines must be effectively regulated according to economic calculations of cost, revenue and rate of growth. Machinery must be monitored, materials tracked, workers' activities charted, and the results evaluated in a constant effort to maintain efficiency and quality. Relative profitability of different products must be ascertained. The proper weight to be given to design, production, sales, and so on has to be found. It is not sufficient, for instance, to have good coordination between production and sales: if the sales force is so understaffed that they cannot serve customers adequately. The proper allocation of labor is as crucial for success as the right tools or labor shifts. Here, too, the problem is not static efficiency but development of the forces of production through technological change (including learning). This requires investment of the surplus in the right quantities so that future inequalities between segments do not jeopardize production and that technical potentials can be realized (Walker, 1988a).

This framework of the universal tasks of integrating labor processes stands up better than the usual hodge-podge of purposes ascribed to specific organizational forms of integration such as the corporation (e.g. Williamson, 1975; 1985; Dunning, 1979; 1981). The latter tend to confuse issues of private property, competitive advantage, and uncertainty that pertain to the social relations of capitalist production with more general issues of productive efficiency that are common to wider systems of industrial production in the modern world. The most general principle governing choice of organizational form usually adopted is the need to protect firm-specific investments or technological advantage; another is the need to avoid disbursement of brand-name goods; a third is to avoid risk of misdeeds by others on which one depends (see e.g. Williamson, 1980, pp. 1548-49). All these have universal elements, but take on a distinct coloration in a capitalist setting of individualism, competition and profit-seeking. The social relations of work integration under capitalism need to be considered separately.

2. The capitalist purposes of industrial organization:

Let us assume, for the moment, the classical dichotomy between market exchange and the internal administration of firm. This dichotomy goes back at least to Marx (1863), who contrasts the anarchy of the market with the despotism that obtains inside the capitalist's gate. The neoclassical economist: pur a brighter face on it; interior to the firm is a rationally-operated technical production function and on the exterior are efficient price-fixing markets. Both versions take the line between market and firm to be a solid one. Ronald Coase (1937) was the first to see firms and markets as alternative and potentially interchangeable means of coordinating production, each with certain advantages and disadvantages. While, it is conceded, does the economy arrive at a particular balance of internal administration and external market exchange? This ought to depend on the relative efficiency of bureaucratic command and open-market transactions (see also Arrow, 1969).

Furthermore, the sharply dichotomous firm and market divides the way the world outside the firm needs to be regulated in light of market conditions. Thus, Chandler subsequently called attention to the internal organization of the large corporation and how it sought, first, to internalize markets by forward integration into sales (1977) and, later, to imitate the market by dividing up and pooling off divisions to competing "firms" (1982). Conversely, Arrow (1969), Alchian and Demsetz (1972) and Williamson (1975) came to analyze the potential for market failure, and the need to form more fixed contractual relations.

The dominant way of looking at these questions in the 1980s has been that of the "transactions cost" school, led by Oliver Williamson (1975; 1985; 1986; also Tecce, 1980; 1985). This approach has been brought into geography with striking effect in the path-breaking work of Allen Scott (1983; 1985; 1989 a & b). In this view, the degree of integration of any production system will depend on two things: economics of scope between related processes (pieces of the division of labor) and the transactions costs of bringing more processes under the wing of a single firm, or leaving them dispersed among several firms doing business with each other. There is no reason to assume that lumping together disparate work units will necessarily yield "economies of scale" nor that either market or administrative transactions are without cost. Hence, the optimal degree of integration/disintegration depends on such things as the relative scales of coordinate processes and the institutional conditions for enforcing contracts.

Despite its undoubted contribution to opening up industrial organization theory, transactions...
costs analysis is ultimately unsatisfactory because it is essentially a reaffirmation of neo-classical economics. The basic calculus is one of efficiency: cost minimization by rational actors embedded in a matrix of exchange. All that has been added is extreme self-interest as behavior ("opportunism") and limits on perfect knowledge ("bounded rationality") which cause markets to fail in certain circumstances - a continuation of the tradition of Simon (1947) and behavioral sociology. All actors, knowledge and social interaction are embedded in deep social/institutional frameworks; the "homo oeconomicus" naked before the world is a fiction. Hodgson (1988, Part I) makes a devastating critique of neo-classical theory as institutional terms. But the problem runs deeper. Not only is the theory of action a thin gruel of free-floating individuals, information and logical choice, the theory of the economy cuts only skin-deep.

The vocabulary of transactions is redundant with the idea that the fundamental "economic problem" is one of exchange (even if Williamson does not go so far as Alchian and Demsetz in making of the firm just another kind of internal market). Production is reduced to exchanges between profit-seeking actors and between humans and nature (Hodgson, 1988, p. 140). Efficiency is achieved through the minimization of the 'friction of exchange', in a manner disturbingly similar to classical location theory and its 'friction of distance' (Dzhahan, 1979). But exchange means, in fact, transfer of property rights. People must do a great deal more than trade, barter and trade to produce useful objects: they have to work, to transform nature into new forms (Marx, 1863, Ch. 7).

What transpires in these models is that the most interesting and important issues are spirited in by the back door: acquired labor skills, technological innovation, labor relations, product quality, fixed capital investment. Or, worse, all the interesting problems are reduced to a positivist conception of "information", consisting of free-floating data-bits (Hodgson, 1988, p. 205). What is lacking is still the necessary conceptualization of production, rather than exchange: the problems of complex labor processes and the development of the forces of production. (2)

Suffice it to say that transactions cost analysis can be a helpful supplement to explanations in terms of technology, labor relations, scale of operations, the sales effort, etc., but cannot sustain the kind of causal privacy Williamson and his followers claim for it - the same kind of error we saw

before in the case of corporate geography. It is hard to see, for example, what transactions costs analysis adds to the already convincing account of the rise of the modern corporation given by Chandler (1962; 1977) and Porter and Losey (1971), in Williamson's (1981) book. (5) Similarly, while transactions costs theory has clarified the problems associated with indirect overseas marketing, it has added almost nothing to Hymer's initial insights about the reasons to protect foreign investment (Buckley and Casson, 1976; Williamson, 1981, pp. 1561-63; Teece, 1985; Kindleberger, 1964). (6)

The growth of the giant corporation can also be explained by reference to a quite different tradition, going back to Marx's "Law of Centralization of Capital" (Hymer, 1972) and substantially un ridiculed in the work of Schumpeter (1942). In this view, growth takes place through an endless jostling for competitive advantage among firms, and the inequalities in firm size thus generated accumulate in an irreversible way. The big just keep on getting bigger. This school of thought has been bolstered considerably by the work of Richard Nelson and Sidney Winter (1982) on stochastic models of corporate expansion over time. The causes of competitive advantage have been widely mooted: technological innovation, financial advantage, managerial aggrandizement, and so forth (Marris, 1979; Marris and Mueller, 1980). Much of this ignores real productive gains as much as the transactions cost literature, and gets stuck on the SAMES of market concentration (Blain, 1956). Nonetheless, it provides a salutary effect balance to the transactions cost approach in two ways. The "evolution" of organizational forms is strong unidirectional (and echoed upward in the case of large firms) and not subject to easy choices that compare the efficiency of alternatives. And growth does not rest on cost efficiency but on winning the competitive race (often with a stacked deck) and continuing to grow - or what have been referring to as "efficiency" (Walker, 1985a; Starper and Walker, 1985, Ch. 2). (6)

There are, of course, serious implications of this for class power, which are edged by Williamson's apologies for the efficiency of large corporations. We shall return to the matter of capital at the end of this paper, for the purpose of industrial organization is not merely production - and certainly not sheer efficiency - but rather the accumulation of capital.

Recently, transactions cost analysis has been
tured to a different end than Cour notarized Williamson intended in their effort to explain the existence and organization of large firms. It has been used to argue for small firm complexes and subcontracting networks as equally efficient modes of organization to the large enterprise (Williamson, 1985). This is particularly apparent in geography with the work of Scott (1988a; 1988b). It derives, no doubt, from the shining era of Fordist production and the enthusiastic ‘discovery’ of the Third Italy and other vigorously growing industrial districts today, especially by Isabel, as indicated previously.

These enthusiasms sit uneasily with what is known about the creeping giantism of corporations and their powers of international rationalization, due in part to transactions cost theories. Are these two developments mutually exclusive? Not if we drop the old way of thinking in terms of the dichotomy of firm and markets.

3. Modes of organization:

Industry must be integrated by means of several “modes of organization”, including firms and markets, but also workplaces, cities, the state, and financial oversight. While helpful in opening up thinking about organizational variation, transaction cost analysis still leaves us with only two organizational choices: the market and the firm — and a vague middle ground of “relational contracting” (Williamson, 1985; Scott, 1988b). In fact, there are many ways of joining together production systems, many modes of organization. Every mode has a characteristic means of integrating labor, and each manifests a wide variety of forms. I use the term modes of organization in preference to Williamson’s “governance structures”, which he defines as contractual frameworks for transactions (1988a, p. 154), because modes of organization are much more than merely exchange systems.

This way of approaching industrial organization will be difficult to grasp, however, unless we free our minds of long-sedimented assumptions. To begin with, industry does not consist of discrete commodity production systems that are self-defining and self-organizing. From input-output analysis it is clear how complex the interconnections among the parts of the division of labor can be (Heany, 1985). Modes of organization are ways of dividing and reconfiguring the pieces of the complex social division of labor.

Second, it is necessary to stop treating the “market” as the primal mode in which the organisational unit swims. “In the beginning,” says William son, “there were markets” (1975, p. 20), recapitulating the bourgeois idyll of Adam Smith (Po tony, 1944). The market is an institution like any other, built of people, laws, and practices, whose existence is as much in need of explanation as that of the firm (Hodgson, 1988, Ch. 8).

Third, space enters directly into the problem of production, and is essential to certain modes of organization, as in the case of workplaces, territories and nation-states. That this should be so obvious and yet so little theorized, is testimony to the general devaluation of the spatial in 20th century social science (Soja, 1989). Factories, cities and countries are regularly treated as if they did not share this elemental dimension of geographic position, boundedness and relation, not to mention the social practices that arise from this fact. Even in industrial geography we have so far been instructed to pay attention to the institutions of urbanism or state policies in the fortunes of industries and places (e.g. Scott, 1988a; Morgan and Sawyer, 1988).

Fourth, the state is not a transcendental referent, floating somewhere behind the organizational insti tutions of society, as Williamson and the neoclassical theorists suppose (Hodgson, 1988, pp. 152 54). The state is a real entity, made up of laws, agencies, and armies — embedded in national or imperial territories. It does more than “make policies” (every corporation, merchant or union does too), which may be sketched out as a discussion of its role in industry geography (e.g. Dicken, 1986). States and (state agencies) can act as modes of organization — though, of course, they have a much wider role than this.

Finally, the circulation of capital is the supreme arsiter of capitalist production, the ultimate fakage mechanism and the key regulator of social abor and its products (Wells, 1981). Capital wavers in and out of all of the poles of production, whatever the mode of organization. Sometimes it flows to ward “whole industries”, sometimes it seeks out new “regulatory centers” within firms; it may also sweep across na tional boundaries and drain from inner city to subur burb. Profit rates are the main signal guiding capi tal movement, but an imperfect guide to accumula tion (Walker, 1988).

Here, briefly, are some of the possibilities open to capitalist industry (for a more complete discus sion, see Walker, 1988b). Others not considered in clude the family and international systems, such as the EEC.

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1. The workplace: The workplace is the tangible site of particular labor processes, usually bringing many workers together under one roof or within four walls, for periods of direct access to materials, machines, and other workers. Such workplaces offer the benefit of direct oversight and control for bosses, as well (Pringle, 1974). Workplaces vary from small workshops and boutiques to immense factories and office towers, but include several oddities such as planes, ratsbirds and National Parks. Some workers labor at home, under contract, while a few are free to roam about over forest or highway. Workplaces and firms are very often wrongly treated as one and the same.

2. The firm: The firm is the principal unit of property ownership, by which capitalists secure legal claim to machinery, buildings, money, commodities and other capital assets, as well as to patents and copyrights to technology and general knowledge. Firms are also the main category of employees. The firm has legal control of labor (but not labor power) during the working day, and can command several workplaces under one administrative system. The corporation is the most popular type of firm, due to its joint stock and limited liability properties under law, but other forms such as partnerships still exist (ownership may also be individual, familial or state). Firm size and internal organization vary widely.

3. The market: Markets are a mode of effecting legal transfer of property between two or more parties, usually by means of money exchange. Markets exist for transfer of commodities, labor power, monetary instruments, claims to corporate assets, titles to real assets and land, and future claims to all of these. Markets are first of all legal frameworks for exchange that embrace contracts, property rights and torts within which widespread transactions take place (Podgson, 1988). Market exchange is regulated by price systems, by stipulations written into contracts, and by personal relations of trust, among other things. They frequently require intermediaries called "merchants", who knit together widely disparate sets of buyers and sellers, or are structured into regular systems of transactions over long periods by systems of sub-contracting, licensing or franchise.

4. The territory: Territories are extensive modes of assembling numerous production activities (and much else as well) within reach of each other. Within territories, buildings, machinery, workers and other material things are literally affixed to the earth in some coherent spatial order, and linked together by roads, wires and other infrastructure. Firms, manufacturers' associations and markets, while less tangible than equipment, will also be located in particular places, as both their physical and spatial configurations thanks to their legal base, workplace locations, and embodiment in personnel with fixed homes, and place-based cultural norms. In addition to visibly and access, territories also frequently offer legal, cultural and physical boundaries, which may be as rigid as those of the fenced-in workplace. An effective territory over which industrial integration takes place may be as small as an industrial district of a big city or as extensive as the Rhine Valley.

5. The industry: An industry is a curious thing, very easy to speak of, very difficult to define. A first cut is that industries correspond to commodity outputs, such as toys, apples or steel. But the boundaries are hard to draw because every industry includes dozens of specific types of goods, some industries produce inputs for others, and, worse yet, one industry may include within its field of operation a product normally classified as the output of another. Accounting problems arise, even where commodity definitions are clear, because diversified firms and workplaces producing joint products cross industry lines. There is an additional problem of how finely or broadly to slice things: beet and pork packing have sometimes acted as one industry, other times as two distinct industries. And, finally, some industries, such as semiconductor, are truly global, while others, such as food processing, still operate more within distinct territorial bounds. The upshot is that industrial boundaries are fluid, and they effectively arise through institutional practices, such as which firms regard each other as competitors, the way industry associations are formed, and how financiers' group firms to evaluate relative sectoral rates of profit. For example, IBM and AT & T, while two of the largest US producers of semiconductors, do not participate in the Semiconductor Industry Association, and are generally categorized under computer and telecommunication.

6. The nation-state: Countries are always territorially bounded, but they are territories with a difference. Their peculiar status as states gives them a unique array of powers in and over civil society. National governments have enormous powers to affect industrial production and effect industrial organization. These include trade barriers behind which national firms and industries can hide from foreign competition; nationalized firms (often
whole industries in one) that operate under political direction and the umbrella of the national treasury; government planning ministries that help coordinate research efforts and industry strategy; and war department purchases and research funding. All companies have national bases of operations, and even the most widely multinational still retain strongly national orientations. Even such international industries as automobiles and steelworks have distinctive characteristics across countries, including peculiar product designs and consumption habits. Nation-states vary hugely in size and internal governmental systems of administration and political control.

7. The financial system: Money-capital has a special place in capitalist circulation, as the general form of capital able to survey a wide compass of production activities for investment (Harvey, 1982). To do its work as a coordinative and regulatory mechanism, finance capital needs an institutional structure to handle money flows, asset transfers, and accumulated profits. This structure includes commercial banking systems, investment banks, bond and stock markets, and brokerage houses. These institutions of finance want good information about the performance of the physical forms of capital (equipment, inventories, sales, etc.); valid means of calculation of investment flows and profit rates; and systems of evaluation of relative opportunities in a changing environment, such as stock indexes and bond meetings. Financial systems range in type from the banking-manufacturing blocs of Germany or Spain to the loose and more opportunistic relations of venture capitalists to Silicon Valley electronics firms.

4. Organizational evolution:
Capitalism was not born all at once in the modern fabric of organizational forms. Modes of organization have evolved over the course of history, as should be obvious from a moment’s reflection. Markets and the mercantile threads of commerce were built up over centuries (Bieniek, 1982). In the United States, the New York Stock Exchange dates from the 1650s, investment banking from the 1880s, a national bank clearinghouse system from the 1890s (Studenski and Kreutz, 1952). Limited liability charters date from the 1840s, multinational operations from the 1870s, multinationals from the 1900s, most of the great trusts from the turn of the century, and the divisional corporation from the 1920s (H. Williamson, 1951). Putting out systems and the workshop were the earliest forms of capitalist industry (Kriedt et al., 1981); the modern factory dates from the late 18th century (Fong, 1978); the detached office building broke off from the factory in the late 19th century (Consedine, 1932). Revolutions in the scale of such workplaces have followed in due course.

The city has grown and shed several skins in its built-form, as well as altering its functional arrangement and modes of local governance over the last two centuries (Walker, 1977). Regions like California and the Midwest have developed and achieved an articulated coherence that is denied to many other large territories or even countries. (Pige and Walker, 1989), but some regions have also evolved as meaningful economic units (Pollard, 1981). The rise and spread of nationalism and the modern national-state needs no repetition here (Anderson, 1986), except to recall the evolution of static power and economic management capabilities over time. The modern concept of an industry dates only from the mid-19th century (Williams, 1976). Successive industries have come into being as their powers of production have reached a sufficient level to transform artisanal, petty commodity and peasant forms of production into full-blown arenas of capitalist commodity production, competition, and investment. New industries have appeared on the basis of technological breakthroughs into new product functions, labor processes and spheres of nature to be manipulated (Schumpeter, 1959).

Evidently, organizational innovation is still very lively in our own time, as the current space of joint ventures and international subcontracting networks attest. This leads us to a consideration of the complex organizational matrix that develops in and around every industry, and to the variation in actual systems of production organization over time and space.

IV. Industrial organization and uneven development
Industrial production systems must be organized in one way or another in order to function successfully, compete effectively, and grow. Every industry will necessarily consist of a variety of organizational forms, or an "organizational ensemble." The old models of a plurality of small single-plant, single product firms or an oligarchy of huge, multi-factory, full-integrated corporations are rather impoverished in comparison to the reality

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of industrial organization. Typically, every in-
dustry will make use of a wide variety of organiza-
tional modes and forms: some large firms, some
small; some big factories, some tiny workshops,
some homework; some clustered plants in cities,
some scattered in rural areas; some core financial
and mercantile players, some use of intermittent
lenders and traders; and so forth.

Modes of organization are not merely substitu-
tes whose comparative worth can be measured in
terms of transactions costs, but are complementa-
ry ways of solving a range of problems that arise
in production, having to do with everything from
technical innovation to allocating specialized labor
to inventory handling. No one solution can suffice
(inded, it is impossible to treat them in unidirec-
tional isolation (cf. Hodgson, 1988, p. 169). Here
I beg to differ with Scott's (1988a) single-minded ar-
gument for integration-disintegration along para-
allel axes of large and small workplace, large and
small firm, and industrial districts versus dispersed
production. Because the urban territory, for in-
stance, is not a direct outcome of systems of small
workplaces (or firms), a city like Los Angeles will
evidence an assortment of large factories and
giant firms, as well as local manufacturers' coun-
cils, specific government interventions across local
industries, and banking-industry networks. At the
same time, Los Angeles has not had as big financi-
al or mercantile sectors, proportionately, as San
Francisco, which is perhaps why venture capital
has not set up shop as menacingly in Southern
California as in Northern California, and Orange
County has attracted more outside banks, instead.
The logic of Scott's own analysis suggests that even
large plants and firms are likely to depend on the
dense fabric of external linkages found in disinte-
grated production complexes. And the evidence
he adduces for the claims of dispersal of large
plants is simply not convincing. All the industrial
clusters he refers to - semiconductor producers in
Silicon Valley, garment industries in L.A., aerospace electronics in
Orange County, auto plants in Tokyo - show the
persistent presence of very large factories.

Different industries are likely to be clad in or-
ganizational garb appropriate to the widely diver-
gent production problems they face (cf. Livesay
and Porter, 1989). Shipyards are a far cry from gar-
ment sweatshops, and ship-building companies
have been much larger, on the whole, than cloth-
ing producers; they have clustered on the outskirts
of cities rather than in their centers, and have
sought out quite different regions, such as Clyde-
side in Scotland versus the Eastside of London.
Shipbuilders are financed mostly by banks or go-

government, while garments are funded largely by
merchants and commercial credit. One never
hears of a "national champion" garment industry,
but ships are often matters of state. Putting-out is
common in garment work but precious few parts of
a ship can be made at home.

Yet the same industry may assume different
organizational forms at different times and places.
Organization cannot be reduced to a simple out-
come of other forces, such as technology or labor
control. It is now abundantly clear that Japanese
electronics and automobile production systems
are organized in ways quite at odds with prevailing
practices in the United States and Europe. Those
differences show up in degrees of firm integration,
size of workplaces, supplier contracting practices,
styles of state intervention, financing methods,
and the like. While automobile production is a
world industry in certain respects, it nonetheless
breaks into several national industries with distinc-
tive features (Friedman, 1977; Abernathy et al.,
1983). Similarly, competition between Japanese
and British electronics is largely blocked across the
barrier between consumer goods and defense in-
struments, given the close integration of British ar-
manent firms and the military (Morgan and Say-
er, 1988). The almost total focus in the traditional
Anglophone industrial organization and industrial
geography literature on American and British
forms of the corporation - the exclusion of Japa-
nese zaibatsu and trading companies, German
bank-holding companies, or French state firms, for
example - is remarkable, and indicative of the
blindness of Anglo-American business culture to
outside challenges. Now everyone's scrambling to
catch up.

The variety of "organizational solvers" to ev ery-
production problem is an essential part of un-
even development and unequal competition of in-
dustries and the places in which they grow. Con-
temporary Japanese export success depends heavi-
ly on the coordination provided by trading
companies, zaibatsu, large banks and the state,
through MITI (Okimoto et al., 1984; Johnson,
1982). It also depends on the Japanese just-in-time system of deliveries between regionally-based
suppliers and assemblers/processors (Cusumano,
1985). Ford Motor Company, on the other hand,
has met the Japanese challenge rather well
through a system of globally-integrated produc-
tion. In microelectronics, US firms have created,
in Silicon Valley, a highly fragmented and independent system of entrepreneurial spinoffs which, until recently, has dominated global microelectronics (Sancier, 1989). The Japanese and French have, by contrast, depended more heavily on large firms to challenge the Americans, and have, in many fields, done better by virtue of larger scope of operations and better internal integration (Florida and Kenney, 1990).

Such competitive differences do not appear only at the international level. An industry can restructure organizationally within a single country because of pressure from outside competition, changing technological possibilities, opportunities to outflank organized labor, or new product niches opening up. Silicon Valley, for example, got started when a few independent researchers broke from the previous corporate culture of GE and AT & T on the East Coast (Scott and Storper, 1987). US meatpacking has gone through a revolution led by Iowa Beef Packers, without foreign impetus, in order to box beef for supermarkets, buy beef from feedlots and slaughter beef with non-union labor. LA's garment industry has become more disintegrated in order to take advantage of an influx of low-wage immigrants (Scott, 1986a). The film industry of Hollywood has been thoroughly remade into a disintegrated complex during the 1970s and in the process regained its earlier global primacy in the broadest entertainment world (Storper and Christopherson, 1987).

One thus sees the rise and fall of organizational ensembles over time, usually in association with the branching off of new industries or major restructurings and renewals of old sectors (Storper and Walker, 1989). These reorganizations are usually marked by the appearance of young innovative firms, such as Fairchild Semiconductor or Southern Pacific Railroad in their day, and new capitalistic actors, such as Steve Jobs of Apple Computer or Owo Taidi of Toyota Motors, who are later lionized by bourgeois mythology (e.g. Rogers and Larson, 1984). New frontiers may rise alongside the industrial innovators with whom they develop favored relations, as in the cases of Mclnon in Pittsburgh (steel) or Giannini in San Francisco (construction). Or new forms of state intervention may appear, as in the developmentalist regimes of Taiwan and Korea today (Deyo, 1987). Along with these come periodic shifts in the landscape of capital industrialization, often marked by dramatic leaps into previously backward regions or the rise of new challenger nations among the elite of the capitalist world. Places such as California or Hong Kong thus become virtually identified, for a time, around the world with the vibrant industries, such as aerospace or men's suits, on which they make their fortunes.

If the preceding is true, the whole matter of "industry location" must be looked at differently than it has been in the past. In classical location theory, industries were given, and one considered only their optimal distribution over a known map of possible sites. This begs entirely the question of what organizational form an industry takes, and thus speaks naively of "plant siting" decisions— as if it were known exactly who goes into each workplace, what is to be done in-house or subcontracted whether the state could be mobilized to intercede against a foreign acquisition, or whether there are stipulations in a joint venture agreement that affect locational choice. In short, organization and location are at a piece, and we must speak of "the geographical organization of production systems" rather than treating one, then the other, often in different disciplines (Walker, 1986b).

While specific forms of organization will certainly affect location patterns, the crucial point is that industries, their organizational ensembles, and their location patterns evolve together as sectoral growth proceeds. This is clear from the histories of such disparate places as Orange County, California (Scott, 1986a), Toyota City near Nagoya, Japan (Cosumano, 1985), and Emilia-Romagna (Bagnasco, 1977). Industrial development is not based on rational choice among a menu of alternatives, but on growth along certain paths of evolution (Storper, 1989). These paths are only occasionally subject to radical reorientation, due to industry crisis, technological change or dramatic shifts in labor relations, as happened recently in the movie industry. Often change comes the hard way, by external competition and defeat from new centers of industry using new methods of production and new organizational ensembles (Storper and Walker, 1989).

There is thus a danger in trying to explain too much in terms of industrial organization. This was the principal thrust of my condemnation of corporate geography, above. One sees this tendency even in the transition approach of Scott (1986a), who tends to move analytically from organization to location, as if the integration/disintegration of production systems were sufficient to explain their

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behavior and development. It is not. We must move through the framework of organization into the essence of production itself.

V. From industrial location to the production of place

Uneven development, or what I prefer to call "the inconstant geography of capitalism", is mostly about industrial growth and change. Capitalist industrialization builds up and discards places as it tirelessly expands and renews the sources of growth and accumulation. It is not corporate concentration that leads the principal dynamic to this process, as the geographers of enterprise believe. Nor is it even capital flows, as some Marxist geographers as Harvey (1982), Smith (1986) or Bluestone and Harrison (1982) believe important as these are. It is, rather, the enormous productive powers unleashed by industrialization which make capital capable of producing places and ultimately reproducing and restructuring the immense geographical apparatus of cities, factories, highways and the like across the face of the globe. Conversely, the industry (or locale) that does not generate surplus value fast enough will not have a big impact on location in the long run.

Organization may be the principal stimulus to growth in some instances. Certainly, the invention of the divisional corporation by Alfred Sloan and others in the 1920s gave General Motors and other American corporations an edge over many European holding companies or "functionally" organized firms. Yet more fundamental to American hegemony were the methods of Fordist mass production (Aglietta, 1979; Hounshell, 1984). Similarly, while Japanese corporations and MITI have been vital to that country's economic success, the key stone of competitive advantage across a wide range of industries today is the measures taken to improve work methods through more flexible task assignment, close inventory monitoring, rapid feedback on product defects, and general attention to learning-by-doing (Schoenberger, 1982; Castells, 1988; Oi, 1988). In the Japanese case, but also in the American, improvements in work integration at the plant (as well as inter- and intra-plant) level have been crucial, and in this sense production technology and the labor process cannot be seen as off-forgotten organizational dimension (Walker, 1989). Dialectically speaking, this would be impossible. But it is not merely splitting hairs to affirm that the principle issue is production as the transformation of nature, rather than general structures of administration, commodification and capital circulation. In other words, it is clear that organization has been a secondary (though still vital) aspect of industry success stories (though most involve a virtual across-the-board retooling of old ways of doing things). In garments the key to growth today is usually fashion leadership or immigrant labor, in microelectronics it is the technology of circuit design and miniaturization, in meatpacking it is boxed beef, feedlots, and non-union labor; in consumer electronics is it the products (transistor radios, walkmans, VCRs, etc.) and the labor process. In other words, organization is only one among several basic facets of industrial production and the endless industrial revolution driven by capital accumulation. The other facets are product technology, employment relations, the labor process, and the division of labor, which I have treated elsewhere at greater length (Storper and Walker, 1985; Storper and Walker, 1989; Walker 1988a, 1989). While I cannot expand on the other facets of industrialization here, they are all means to economic growth and capital accumulation.

The economic pulse of capitalism beats to the rhythms of capital accumulation, but that accumulation rests on the production of values and use-values and expands through development of the forces of production. The industrialization process has always been about creating more from less: the capacity of human labor to transform nature in progressively deeper and more efficient ways (also more destructive, but that is another problem). It has been done, among other ways, by means of a wider division of labor, new levels of scientific and practical understanding of nature, more sophisticated and powerful machines, new power sources, the laying down of faster means of communication and transportation, greater social cooperation, and the growing knowledge and skills of the workforce. Industrialization has vastly increased the productive power and accumulation of the product of labor, or wealth, of capitalist societies. It is this process of creation of something out of nothing that we must grasp in order to understand the geographic expansion and reconcentration of capitalism over the course of its history.

This has profound implications for industrial geography. For if industrial societies are able to do things not previously possible, they are also able
to operate in places where little existed before; or
to make over entirely the landscapes of the past.
The decisive insight of the approach—call "geog-
aphical industrialization"—is that industries do
not so much locate as create places (Storper and
Walker, 1989). They can do so, moreover, in unex-
pected locales, where the landscape structure, in Wal-
esian terms, makes little sense. This is partly be-
cause fast-growing industries generate super-pro-
fits and rapid rates of accumulation that allow
them to attract their own faction of production
and products of special quality, growing number
and declining price that help then to create their
own markets. It is also because they are engaged in a
process of solving problems no one has ever solved
before, in which new labor skills must be learned,
new production methods invented, and new kinds
of machines installed. In such situations, avoid-
cence of older industrial territories and their sedimen-
ted habits in production methods may be a positive
virtue, which is one reason why industrialization
has also left a trail of industrial spaces in its wake,
many now gone to rubble and forgotten except by
archaeologists of the modern

Industrial revolutions across wide spectra of
production activities, such as those unleashed by the
mechanization of textiles, microelectronics,
Porsé assembly line and continuous-flow chemical
processing, have led to the transformation of who-
le industrial landscapes and to new microgeogra-
phies of industrialization. These upheavals tend to
overthrow existing spatial divisions of labor, giving
the lie to corporate geography and other theories of
uneven development that post a changing and unchallengeable hierarchy of places. In other
words, the cumulative causation theories of the
Myrdal-French school and the new international
division of labor theories of the Hymer-Froot
school did not go far enough in grasping the dis-
coupling effect unleashed by capitalistic indus-
trialization (Storper and Walker, 1989).

VI. Capital and the development of industrial
organization

Since this paper is written for the Vego Symposium
in honor of David Harvey, it is only fitting that I
return, at the end, to the place of capital in the
treatment of organization, production, and geo-
graphy. In taking up the problem of industrial or-
ganization and the production of place, it is im-
portant not to abandon Marx's theory of capital. Yet
this has happened substantially in much of the
work of left industrial geographers. Hymer (1972)
at least posed the corporation in terms of the "Law of Increasing Firm Size" and "Law of Uneven De-
velopment" based expressly on Marx. He was
wrong, as has been much of the literature that has
tried to derive uneven development too straight-
forwardly from the analysis of capital accumula-
tion. Hence the need to delve more deeply into the
realm of industry, production and organiza-
tion. But recent enthusiasm for industrial restruc-
turing theory and flexible specialization ("post-
Fordism") often take us too far from the analysis
of value, exploitation, circulation and accumula-
tion.

The insights of Harvey (1982; 1985a & b) into the crisis-prone nature of capitalism, the dissol-
vution of power of money and capitalistic circulation, the enrapments of value in fixed capital, and the "spa-
tial fix" of geographic expansion are, among other
ideas, extremely useful for an understanding of the
spatial dynamics of capitalist accumulation. I shall
not belabor them here. My point is that they are in
no way incompatible with the kind of conclu-
sions I have drawn in this paper, and my other work
on industrial production; indeed, they resonate in
the kind of disequilibrium dynamics on which I have
tried to base my theory of capitalistic indus-
trialization (see especially Walker, 1988a).

The difference between us lies in this: a porting of
the ways to look at capitalism from two vantage
points. Harvey's studies of urbanism ring ago led
him to stress the role of money capital in the ma-
king of an uneven geography and an unjust society,
and he has consistently pursued this side of capital
in his studies (including a new book in 1989). My
studies of urbanization (Walker, 1977; 1985),
on the other hand, left me with a feeling of disgust
over the almost total absence of any consideration
of capitalist production is the city (other than
the production of the built environment itself). I
therefore eagerly jumped on the industrial geo-
graphy bandwagon set in train by Doreen Massey.
I believe: that I return to the question of capitalist
urbanization — or rather territorial development,
as a whole — better armed than before.
The task before us then is, to build from here on
the two foundations of the geography of capital
accumulation and geographical industrialization.
This relation turns, I believe, on the crucial dialec-
tic of social relations of production and forces of
production in history-geographical materialism.
My comments in this discussion have been chiefly
with the productive forces — division of labor, organiza-

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tional modes, and the industrialization process. This naturally leads to an emphasis on capital as use-value in the productive apparatus and the forms of capital in one or other than in capital as value in motion, seen principally from the side of the money-form. It is necessary to move back and forth between the two realms, however, in order to see a fully-rounded picture of capitalist industrialization.

I cannot pull off this synthesis here. I shall therefore confine myself to three brief points about capital and industrial organization.

The first thing to be clear on is that capital circulates and accumulates behind the various forms of industrial organization treated here. One reason for opening up the organization question for a new look is to let it be seen that the wizard behind the organizational curtain is still the capitalist. It is unfortunate that the corporation was substituted for capital in the ex-icoon of economies and geography, as well as in the proclamations of much of the Left. The enemy was wrongly seen to be the giant multinationals, when they are no more than the organizational bearers of capitalist social relations and capitalist power. Organizationalist mass and variety is one more layer of the social fabric obscuring the role of capital as the ultimate integrator of the growing social division of labor and the capitalist class as the ultimate "decision-makers" in the economy. A capitalist class still prevails by virtue of its ownership of property, including corporate assets and monetary instruments, and the control over investment, production and accumulation that this gives them.

Capital is not the same as the firm, corporate or otherwise; yet this error is commonly made on both Right and Left. The firm is not the only "container" for production, as we have seen. Not is it the sole instrument of capitalist competition, exploitation, and accumulation. Competition, for instance, may be manifest in the bootstraps of US cities, the dash of capitalist nationals, or in the jostling of various profit centers within a single company. Exploitation (extraction of surplus value for capitalist profit) takes place in large multinationals, hamburger franchises, banks offices, on city streets, and through such avenues of extraction as subcontracting, apartment rents, interest payments, and taxes, as well as directly from workers to bosses. Capital can accumulate in banks, personal holdings, the infrastructure of cities, and "the wealth of nations."

As it circulates, capital seizes its way through the warp of an immensely complex system of production to knit a tapestry of immense richness. Certain designs in that fabric stand out—here General Foods, there Miami, and over there the aerospace industry. We can argue whether cities, industries, large corporations, or nations-states constitute the principal patterns in the worldwide spatial division of labor; but we must be cautious not to obscure the deeper level at which capital moves. The flux of value in search of surplus value animates the far-flung production systems (labor systems) of the capitalist world, throws them into competition with one another, compels them to exploit their labor forces, and drives them to accumulate—and pays waste to those that do not perform well enough.

A second point is that the productive forces at the disposal of capital have been growing over time and space. Earlier I argued that without an understanding of the productive capability of industrialization, we could not properly comprehend the power of capital to create places and the landscape of the modern world. Those powers have been on the increase, and this shows up as an across-the-board expansion of the organizational capacities of capitalism over time. Growth in the division of labor plays a fundamental role in capitalist development, portending economic growth along with the other forces of production, such as greater mechanization, increasing scientific manipulation of natural processes, more educated workers, or greater state military powers. Less well recognized, perhaps, is that integration of labor is equally a dynamic force in industrialization and that the development of organizational capabilities has contributed significantly to the forward motion of capitalism.

This advance has been most clearly seen in the case of the large firm, particularly by Chandler and students of multinational corporations. The giant company has promoted careful marketing of its products, raised capital for bigger undertakings, created major R & D laboratories, stabilized resource supplies, insulated favored workers from external labor markets, developed better administrative techniques, applied new information technologies to internal communications, diversified product lines and investment portfolios, put its tentacles deep into governments, and so forth. The development of such organizational capabilities has enhanced the geographic reach of large firms immensely, so that they regularly jump national boundaries, enter distant markets, scope out a wi-
der selection of plant sites, and the like. This point has been aptly made by the corporate geographers (e.g. Dicken, 1986).

Nevertheless, the wrong lesson is normally drawn from the saga of the giant corporation: that because the firm has enlarged its integrational capabilities, other modes of organization must have fallen by the wayside. In organizational capacity, markets, subcontracting, small firms and cities are commonly depicted as left over from an earlier stage of history. This is utterly wrong, and again works to hide the role of capital and the continuity of development under a capitalist regime. Indeed, many of the powers and effects attributed to the giant firm were to be seen before the modern corporation ever appeared on the scene. Progress in the technologies of integration has worked to the benefit of all modes of organization.

For example, market institutions for goods and money (capital) have been steadily enhanced by such innovations as the telegraph, the railroad, steam packet, stock exchanges, commodity futures, stock futures, investment banking, telephones, digital telecommunications, computerized data management, and so forth. As a result, market transactions now reach farther around the globe, move more goods and money faster, penetrate more deeply into everyday life, and generally allow more far-flung (and precise) capitalist production and consumption than ever before (cf. Marx and Engels, 1848). For most of the same reasons, subcontracting networks have never been present in more places and over wider areas than today. For a very long time, factories grew more and more immense, owing to the growth of machine technologies, worker skills and managerial competences. The rival bogies at Mc Donnell-Douglas' 45,000 workers in one plant in Long Beach, California. Industries have also become more tightly knit organizational units by virtue of the internationalization of markets, firms competing across traditional geographic boundaries, factories and disintegrated production complexes producing a world's supply of many goods from one spot, joint ventures among national firms, and so forth. Industries are also being successfully managed by government planning ministries such as Japan's MITI in ways not previously thought consistent with conservative capitalist policy. Cities and other territorial production complexes have been able to continue growing in size by virtue of improvements in transport, communication, real estate markets, intergovernmental finances, infrastructure provision, land use planning and redevelopment, and the like.

The fact is that the minirial conditions, of urbanization generally, suggest a scale far beyond that possible a century ago, which is why all predictions of size limits to cities have been proved wrong. And financial systems have come to span the globe, with the international payment and the multi-national networks of securities trading in the major currencies.

As a consequence of these virtual acts on the world stage, urbanization is again being seen by many as a process that is again being managed in ways that are consistent with the higher levels of economic development and the global economy.

A third and last point with regard to capital and industrial organization is that as the organization-al fabric of capitalism evolves and changes over time, the nature of capital and capitalist power may be dramatically altered. That there are conditions for capital formation and organization increasingly far-flung and complex labors systems in the global economy.

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due to close association to workers and bosses. Now, it may well be that small firm networks offer a better way to organize certain productive activities, and indeed many local small firms are innovating in technology, management, contracting and the governance of industrial districts; it is wholly salutary to break with the old Stalinist notion of industrial organization. Nevertheless, small firms and flexible networks are not the appropriate solution to all production problems. And they neither eliminate the imperatives of capital accumulation nor solve the problem of democratic rule versus class prerogatives in the workplace, the firm, the city or the nation as a whole. One has merely to observe the utter futility of working-class organizations in Silicon Valley today to be apprised of the nature class power of the entrepreneurial business class in a classic disintegrated production complex (Walker et al., 1990). We need a rather more capacious socialist agenda than this.

Instead of rehashing worn debates, we need to think hard about the implications of expanding forces of production, including the division of labor and organizational capability, on the one hand, and continuing capitalist relations of production in command of the industrial system, on the other. One implication of this conjunction, as we have seen, has been the increasing power of capital to orchestrate labor systems over ever larger geographical areas. This is increasing despite the appearance of more dispersed production location and more disintegrated forms of production, in many cases. If the usefulness of large factories is diminishing today, it may be that the division of labor has so expanded as to make the factory an insufficiently large unit to encompass comfortably entire production systems. So another way has to be found. If through organizing a subcontracting network, for example, the local firm maintains control over the circulation of capital, it remains the key node of capital. If capitalists can effectively muster larger territories through merchant network or politics, then they may not require the frontiers of private property known as factories, and a more dispersed form of capitalist production can exist.

Capital has also outgrown the confines of individual industries. One means of this escape was the diversified, multidivisional corporation. Now the buying, selling, assembling and dismantling of sets of companies into giant conglomerates is an everyday occurrence. Did the company miss out on the shift to microelectronics? Then buy into it. Corporate raiders have gone farther, striking fear into the hearts of even the most brazen corporate empire builders by treating megacorporations in the same terms the latter have treated their subsidiaries.

Perhaps, then, we have come to a time when capital is outgrowing the corporation, as presently constituted. This will herald the end of corporate geography more effectively than any of the arguments I have mustered here.

Walker, R., Dept of Geography, University of California, Berkeley, CA 94720, U.S.A.

Footnotes

1 Except Hirschhiat (1958) who argued from short and inequality to long-term regional equalization.
2 Extra-firm linkages and spatial patterns are clearly different for large firms and small firms managed by outside directors. Business services are taken into account (Martinelli, 1986). But this raises further issues which I shall not pursue here. We are speaking of manufacturing locations.
3 The same largely holds for Mayer & och Morgan's schemes, and all industrial restructuring or 'locational adjustments' studies (Leigh and North, 1976; Watts, 1981; Healey, 1984), which are essentially Weberian in implication. That is, while recognizing that industrial change can occur at the firm of industry level as a whole, resulting in alignments among the parts (rather than selective restructuring of single plant level), the precise is still comparative states and size-minimization, as in Weber.
4 Cohesion seems itself a direct follower of Huyer but to date it appears to be more a direct follower of the hierarchical thesis.
5 Consequently, the distant headquarters office is not the role of specialized large industrial firms with dispersed scattered plants (Dicken, 1986, p. 452).
6 Where branch plants are bath of such linkages it can be as much the habit of the local economy - poor performance in local supplies - than strategy of the local company. A good example of this is Toyota's joint-venture auto plant near San Francisco. Military contractors, involved in secrecy and favored-company status, can also be enormously productive of linkages of new firm spin-offs (Morgan and Suitor, 1988).
7 There is a secondary strain of industrial geography that takes the issue of technological innovation and new plants e.g. Tunniss, 1976; Beatons, 1981. Here, again, the corporate firm remains as to be less important than the characteristics of product and process technology that make some activities more vulnerable to spills to new firms and plants (Glaister, 1985; Morgan and Sauer, 1985). These are different fields of study and the relation between potential organization and technological dynamism, but they remain far beyond the branch plant approach (Praetz and Schubel, 1985; Shirt, 1984; Sorra and Walker, 1989; Florios and Kenyon, 1990).
8 Virtually all production activity is carried out in complex divisions of labor which are not confined to a single factory. Every workable is in some sense contributing to a product of a large puzzle, unable to capitalize it without mythical nearby and distant dependencies. Each depends on what the others are doing.
and how will the competence of headquarters, the efficiency of R&D, the thoroughness of inputs, the mix and skill of the average rate of profit. The real question is how the complex production systems made to function will or how they fail. Scarcely, we may ask how this corporation deserves better, aware of the distinctly other forms of organization (see below).

Comparatively oriented with corporate strategy models, given within the same tests. In the former, large factories may be found in the firm's home territory, and are not all relegated to the periphery.

At a Belgian chemical plant I was told of how poor integration between project engineering and manufacturing had resulted in a big money-losing product. Even though the department in question were only a few hundred feet apart, the product had been a major organizational shake-up. At the same factory complex, the marketing director described the "serial" flexibility in acquiring products for complete plants, while production managers complained of malfunctions primarily due to defects that could not be seen.

Hymel (1972) advertises his "Ricochets" model for analogy. For a useful discussion of Marks's views on production and exchange, which nonetheless does not solve the problems raised - see Levy (1940).

On this I part ways with Hodgson (1988, pp. 210 ff.), who is unable to get past a conception of the economic problem in terms of uncertainty - important, to be sure. But not the sort of the matter - and a relay static notion of producing export commodities: his recognition of the need for more this Scott (1988), seems to me, is also stuck in an appropriately this position.

The state is such as it was in 1988, which is not conceived by someone (1992).

The criticisms by Williamson (1988) and Yeung (1986) (Reynolds) of Hymer's relative advantage theory are valid, but do not depend on transactions costs per se, only on passing attempts to pass the "cost advantage" test. As Adam Smith's (1859) p. 207 observes, "The function of the firms is . . . not simply to transact transactions costs, but to provide an institution whose worth, assessed in terms of the sum total of all of them, is greater than if they were transacted in the same way." (1983; Economic Analysis, 62, pp. 772-785.


Brooks, J. (1977; IBM. "The Multinational Regional Geographic. Prentice Université de Montréal."


