Placing Production in Its Theoretical Contexts

2.1. Introduction

The starting point for this chapter is the attempt by geographers in the 1950s and 1960s to try to explain and understand the spatial patterns of the economy, the structure of the space-economy. In so doing, they drew upon the orthodoxies of neoclassical economics. This approach was certainly an advance upon the economic geography of preceding decades, which had been preoccupied (like human geography in general) with description of spatial pattern. Nevertheless, it was based on an incomplete and unsatisfactory conception of the social processes that generated the spatial patterns of economic activities and soon led other geographers to search for more powerful explanations. This led economic geographers to explore Marxian political economy, bringing considerable advances in understanding but equally not without problems of its own. These limitations led to attempts to refine Marxian analysis to produce a more sophisticated historical-geographical materialism and also to the exploration of other, and complementary, theoretical traditions in the social sciences. These are explored in turn in this chapter.

2.2. Setting the Scene: Conceptualizing the Production Process within Capitalism via Some Basic Concepts from Marxian Political Economy

From Locational Analysis to Marxian Political Economy

After a period in which description was the primary focus of geographical scholarship, the 1950s saw a reawakening of interest in explanation and theorization within (among other things) economic geography. The rediscovery of economic location theories in the works of von Thünen, Weber, and Lösch led to a convergence of interests between some economic geographers and emergent regional scientists. This centered on a search for general explanatory statements about the spatial structure of the economy (Chisholm, 1962; Haggert, 1965; Isard, 1956). Refocusing concerns from description of the unique to explanation of more general classes of events and spatial patterns was a very important and radical break. On the other hand, the ways in which explanation was sought soon came to be seen as deeply problematic. At one level, this involved conflating explanation with prediction, that is, predictive accuracy became the measure of explanatory power. At another level, there were profound problems associated with an approach that sought to deduce equilibrium spatial patterns on the basis of restrictive assumptions about the natural environment, human knowledge, and the character of social processes.

The point of raising questions about the lack of realism in these assumptions is not simply to criticize location theories on that score. Rather, it is to emphasize that such assumptions were both a precondition for and a symptom of an impoverished and incomplete view of the social processes of the economy, of the economy understood as social process. Assumptions of static equilibrium deny the fact that economic processes are chronically in a state of dynamic disequilibrium, set on open-ended and unknown trajectories of change rather than inevitably and mechanistically circling around a point of static equilibrium. As such, they neglect the social construction, reproduction, and regulation of markets as institutions. Assumptions of perfect knowledge equally deny the fact that economic decisions are always made in a condition of ignorance. Assumptions of the environment as an isotropic plane ignore the grounding of the economy in nature and the chronically uneven character of economic development. They also reduce the significance of spatial differentiation to variations in transport (and sometimes other production) costs within a prior given space. The net result is that, while such approaches placed questions of explanation firmly back on the agenda of economic geographers, they did so in a way that was based upon unhelpful abstractions. Consequently, these resulted in inadequate theory, which failed to grasp the essential character of the key processes that produced geographies of economies.¹

One response to the perceived problems of location theories was that of behavioral geographers. They developed their critique on the grounds that the behavioral assumptions upon which such theories were based were untenable in an economy that exists in real space and time (Pred, 1967). Behavioral geographers therefore argued the need to investigate what people actually did know, how they came to acquire this knowl-
edge, and what locations they knew about, rather than assuming that they knew everything and about all locations of relevance to a particular type of behavior. Concepts such as “bounded rationality” (Simon, 1959) recognized that people could not in practice know everything while continuing to privilege individual actors and their knowledges. Consequently, behavioral geographers began to conceptualize environmental knowledge in terms of “mental maps” or “cognitive maps” and, drawing on strands of psychology, to seek ways of measuring what people knew (Pocock and Hudson, 1978). Within the context of geographies of production, such approaches focused on the knowledge that key corporate decision makers possessed about alternative locations in an attempt to explain why economic activities were located in some places rather than in others. As a result, they yielded at best a partial and imperfect grasp of the relations between knowledge and production and its spatial organization. Such behavioral approaches typically amounted to little more than descriptive accounts of the locational strategies and behavior of particular firms. Having set out to refine an explanatory approach, behavioral geographers unfortunately slipped into the descriptive trap that neoclassical location theories had set out to escape. As a result, the behavioral approach soon became marginalized. While often interesting in themselves, behavioral studies did little to address the explanatory weaknesses of location theories, but in abandoning them, economic geographers also pushed important questions of agency and action from the research agenda for a decade or so.

The limitations of both location theories and behavioral critiques of them led economic geographers to search for more powerful conceptualizations of the processes that generated geographies of economies. In this, they established closer links with the social sciences. The social sciences themselves were undergoing significant changes in approach, however. Their established orthodoxies were increasingly seen as incapable of explaining the problematic character of capitalist development. As the long postwar boom spluttered to a halt, uneven development became more marked, and it became clear that poverty and inequality were again on the increase and that the limitations of the orthodox nostrums of the social sciences were becoming increasingly visible. Faced with this, the social sciences began to rediscover the Marxian heritage, as well as exploring other heterodox positions. In their search for more powerful explanations, economic geographers also began to engage with these strands of thought and in doing so became more involved in debates with other social scientists. Increasingly, they turned to Marxian political economy as a source of theoretical inspiration (Carney et al., 1977; Damette, 1980; Harvey, 1973, 1982; Läpple and van Hoogstraten, 1980; Smith, 1984). Marxian political economy offered powerful concepts of structure, of the social structural relations that defined particular types of societies (Harvey, 1982; Smith, 1984), and offered a powerful challenge to the spatial fetishism (Carney et al., 1976) of locational analysis and spatial science. In the following sections, therefore, some basic concepts of Marxian political economy are briefly set out, as these are foundational concepts in terms of understanding capitalist production.

Commodity Production, Values, and Modes of Production

In general, production involves transforming elements of the natural world into useful objects through the application of human labor. As production evolved historically, there was a gradual shift toward the creation of a social surplus beyond the needs of the immediate producers. This enabled the transition to systems of production for exchange, which provided crucial preconditions for the subsequent emergence of capitalist relations of production. First, the permanent production of a surplus and the development of a social division of labor provided the necessary economic conditions to allow (but not determine or guarantee) the emergence of social classes. Second, the development of money as a specific commodity to facilitate exchange was critical (Smith, 1984, 35–47) because the use of money as an individualized and exclusionary form of social power is a central feature of capitalism (Harvey, 1996, 236). Third, the transition to production for exchange necessarily involved the alienation of both consumer and producer from the product, and this had considerable significance in relation to the creation of markets and patterns of consumption and to the organization and control of the labor process. Not all production for exchange is capitalist, however. What then is specific about capitalist commodity production that distinguishes it from production in other types of society and from production for exchange in general?

One way to begin to answer this question is to draw upon a quite abstract conception of social and economic structure—the Marxian concept of mode of production. This seeks to catch the essence of particular types of economic organization, characterizing these in terms of specific combinations of forces of production (artifacts, machinery and “hard” technologies, tools—in short, the means of production) and social relations of production. In the capitalist mode of production the key defining social relationship is the class structural one between capital and wage labor. This is a dialectical and necessary relationship because capital and labor are mutually defining; the existence of one presupposes the existence of the other. Capital needs to purchase labor-power in order to set production in motion since living labor is the only source of new value (surplus-value) created in production, while labor needs to sell its labor-power for
a wage in order to survive and reproduce itself. What therefore is specific about the capitalist mode of production and distinguishes it from other forms of economic organization is that it is structured around the wage relation, with labor-power bought and sold in a market like any other commodity. The key point, however, is that labor-power is not like any other commodity—and in that recognition lies the key to understanding much else about the organization of production and geographies of economies (a point developed in the next section).

Commodities simultaneously possess attributes as use values and as exchange values. As materialized human labor, they have qualities that people find useful and, as such, use values. These use value characteristics of commodities reflect the concrete aspects of labor, the fact that labor is private and specific. At the same time, labor within capitalist relations of production is also abstract labor, universal, social, and general insofar as it defines the exchange value of commodities on world markets (Postone, 1996). Abstract labor is “a remarkable thing,” simultaneously a social relationship, a measure of value, a determinant magnitude (socially necessary labor time), causally efficacious and invisible yet real (Castree, 1999, 149). In the capitalist mode of production the exchange value of a commodity is defined as the quantity of socially necessary labor time required to produce it. Abstract labor and socially necessary labor time are therefore central to understanding the rationale of capitalist production, for the driving rationale of a capitalist economy is production for exchange and profitable sale through markets, that is, the production of exchange values. Capitalist production is thus organized with the purpose of sale in markets. Production therefore finds its rationale in, and is socially validated ex-post facto by, market exchange and the successful sale of goods and services. This raises a key question, further discussed in succeeding sections, namely, how do qualitatively different use values become exchanged as quantitatively equivalent exchange values?

**Capitalist Production, Accumulation, and the Circuit of Productive Industrial Capital**

In the exchange sequence C₁→M→C₂ a given amount of money is used to purchase one commodity—for example, a pair of shoes—and the seller of the first commodity then uses that money to buy another and different commodity—say, a radio. Money therefore functions as a medium of exchange, allowing the quantitatively equal exchange of two qualitatively different commodities. Now consider a rather different sequence, M→C→M' in which M' > M. Clearly, in this case money is not simply functioning as a medium of exchange. In fact, in this case money capital is being advanced to make more money, to make profits. This therefore raises a seminial question: where does this profit come from? It cannot, in a systematic and systemic sense, originate in the process of circulation—precisely because the exchange process involves the exchange of equivalents via market transactions carried out between formally free and equal agents. It can only originate, then, in the process of production itself and the way that this is structured within capitalist relations of production—hence Marx’s emphasis on the centrality of this moment in the totality of the production process.12

Rather than being seen as a series a linear exchanges, however, capitalist production can more usefully be thought of as a continuous circuit, encompassing three analytically distinct yet integrally linked circuits: commodity capital, money capital, and productive industrial capital (see Figure 2.1).13 The circuit of productive industrial capital provides key insights to understanding the creation of surplus-value, of profits, and the dynamism of geographies of capitalist production.14 Capitalist production is simultaneously a labor process, producing material use values, and a valorization process, reproducing value and producing surplus value.

The circuit of productive industrial capital requires that capital be first laid out in money form to purchase the necessary means of production (tools, machinery, manufactured inputs, and raw materials)15 and labor-power. Labor-power and the means of production are then brought together in the production process, under the supervision of the owners of capital or their managers and representatives. Two things happen in the moment of production. First, existing use values, in the form of raw materials, machinery, and manufactured components, suitably revalued according to their current cost of production, are transferred to new commodities. Second, surplus-value is created. This augmentation of value is possible precisely because labor-power is the unique commodity, for capital purchases not a fixed quantity of labor but rather the workers’ capacity to work for a given period of time. During this time workers create commodities that embody more value than was contained in the money capital used to purchase their labor time. This difference in value is the surplus-value, the additional new value created in production, which is realized in money form as profits on the successful sale of the commodity, along with existing values transferred in the production process. Thus, the difference between the amount of money capital advanced at the start of the round of production and that realized at the end of it is equivalent to the difference in the value of commodities at the beginning and the end of the round. This is critical in understanding the rationale and dynamism of capitalist production. It also emphasizes that the totality of production involves more than simply the transformation of materials to produce goods or services. It also involves a myriad of other activities associated with transportation, distribution, and sale,16 as well as the final consump-
tion of goods and services and the meanings with which they are endowed, the identities that they help create and form.17

In summary, thinking of production in terms of the circuit of productive industrial capital foregrounds the fact that commodity production and consumption involve the creation and realization of value. Commodity production is therefore inherently geographical in a double sense. First, the material transformation of natural materials is predicated on relationships between people and nature, a social-natural dialectic. Second, commodity production and consumption involve the movement of commodities between various sites of production and consumption as they flow around the circuit of capital, a sociospatial dialectic. In this way, space and places are integral to the biography of commodities. The circuit of productive capital thus involves complex relationships between people, nature, places, and space in processes of value creation and realization.

Conceptualizing production as occurring in rounds, as successive journeys around the circuit of industrial capital, raises further interesting questions. In particular, what happens to the money equivalent of the newly produced surplus-value at the end of one journey around the circuit? This is of critical importance in understanding the processes of competitiveness, economic growth, and capital accumulation, both at the level of the individual firm and of capital in general. Two limit cases can be established. First, it could all be very conspicuously consumed on luxuries by the capitalist class. In this case the next round of production would begin with the advance of the same amount of capital as the previous one. This would define a situation of the simple reproduction of capital. Second, all of it could be used to increase the scale of production in a situation of expanded reproduction. This would correspond to the maximum possible rate of growth for that unit of capital or, if the whole of a capitalist economy were the object of analysis, then of that economy. In practice, expanded reproduction usually involves rather less than this maximum feasible amount of capital being advanced. The temporal fluctuations in this amount help define the cyclical variations of the "business cycle" around a longer-term secular growth trend of expanded accumulation.

The conditions necessary for sustainable expanded reproduction (economically as opposed to ecologically) are interesting and important. They also have different implications depending upon whether the focus is upon an individual company or capitalist production overall (Mattick, 1971). An individual company is subject to contradictory pressures. On the one hand, it wishes to minimize its own input costs. On the other hand, it wishes to maximize its sales and profits. Maximization of the latter depends, however, upon purchases by other companies (seeking to minimize their costs) and final consumers (whose wages may represent a
significant proportion of other firms' costs of production. As such, a capitalist economy is reproduced via contradictory processes; it travels along an uncertain and crisis-prone trajectory. Marx made this abundantly clear in Volume 2 of Capital in setting out the conditions under which smooth long-term growth would be possible. In reality these are impossible conditions to meet, even in an economy conceptualized in very abstract terms as one of Departments 1 and 2 (that is, a two-sector economy, one sector producing the means of production, the other producing consumer goods). This knife-edge movement along a crisis-prone trajectory directs attention to three things: first, to competition between companies as the motor of industrial dynamism (considered more fully in Chapters 5 and 6); second, to the role of the state in managing this crisis-prone trajectory and in ensuring that capitalist production does not collapse under the weight of its internal contradictions (discussed in Chapter 3); and third, to the varied ways in which production is made possible within the confines of the social relations of capitalism (a recurrent theme in what follows).

**Making the Transition to Less Abstract Concepts: From Values to Prices, Modes of Production to Social Formations**

The concept of the capitalist mode of production is a high-level abstraction designed to reveal the essential defining relationship of a capitalist economy and not to describe social reality as experienced by people living in capitalist societies. The concept of social formation moves matters one step nearer to the experienced reality, as it denotes the ways in which capitalist and noncapitalist, class and nonclass, social relationships come together in a particular time-space context. This creates conceptual space for different forms of capitalism, allowing that capitalist relations of production may be socially and culturally constituted in varying ways. Structural conditions and limits defining the parameters of capitalism and of capitalist production and its geographies are not, however, pre-given, “natural,” and a product of unchangeable natural processes but are socially produced by human actions, discursive and material. People are not simply passive “bearers of structures” or, indeed, “bearers of discourse,” but rather pursue their own projects and courses of action within particular institutional arrangements. Such actions have both intended and unintended consequences, however, and so variable relationships to structural reproduction. The ways in which such structural limits are socially (re)produced is therefore a pivotal issue. Consequently, this led to increased attention to the role of the state in capitalist societies in ensuring the reproduction of these relationships. For some, the state nonproblematically met the “needs of capital” so as to ensure societal reproduction. Such State Monopoly Capital formulations (Baran and Sweezy, 1968) were quickly seen to be too simplistic, however. Crisis theories focused upon the problems encountered by capitalist states in seeking to ensure the successful reproduction of crisis-prone capitalist economies and societies (Habermas, 1976; O’Connor, 1973; Offe, 1975a). Another strand of state theory sought to derive the existence of the state in a political sphere, formally separated from the economy, from the fundamental characteristics of the capitalist mode of production (Holloway and Picciotto, 1978). Subsequently, however, seeking to derive a theory of the capitalist state was revealed as a flawed project, and the focus shifted to constructing an historical geographical theory of capitalist states, cast at a somewhat lower level of abstraction.20

Another implication of shifting to a lower level of abstraction is a recognition that the two-class model of capital and labor was developed for particular purposes—specifically, to clarify the core class structural relationships that define the capitalist mode of production and the terrain on which the struggle over the future of that class structure is fought. A more differentiated conception of class is required in seeking to grapple with actual geographies of economies and production, however, one that recognizes the existence of “contradictory locations within class relations, mediated class locations, temporally structured class locations, objectively ambiguous class locations, dualistic class locations.” This suggests “a picture of multiple possible coalitions of greater or lesser likelihood, stability and power contending over a variety of possible futures” (Wright, 1989, 348; see also Wright, 1978, 1985). The analytical consequence of acknowledging this variety is that concepts of class must be specified at appropriate levels of abstraction, given the task at hand. For an investigation of epochal changes in class structure the two-class model might well be ideal, but for investigating finer grained changes in geographies of production, divisions of labor, and class structures within capitalism a more nuanced conception is required. This needs to recognize (among other things) differentiation within the classes of capital (by sector, by branch of production within a sector, and by company within a branch of production) and labor (by industry and occupation, age, ethnicity, gender, and territory). At the level of abstraction of the capitalist mode of production, one can make plausible arguments that there is a certain kind of commonality of material interests, lived experiences, and capacities for collective action that are generated directly by the social relations of production as such. Such a coincidence may occur, but there is no necessary reason as to why it should—and in practice it usually will not.21 Thus, when class is analyzed at a relatively concrete micro level, “there is no longer necessarily a simple coincidence of material interests, lived experience and collective capacity” (Wright, 1989, 295–296). This has implications for individual experiences, collective identities, and collective action.

In seeking to move to a lower level of abstraction in their analyses of
class, contemporary Marxist theorists have been “torn between two theoretical impulses” (Wright, 1989, 269). The first is to keep the concept of class structure as simple as possible and then remedy the resultant explanatory deficiencies by introducing into the analysis a range of other explanatory principles. The second is to increase the complexity of the class structural concept itself. These alternatives “place different bets on how much explanatory work the concept of class structure itself should do.” The first strategy takes a “minimalist” position, seeing class structure as at most shaping broad constraints on action and change. In contrast, the second takes a “maximalist” position, seeing class structure as a potent and systematic determinant of individual action and social development. Neither approach is nonproblematic, however, and there is no reason why they should be mutually exclusive. There may be advantage in seeking both to develop more complex conceptions of class and to acknowledge the relationships of class to other dimensions of social division and identity such as ethnicity and gender. Harvey (1996, 359, original emphasis), for instance, defines class as “situational or positionality in relation to the processes of capital accumulation.” As these processes are often chaotic and disparate, operating at various spatio-temporal scales, individual positionality in relation to them can also be complicated and confused.

Others seek to accept aspects of poststructural critique and respond to it in ways that reformulate the concept of class but do so in deeply problematic ways (Gibson-Graham, 1996, 1997). Gibson-Graham (1997, 149) claims that economic geographers of a Marxist persuasion focus only on landscapes of capitalist class relations, blind to the multiplicity of other possible class relations. In recognition of this “essentialist” view, she argues for an “anti-essentialist” but nonetheless Marxist definition of class as a social process involving the production, appropriation, and distribution of surplus labor “in whatever form” (1997, 91, emphasis added). As a result, for example, the household “is involved not only in capitalist reproduction but in the reproduction of non-capitalist class processes” involving household members so that “[women’s] class struggles often take place in the household” (Gibson-Graham, 1996, 120–122). Gibson-Graham concedes, however, that “to empty class of much of its structural baggage [sic] and prune it down to one rather abstract process concerning labour flows might seem rather reductive.” While rejecting the pejorative concept of “structural baggage,” this is indeed “reductive,” as defining class in this way robs the concept of analytic specificity. She argues that her position allows the conditions of existence of any class process to assume specific importance in the formation of class societies and subjectivities without presuming their presence or role. In her eagerness to deconstruct and complicate Marx’s two-class model, she (no doubt inadvertently) loses sight of its specific analytic purpose and, more damagingly, the specificity of capitalist class relations. This is a clear case of throwing out the baby with the bath water.

Moving to a lower level of abstraction also involves recognizing that the routine performance of the social relationships of production and consumption and the day-to-day conduct and market transactions of a capitalist economy (such as declaring profits or paying wages) are conducted in prices, not values. Economic agents freely enter into market relations mediated by monetary prices. Money thus serves as both a medium of exchange and a measure of value, though one that does not equate to values defined in terms of socially necessary labour time. In much of Capital Marx proceeds for expository purposes as if money prices are perfectly correlated with the amounts of socially necessary labor time embodied in commodities. Given this (heroic) assumption, monetary exchange is equivalent to value exchange. In fact, this never is nor can it be the case, for while money is a representation of socially necessary labor time, money prices are always a slippery and unreliable representation of value (Harvey, 1996, 152). The discrepancies between supply and demand in markets result in commodities being exchanged at prices that diverge from their values. As production conditions diverge from the social and technical averages, the amounts of labor time embodied in commodities deviate from the socially necessary amount that defines the value of a commodity. Commodities thus contain varying amounts of labor time but are sold at the same market price, while money prices typically diverge from exchange values. As a result, there is a redistribution of value between sectors and companies via the processes of competition. This is also important in relation to the systemic dynamism of capitalist economies and their historical geographies of production and uneven development, and to processes of “creative destruction” as firms seek competitive advantage via innovation and revolutionizing the what and how of production.

Marx gave no definitive solutions as to how value and price analyses should be related. Consequently, there has been much subsequent debate as to the “correct” way to connect these two levels of analysis. For some, the issue is how quantitatively to transform values to prices, reflected in the history of the “transformation problem” and more generally the issue of the validity of value analysis (Rankin, 1987; Roberts, 1987; Sheppard and Barnes, 1990; Steedman, 1977). Rather than seeking quantitatively to equate values to prices, a more constructive approach is to recognize the qualitative differences between them and that these are concepts of different theoretical status. Values and prices are indicative of the way in which capitalist social relationships unite a wide range of qualitatively different types of labor in the totality of the production process. Massey
(1995a, 307) trenchantly argues that the law of value is useful for thinking through the broad structures of the economy and for forming the “absolutely essential basis for some central concepts—exploitation for instance.” Thus, value theory describes a specific set of social relationships in which exploitation is a process of extracting surplus labor that can only be understood in the context of the wider social forms constitutive of capitalism as a system of commodity production. Value theory therefore helps elucidate the social relationships specific to capitalism. However, attempts to use it as a basis for empirical economic calculation are misconceived and doomed to failure. Indeed, “the byzantine entanglements into which the ‘law of value’ has fallen make it . . . unusable in any empirical economic calculus” (Massey, 1995a, 307). It is therefore important not to confuse values and prices conceptually or seek to equate empirical data measured in prices with theoretical constructs defined in terms of values. The significance of value analysis lies in the way in which it focuses attention upon class relationships and the social structures that they help to define.

2.3. Varieties of Marxism and the Engagement between Economic Geography and Marxian Political Economy

The Marxian tradition is rich and varied, encompassing a variety of approaches with different emphases and aspirations. As geographers began to discover this tradition, they engaged selectively with its various strands. David Harvey was central to this voyage of discovery. His work and exploration of classical Marxian political economy was seminal in shaping the terms and terrain of engagement between Marxism and geography. Indeed, part of the difficulties encountered in the subsequent engagement between economic geography and Marxian political economy during the 1970s can be traced to issues that followed from this. First, Marxian political economy was more concerned with the temporalities rather than the spatialities of capitalism (though there were important exceptions, such as Mandel, 1963). Second, Harvey was primarily concerned with the relationships between the structural relationships of capital and geographies of capitalism. Harvey retained (and retains) a strong commitment to a scientific geography and to constructing more powerful explanations of the structure of the space economy of capitalism than those offered by neoclassical location theories and spatial science (Harvey, 1973). Paradoxically, the combination of these two features led initially to limited and one-sided considerations of the links between social process and spatial form.

Some sought directly to deduce trends in the organization and geographies of production from the deep inner structural relationships of the capitalist mode of production (Läpple and van Hoogstraten, 1980). Others went even further and sought to deduce forms of political action from the structures of capitalist relations of production (Carney, 1980). Such approaches thus echoed deterministic capital-logic and structuralist approaches that assumed people to be mere “bearers of structures,” with no scope for human agency to alter trajectories of development that were to be revealed by the inexorable unraveling of structural relationships. More sophisticated approaches recognized that structural analyses could define the limits to and constraints upon production organization and its geographies. Harvey (1982) remains the most elegant and thorough analytic statement of such an approach via his reworking of Marx’s historical materialism into an historical-geographical materialism that sets out the necessity for territorially uneven development in relation to the structural limits to capital. Such approaches could not, however, specify how particular industrial trajectories or patterns of spatially uneven development would evolve within these limits, or indeed explain how (as opposed to why) these structural limits were reproduced. For example, while some cities and regions grow and others decline, explaining which grow and which decline is a matter for empirical investigation rather than deduction from immanent structural tendencies. Moreover, structural conditions and limits are not pre-given and natural but are socially produced by human actions, intended and unintended. Consequently, the ways in which such structural limits are socially (re)produced within particular institutional arrangements have become focal issues. These processes of structural (re)production thus need to be problematized rather than taken for granted, especially as capital accumulation is an inherently crisis-prone process. This was recognized within Marxian political economy by the increasing attention given to the role of the state in keeping these crisis tendencies within “acceptable” limits.

However, to begin to understand such issues more fully requires rather different and complementary approaches and levels of theoretical analysis to that of the law of value and the definition of class structural relations within the capitalist mode of production. In some ways, the “Afterword” to Harvey (1982) represents a critical acknowledgment of the limits to analyzing historical geographies of capitalism within such a framework. At the same time, it forms a bridge to other approaches that sought to explore more fully issues of the state and, more particularly, civil society and their links to trajectories of capitalist development and the mechanisms through which such geographies are produced by human action.
2.4. Further Refining the Conception of Production as a Social Process

One implication of recognizing the "limits to capital" is that theoretical concepts of more local relevance need to be developed at a less abstract level than that of the space of the capitalist mode of production as defined via value analysis. Such concepts must perform more limited and modest explanatory ambition and a more restricted domain of applicability. They must be interposed between the more abstract conceptions of value categories and structures and the empirically observable forms of production organization and its geographies. Such concepts focus upon individual and collective behaviors and their links to structures of social relationships within capitalism, recognizing that the latter permit a variety of developmental possibilities and trajectories, and bring the diversity of forms of capitalism and its institutions to center stage. Seeking to link the structural relations of capitalism with uneven development and geographies of economies also requires a more sophisticated and nuanced view of the relationships among society, space, and nature, for these are central to understanding the variety of forms that capitalism can take. These intermediate level concepts thus allow an explanation of how the processes of capital accumulation proceed and of how capitalist social relationships are reproduced in spatial and temporally variable ways in order to make production possible. This in turn implies a greater concern for the meanings that various facets of social life have for people.32

Middle-level theoretical bridges can be built by drawing on concepts from modern social theory (Giddens, 1981, 1984) and from evolutionary and institutional approaches in the social sciences, especially economics and sociology (Hodgson, 1988; Metcalfe, 1998a), as well as from parts of anthropology and cognitive psychology (for example, see Amin, 1998). An evolutionary approach, for example, stresses the path dependent character of development and centers on two themes: how firms behave differently in similar contexts and how firms adapt to environmental change (Metcalfe and Calderini, 1997). Metcalfe (1998b, 2), in arguing against a view of evolutionary economics as grounded in biological analogy, emphasizes the links between evolutionary and institutional approaches and the institutional grounding and guiding of evolutionary market processes. He suggests that "patterns and rates of economic evolution are deeply conditioned by market institutions and the wider context in which these market institutions are embedded." While understanding of capitalist production can be enhanced by exploring the conceptual space between abstract conceptions of structures and empirically observable forms of behavior, understanding of institutional forms can equally be enhanced by relating them to the structural constraints that flow from their being embedded in capitalist forms of production.

This exploration of evolutionary and institutional approaches resonates with a strong theme in the ongoing debate about the emergence of a "new economic geography"—that there is a (re)recognition that the "economic" is culturally and socially grounded and embedded (Crang, 1997; Thrift, 1994b; Thrift and Olds, 1996). What we understand by "the economy" is culturally constituted (Albert, 1993). Thus, economic rationalities are culturally created, take diverse forms, and are territorially embedded, with distinctive geographies (Peet, 1997b). Culture has penetrated the economy with symbolic processes, including an important aesthetic component, permeating both consumption and production (Lash and Urry, 1994, 61). Culture must be seen as a product of social interaction rather than as some pre-given way of seeing the world. If economic practices are culturally embedded, this reflects ongoing and active social processes. It therefore is important to examine the processes by which cultures are actively produced and reproduced by social practices and institutions (Gertler, 1997, 51). As such, culturally embedded economic action should be seen as dependent upon collective understandings that shape economic strategies and goals.33 Cultural embeddedness denotes the role of shared collective understandings in shaping economic strategies and goals, with culture providing scripts for applying different strategies to different classes of exchange (Zukin and di Maggio, 1990, 17).

There is much of value in seeking to problematize the economic in these ways. It is also important to emphasize, strongly, that a lot of what is claimed to be novel actually is not so new. Although the "cultural turn" in economics and economic geography may seem to some to be a radical shift, cultural analysis and an emphasis upon cultural specificity in economic and social relationships has a long history in Marxist political economy and strands of classical sociology. It can be traced back to Marx's analysis of commodity fetishism and reification and Durkheim's comments on the noncontractual elements of contracts (McDowell, 1994, 1997). The "cultural turn" can be seen as opening up conceptual space to recognize and accommodate different types of capitalism and capitalist production. It can also be seen as doing little more than to restate the point made by Marxist analysts in emphasizing that different social formations may exist within the structural limits of a given dominant mode of production or that they are the product of the articulations of different modes of production. Marxist analyses of capitalism precisely challenge competing representations that seek to deny this. Indeed, this is so central to Marxist political economy and its understanding of the historical ge-
Agency, Structures, and Power Relationships

While agency, individual and collective, is important, individuals must be placed in their social context, avoiding both reducing them to mere “bearers of structures” and privileging the methodological individualism of neoclassical economics and behavioral geography. Structure is equally important, but it also has to be recognized that structures are socially (re)produced and that it is an illegitimate move to seek to read off or mechanistically deduce everything, including individual and collective actions and the geographies of economies, from such structures. The aim is to avoid collapsing agency into structure or structure into agency, in the process producing pale shadows of each.

Structures are both enabling and constraining as regards action and agency. As such, they influence human behavior while people reproduce structural limits and constraints via their behavior, albeit often unintentionally. For example, radical communist trade unionists may oppose the class relations of capitalism yet nevertheless help reproduce them via their everyday behavior of going to work, even if at the workplace they seek to disrupt production as a perceived way of furthering the immediate interests of those working there. Marx was very aware of the significance of human agency but insisted that people made their histories (and geographies) in circumstances not of their own choosing. As Anderson (1984, 34) notes, within Marxism there has been a “permanent oscillation” between those emphasizing the structural logic of the mode of production and those emphasizing the collective agency of human subjects as the main motors and explanatory principles of history (and, one might add, geography). A concern for the relationships between structures and agents was revived in geography following the discovery of Giddens’s (1979, 1981, 1984) “theory of structuration.” Structuration emphasizes the reciprocal relations between agency and structures—the “duality of structures.” Giddens lays considerable stress upon individuals as agents but also recognizes institutions and other forms of social collectivities as possessing powers of agency. He offers valuable insights in recognizing that agents are both shaped by and help shape structures, although the way in which he conceptualizes these links is problematic (Gregson, 1986; Thrift, 1996a). While seeking to reconnect agency and structure, Giddens does so in a way that problematizes both. As a result he has been criticized both for weakening the concept of structure and obscuring that of agency. Rather than take the concepts of structures and agents and the links between them seriously, he tends to blur and weaken the distinction.

Others, working from feminist and poststructuralist perspectives, have emphasized the complexity and significance of agency vis-à-vis structure, deepening and transforming the concept of agency through notions of multiple identities. However, this is limited to concern with “the complexity of agency” or “the multiplicity of identity.” As a result, the problem of adequately relating agency and structure remains since rationalized actions create through repetition the systemic logics of economic forms (Peet, 1997b, 37–38). Nonetheless, acknowledging the complexity of agency is important in helping bring recognition of dimensions of identity—and social division—such as ethnicity and gender. This recognition of such nonclass dimensions emphasizes that the economy and processes of production involve more than simply the activities of white males and that this is central to comprehending their respective geographies.

In a further twist to this theme, other scholars claim that the problem of the structure-agency distinction has been abolished by the way that work in certain service occupations has been redefined to make the service or product indistinguishable from the person providing it. McDowell (1997, 121) argues:

Workers with specific social attributes… are disciplined to produce an embodied performance that conforms to idealised notions of the appropriate “service.” In this normalisation, the culture of organisations, in the sense of the explicit and implicit rules of conduct, has become increasingly important in inculcating the desirable embodied attributes of workers, as well as establishing the values and norms of organisational practices…. Here in the coincidence of embeddedness and embodiment the separation of structures from agents is overcome.

Much of what McDowell argues is valuable and helpful. What is problematic is her suggestion that the separation of agents and structures is a problem to be overcome by dissolving the one into the other, based on a weak sense of structure and a strong sense of agency. This circumvents the problem of specifying the ways in which agency and structure are dialectically related in such forms of work and represented in specific ways in certain circumstances to legitimate these new forms of heightened exploitation in the workplace. More positively, however, this emphasis upon embodied work can be seen as indicative of the way in which economic activities—of workers, managers, company directors and so on—are performed; of the economy as performative, constructed through and from these activities and performances (Thrift, 2000).
The concept of agency poses other problems, especially in terms of relationships between individuals and collectivities of various sorts. There are certainly dangers of reifying organizations, suggesting that they have powers independent of the people who constitute organizational activity. Organizational change is animated, resisted, or modified by the actions of organizational members. This again points to the performative character of production and other economic activities. Consequently, organizations must be seen as a terrain on which their members can mobilize. Corporate change therefore is interpreted, sometimes fought over and resisted, both by individuals and by groups of people who may have very different assumptions and agendas about what changes should take place and how they should occur and differential powers to pursue their aims (Halford and Savage, 1997, 110–111). Corporate strategy is often the strategy of an individual adopted collectively via negotiation, persuasion, or coercion (McGrath-Champ, 1999, 341). There is clearly a case, then, for not reifying companies, governments, and other organizations and arguing that organizations per se do not make decisions but that decisions are made by people who are their members. Such a position is reasonable to a point. Arguments to the effect that all that matters are individuals can, however, easily slide from a concern with individual psychology into a reductionist physiological argument that in the final analysis all behavior is to be explained via electrical brain activity. It is, therefore, important to remember that individuals exist as social beings whose patterns of thought and action are conditioned by the social relationships in which they are enmeshed.

There are, therefore, also dangers in ignoring or underestimating the influence of organizations over the behavior of their members. Organizational action is more than simply the sum of the actions of its members. Furthermore, the actions of these individuals cannot be understood outside of the organizational context and culture in which they occur. Firms, governments, and other organizations have a collective memory beyond that of any given individual or group of individuals. As such, organizations can be said to have cultures and histories that both shape and are shaped by the actions and understandings of their members, but the precise forms of these relationships are contingent and indeterminate.

However, this in turn raises the issue of how these relationships in practice hold together to create organizations that successfully reproduce themselves. Actor-network theorists argue that their approach speaks to this question, offering a nondualistic perspective that focuses on how things are “stitched together” across divisions and distinctions. Actor-network theory seeks to connect the social and the material, in contrast to structuration theory, which neglects the material components of both action and structure and is seen by actor-network theorists to be overly dependent upon social interaction. Indeed, “activating networks of actors, and therefore agency, requires the mobilisation of all manner of things...” (Thrift, 1996a, 26). Actor-network theory thus opens up but seeks to bridge a fresh divide between the social and the material while seeking to bridge the divide between action and structure (Bosch and Juska, 1997). Consequently, actor-network theorists investigate the means by which associations come into existence and how the roles and functions of subjects and objects, human and nonhuman, are attributed and stabilized. Moreover, they acknowledge that there are distinct asymmetries in power between actors within networks. Actors organize associations or networks while intermediaries are organized (Murdoch, 1997, 331). However, this distinction between the organizers and the organized is seen as coming at the end of the network construction process, which is shaped by the actors. The same person can, however, be an actor in one network, an intermediate in another. The “radical symmetry” that lies at the heart of actor-network theory thus stems from the belief that power and size are not immutable. Actor-network theorists seek to uncover how associations and networks are built and maintained. Thus, there is much that is attractive in actor-network theorizations.

There are also some major problems, however. Actor-network theory seems strangely indifferent to the differences among and between people and things. As Bassett (1999, 35) puts it, “can non-human entities be actors if they lack goals and intentions?” Despite its name, it in fact has little to say about why agency is exercised in the ways that it is or why structural limits exist in the forms that they do. Furthermore, while recognition of power inequalities is vital, these are seen as only arising within the structure of a given network. In actor-network theory, power is conceptualized as the outcome of the strength of associations between actors within a network; “understanding what sociologists generally call power means describing the ways in which actors are defined, associated and simultaneously obliged to remain faithful to their alliances” (Callon, 1986, 224, cited in Thrift, 1996a, 25). Power in this sense is always—and only—a shared capacity, a relational achievement, internal to the network. Murdoch (1995, 748, emphasis added) puts it like this:

Those who are powerful are not those who “hold” power over others but those who are able to enrol, convince and enlist others into networks on terms which allow the initial actors to “represent” others. . . . The controlling actor grows by borrowing the force of others; it can inflate to a larger size. . . . Power is, therefore, the composition of the network: if it lies anywhere it is the resources used to strengthen the bonds.
There is thus no concept or theory of power outside the network, which raises problems in seeking to deal with the social sources of power and with the ability of some to control the position of others within a network. Indeed, actor-network theory is characterised by a methodological agnosticism and as such slips from detailed descriptions of particular actor networks to quite abstract prescriptive methodological statements about how to analyze networks. It limits its ambition to providing a set of generalized tools for network analysis and eschews more robust “theoretical” prognoses. While helpful in describing relations within networks, it tends to fluctuate between minute description of the particular and rather abstract generalizations about the characteristics of all networks.

In particular, it has little to say about what forms of “stitching together” of networks are more probable than others, why this should be the case, and why those networks that do exist do so in the forms that they do. Indeed, it would seem to assume a priori that every network is unique and qualitatively distinctive. As such there is a danger of becoming obsessed with describing the unique at the expense of more general explanatory claims and statements. Actor-network analysts therefore may simply describe networks of inequality and gloss over the reasons for inequality. In capitalist societies, for instance, agents (human and nonhuman) possess differential capacities to shape relationships. Moreover this differential power is systemically linked to their capacity to accumulate money (capital) and then use this as a source of power to force others to act as subordinate intermediaries. Consequently actor-network theory may ignore the capacity of some actors to deploy the power of others, and in doing so limit their agency, and fail to seek the reasons for this. As a result, Murdoch and colleagues (1998, 15) conclude that it is “probably erroneous” to refer to it as a theory, as it is “somewhat under-theorised and, as a result, problematic as an approach for understanding agency-structure relationships.”

Rediscovering the Significance of Motives, Knowledge, and Learning

Acknowledging that people are active and thinking subjects, but are not endowed with perfect knowledge, led to revived interest in knowledge and learning and uncovering the rationalities and motives that actually underlie and inform behavior. The basis of the behavioral geography critique of neoclassical location theories was recognition that people had imperfect knowledge and varying motivations, but this made little progress beyond descriptive studies of particular cases. More recent research in the cognitive and behavioral sciences emphasizes the ways in which different actor rationalities generate different forms of economic behavior. For example, substantive or scientific rationality leads to rule-bound behavior, procedural rationality favors behavior that seeks to adjust to the constraints imposed by the environment in which people operate, while recursive or reflexive rationality is linked to strategic behavior that seeks to shape that environment (Amin, 1998). The actions of economic actors depend, in part, upon the knowledge (both practical and theoretical) that they have acquired about the economy, how it operates, and about the anticipated effects of their actions. This in turn raises questions as to the ways in which “the economy” is discursively created and understood and the extent to which it is “knowable,” both to such agents and to social scientists seeking to understand their behavior and the stories that they tell about it (Thrift, 1996b).

The rediscovery of the significance of what people actually know has focused attention on the links between knowledge and production, on learning firms and learning regions (Maskell et al., 1998). Learning and knowledge are also foregrounded via the recognition that organizations develop a “collective memory” and their own cultures of production, linked to an acknowledgment of the importance of modes of internal organization, competencies, and capabilities of firms (Foss, 1996; Richardson, 1972). Competencies express what a firm can do, core competencies what it can do more effectively than other firms (Prahalad and Hamal, 1990). Such core competencies and the knowledge and learning processes that underlie them define differences between firms. The development of unique firm-specific capabilities and competencies provides the grounding for corporate competitive strategies based upon dimensions such as quality, product differentiation, and product development rather than simply price and more effective forms of corporate organization. The firm can thus be thought of as an entity seeking to create and sustain competitive advantage via the cumulative development of a distinctive set of organizational (core) competencies (Liedtka, 1999). Such approaches emphasize the centrality of certain types of knowledge and competencies to competitive success and of the economy as dependent upon knowledge, learning (in various ways, such as by doing, by interacting, by imitating, and so on), adaptation, and evolution.

The emphasis upon learning within such approaches reflects the strong links that exist between them and strands of evolutionary economics and a view that economic development trajectories (corporate and territorial) may be strongly path-dependent (Nelson and Winter, 1982). There is no doubt that in one sense all production depends upon knowledge of various sorts; the more interesting questions concern the links between particular sorts of production and particular sorts of knowledge and learning process (Hudson, 1999a). Equally there are important limitations to the ways in which these questions have been framed and an-
swered (Ogdaard and Hudson, 1998). One way to begin to address some of these limitations is to recognize that learning is an interactive process (Lundvall, 1995). The emphasis upon interactive learning directs attention to the way in which production of new knowledge and learning necessarily involves action. The development of firm-specific competencies thus depends not just on knowledge but also the activities through which knowledge is produced and transmitted and more generally upon action by people involved in production. Firm-specific competencies are thus (re)produced through communities of practice within (but also to a degree beyond) the boundaries of the firm (Lave and Wenger, 1990). Within such communities people share tacit knowledge and through dialogue bring this to the surface and exchange ideas—that is, learn—about work practices and experiment with new ideas and practices (Hendry, 1996). Organizations can thus be conceptualized as hybrid groups of multiple and overlapping communities of practice (Brown and Duguid, 1998) in which learning is a matter of new meanings and emergent structures arising from common enterprise, experience, and sociability (Wenger, 1998). In short, communities of practice are grounded in learning-by-interacting.

Institutions, Instituted Behavior, and Social Regulation of the Economy

Conceptualizing the economy as culturally constituted foregrounds the importance of institutions, envisioning the economy as constituted via "instituted" processes.\textsuperscript{40} As institutions are typically place-specific, this also involves taking seriously the territoriality of the economy, the organization of production, and the production of spatial scales. This institutional perspective draws heavily on the legacy of Polanyi and the "old" institutional economists and upon economic sociology (Mulberg, 1995; Rutherford, 1994).\textsuperscript{41} For Polanyi (1957, 243-245) all economic processes are instituted processes. As a result, all economic structures are socially embedded in networks of interpersonal relations and so heavily influenced by the presence or absence of mutuality, cooperation, and trust (Dore, 1983; Granovetter, 1985). Embeddedness thereby denotes the contingent character of economic action with respect to cognition, culture, social structure, and political institutions (Zukin and di Maggio, 1990, 15). Thus, capitalism may be constituted in differing ways, and economic relationships may be grounded in, and dependent upon, a variety of noneconomic ones. "Traded inter-dependencies" may depend upon "untraded inter-dependencies," as relationships based upon particular conceptions of trust assume a critical importance in some types of economic transactions (Storper, 1995, 1997).

Conceptualizing economic processes as embedded in institutions leads, logically and historically, to recognition that the economy is regulated and governed in particular ways. There is a range of institutional forms, from formal institutions such as those of the state to the informal and tacit institutions of norms, habits, and routines, that shape the way in which production takes place and the economy is organized. Such varied institutions cohere to become appropriate institutional formations that provide a degree of stability in the face of uncertainty as well as constraints upon, or templates for, future economic developments (Hodgson, 1988, 1993). This resonates with the notion of the creation of distinctive "worlds of production" associated with particular ways of organizing the production process, a position that draws upon conventions theory (Salais and Storper, 1992). In a way reminiscent of Polanyi's (1957) notion of instituted behavior, Storper (1997) defines conventions as practices, routines, agreements, and their associated informal and institutional forms that bind acts together through coherent and taken-for-granted mutual expectations. Conventions are sometimes manifested as formal institutions and rules, but often are not. As such, most conventions are a kind of halfway house between fully personalized and idiocratical relations and fully depersonalized easy-to-imitate relations (Storper, 1997, 38). Worlds of production are distinctive sets of practices that come together in particular ways as "bundles" or "packages," bound together via the glue of conventions and the mutual expectations and shared ways of understanding that they entail.\textsuperscript{42} In some circumstances conventions can be economically advantageous, in others less so, producing a form of "conventional lock-in" that undermines competitive success. For example, Schoenberger (1994) explains the failure of U.S. companies to adopt particular restructuring strategies in terms of the ways in which managers' own interests and identities, and their sense of the corporation's interests and identities, were embedded in established institutionalized forms of organization. These acted as cognitive filters, effectively locking in companies to established ways of doing things and foreclosing options as to other ways of operating.\textsuperscript{43}

Renewed recognition of the significance of institutions focused attention upon the regulatory role of the state (at the national but also the supranational and subnational scales: Jessop, 1994), but in a rather different way than in earlier Marxist perspectives.\textsuperscript{44} Regulationist approaches seek to explain how the tensions inherent to capitalist production and capital accumulation can be held within tolerable limits as a result of state actions and policies. In particular, they focus upon how state policies can ensure a degree of correspondence between changes in production and consumption.\textsuperscript{45} Beyond that, however, they have also highlighted the significance of mechanisms and institutions in civil society, as governance has increasingly replaced government as the focal point of analytic interest (Goodwin and Painter, 1996; Painter and Goodwin, 1995). Further-
more, different forms of regulatory and governance régimes may result in relations between structures and agents, and between the varying agents in the production process, being stitched together in different ways, taking varying forms as cultures of economies vary. Echoing the strands of the agency-structure debate, Gertler (1997, 57) stresses that the relationship between institutions and practices is "fundamentally dialectical" in nature, with practices having the potential to shape institutions over time. Taken-for-granted ways of thinking and behaving—which may variously be described as informal institutions or as conventions—can be a critical factor in establishing ideas and ways of doing things as unquestioned, unquestionable, and so hegemonic in the Gramscian sense. They may, however, be less a product of timeless cultural traits than of particular regulatory régimes and institutional forms. Gertler (55) suggests that traits and attitudes commonly understood as being part and parcel of inherited cultures of individual firms are produced and reproduced by day-to-day practices that are strongly conditioned by surrounding social institutions and regulatory régimes. Consequently, the very practices taken as signifiers of distinctive cultures are themselves influenced by institutions constituted outside the individual firm.

Reciprocal Relations between the Natural, the Social, and the Spatial

One of the problems of location theories is that they adopt a one-sided conception of relationships between social process and spatial pattern, deducing the latter from (an impoverished conception of) the former. While drawing upon more powerful conceptions of social process, some initial explorations of Marxian political economy in geography fell into the same trap in adopting a one-sided view of the links between spatial pattern and social process (as noted above). There was no recognition that spatial pattern not only could influence the ways in which those processes operate but also could have a formative role in the ways in which they were constituted in the first place. Relationships between the social and the spatial are reciprocal but indeterminate, however. Analysts place different emphases upon the strength and nature of these relationships. For Sayer (1984) they are limited to spatial form influencing how causal powers are realized. For Peck (1996) spatial difference plays a rather more active, though vaguely specified, role in shaping social relationships. For Massey (1995a) and Urry (1985) the character of social processes may itself be shaped by the way that they operate through time and space. Spatial forms are a product of social processes, while those forms in turn shape the ways in which processes are constituted and evolve. These latter stronger views as to the character of social-spatial relationships emphasize that space is socially produced, and so dynamic, rather than being a static container into which social relationships, including those of production, are poured. Indeed, social space is produced by the distanciated stretching of social relationships. Consequently, while the spatial patterning of the economy is an outcome of the social relationships of production, spatially uneven development and the characteristics of specific places help shape the particular form that these relationships take.

One consequence of seeing relationships between the social and spatial as reciprocal is that production, its organization and its geographies, must be viewed as contingent and, as such, contested. Particular forms and geographies of production organization result from struggles between capital and labor, between companies, and between groups of workers, with states implicated in such struggles both via their regulatory role and, on occasion, as participants. Different social classes and groups seek to shape the anatomy of production and the spaces and spatiality of capitalism to further their own interests. While this is a determinate set of struggles, it is not (pre)determined, as agency and structure combine in and through place to generate contingent outcomes. There is a considerable range of concrete socio-spatial practices and strategies through which the social relations of production can be realized and reproduced. Consequently, there is always a variety of potential resultant geographies (Cox, 1997, 183). The strategies of capital are undoubtedly of great significance in shaping the landscapes of capitalism, although the ways that they do so can vary greatly. Due weight must also be given to the significance of firms as organizational entities in the organization of production, rather than the latter being regarded as simply a response to the general requirements of capital. Production is organized by business enterprises operating within extremely complex dynamic networks of internalized and externalized transactional relationships of power and influence (Dicken and Thrift, 1992, 287). While there is considerable force to this argument, national states, trade unions and other labor organizations, and a variety of groups in civil societies may also influence the organization and geographies of production. While companies seek to shape space to meet their requirements for profitable production, other social forces seek to shape space in relation to differing and varying criteria, seeking to stretch other social relationships over space and form it in different ways. Organized labor can influence these landscapes in a variety of ways via its sociospatial practices, for example (Herod, 1995, 1997; Martin et al., 1994; Sadler and Thompson, 1999; Wills, 1998b).

Furthermore, people seek to create and reproduce meaningful places—understood as complex condensations of overlapping social relations in a particular envelope of time-space (Hudson, 1990)—in which to live and learn as well as work (Beynon and Hudson, 1993). The density,
variety, and types of social relations that intersect there help define different types of place (village, town, city, and so on). The way in which place is conceptualized has also been problematized. The work of Massey in the 1970s and 1980s was seminal in convincing geographers of the need to conceptualize relations between social process and spatial forms as reciprocal and mutually constitutive. More recently, she and others have begun to develop more sophisticated conceptualizations of place. Places are seen as possibly discontinuous—open and with permeable boundaries—rather than as necessarily continuous—closed and with impermeable boundaries—although in practice it is unlikely that any place was ever completely closed. Places are seen to be complex, endowed with multiple and contested identities and meanings. As a result there are typically struggles to resolve which of these identities and meanings will or should become dominant. The extent to which places are spatially continuous or discontinuous, have permeable or impermeable boundaries, and have singular or multiple meanings and identities are recognized as issues for empirical investigation rather than a priori assumption (Allen et al., 1998).

In addition to recognizing reciprocal links between the social and the spatial, it is important to take account of relationships between the social and the natural (Smith, 1984). Some comments have already been made on these issues in the context of actor-network theory, but it is worth recalling Williams's (1983, 29) observation that nature is perhaps “the most complex word in the language,” a consequence of the close involvement of people in nature. Paralleling the increased cross-disciplinary recognition given to the significance of spatial difference, relationships between people and their natural environments, the other prime historical concern of geographers, have also come to fore in a variety of other disciplines. Consequently, geography “has been displaced from its self-appointed position as guardian of the inter-disciplinary frontier between the natural and the social sciences” (Bayliss-Smith and Owens, 1994, 139). Yet, in the same way as broader cross-disciplinary concern with the significance of spatial difference enriched understanding of links between society and space, so too has the broadened concern with connections between people and the natural environment enhanced understanding of those natural-social links. Within geography, this has helped rescue concerns for such relationships from “a somewhat disreputable past, tainted with the excesses of environmental determinism” (Bayliss-Smith and Owens, 1994, 113). One consequence of this cross-disciplinary reappraisal of social-natural relationships is that, from one point of view, the natural is seen as socially constructed, and this can set limits upon forms of production organization and geographies.

In addition, however, production is acknowledged as unavoidably materially grounded in the natural world (the natural world is a source of raw materials and a repository for wastes, for example). The laws of thermodynamics, of the conservation of energy and matter, which govern chemical and physical transformations of materials, set definite limits on the production process. These laws also make it clear that production has unavoidable impacts upon nature and the natural world (Jackson, 1995). Production can therefore be thought of as encompassing both socioeconomically and socioecologically instituted processes. The precise ways in which this mediation between nature and society takes place are influenced by technological possibilities and structured by the dominant social relations of production. Relationships between the economy and the environment are thus shaped by the specific requirements of capitalist production for profits. This has myriad implications for the organization and geographies of production as well as, in the final analysis, the sustainability of the production process (M. J. Taylor, 1995). While knowledge of natural processes is itself socially constructed, there are natural limits to production that cannot be overcome.

There is, however, some ambiguity within Marx's views on the relationships between nature and production. At times, he showed an acute awareness of the adverse environmental consequences of production (Merchant, 1983). At other times, he tended to see the labor process as producing only its intended effects in transforming elements of nature into use values, with little recognition of its unintended side effects and by-products (M. O’Connor, 1994b, 57–58). Altvater (1993), however, argues that all of Marx's categories are of a “double-form,” relating to both environmental and social process, although Marxists (Marx included) have routinely neglected the former. Consequently, Delage (1994, 48) has suggested that capitalism ought to be thought of as a doubly exploitative system of production, with a parallel drawn between the hidden mechanisms by which surplus-value is formed and the hidden cost of things purloined from ecological systems. Consequently, he asks, “should the theoretical status of the concept of ecological cost not be ranked on a par with that of surplus-value?” Such issues are explored further in Chapter 9.

2.5. Concluding Comments: A Framework for Understanding Production and the Structure of the Reminder of This Volume

In this chapter several theoretical perspectives have been explored in terms of their utility in helping to understand the organization and geographies of capitalist production. While different perspectives are of varying value in this regard, none of them in and of itself can deal with the full range of issues to be explained. But, while acknowledging multiple possible methodologies and epistemologies, one must conclude that some the-
Theoretical positions have greater explanatory power and value than others (see section 1.4). For example, some are much more powerful in explaining why capitalist production is organized as it is while others have much more to say about how production is made possible and occurs in specific ways, times, and places. Consequently, various theoretical positions are of greater or lesser usefulness, depending upon the character of the issues to be explained and the types of questions to be answered. Understanding production and its geographies therefore requires developing an approach that combines different theoretical positions, taking advantage of their particular strengths while avoiding or at least minimizing their weaknesses.

How then should we think about the organization of production and its geographies within capitalist societies? How does this influence the structure of the remainder of this volume? The argument herein is that production can be analyzed from four interrelated perspectives that weave in and out of succeeding chapters, with greater prominence in some than in others. The first perspective emphasizes the ways in which production and processes related to it are governed and regulated as a necessary condition of their existence. It emphasizes that the conditions under which commodity production take place do not occur naturally. If they are not (re)produced socially, commodity production is impossible. For this reason they underpin the totality of the production process. These issues are discussed at length in Chapter 3. This discussion entails consideration of national (and supra- and subnational) states and of nonstate regulatory and governance mechanisms. It touches upon debates about globalization and the "hollowing out" of national states as well as specific policies relating to production.

The second perspective focuses on the ways in which companies, workers, and communities struggle to organize production and make its organizational models and geographies in ways that reflect their respective (often competing) aims, aspirations, and interests. In this way the social spaces in which economies and societies are constituted are produced as an integral part of the process of commodity production. While companies use space and spatial differentiation as part of their competitive strategies, workers and the residents of places affected by these corporate strategies seek to shape geographies of production to produce landscapes that favor their interests rather than those of capital. This second perspective thus sees production as a contested process, encompassing both competition between companies and between capital and labor.

These concerns are explored in Chapters 4 to 7. Chapter 4 deals with competition and cooperation between capital and labor. It focuses upon the ways in which labor markets are shaped so that labor is bought and sold in particular ways and upon the organization of the labor process once companies purchase labor-power. It thus views production as both a labor process and a value-creating process. There is a long tradition in political economy from Marx to Schumpeter and their respective followers of seeing competition between companies as central to the developmental dynamic of capitalism. Accordingly, Chapters 5 and 6 explore forms of corporate competition and cooperation between companies seeking to produce profitably, considering different dimensions and forms of competition, product, process, and organizational innovations, and the role of knowledge in competition. These chapters also explore markets, hierarchies, and networks as organizational forms and governance mechanisms. While the structural class of capital is divided, so too is that of labor. Thus, Chapter 7 analyzes divisions of labor and competition and cooperation between workers over the number and location of jobs and the terms and conditions of employment. It examines processes of labor market segmentation and divisions among workers along the cleavage planes of industry and occupation, types of jobs, gender, ethnicity, and the location of work, as well as the ways in which these are linked to forms of working class organization and trade union practices. It also considers the relationships between waged and unwaged work, especially in relation to the reproduction of labor-power.

The third perspective addresses the issue of how places are created, reproduced and, on occasion, destroyed as a necessary corollary of commodity production and the restructuring of production. Nonetheless, places have an existence beyond the social relations of capitalist production, grounded in local institutions, cultures, and life beyond the workplace. As such, there is a focus upon producing places in two senses. First, upon the places in which production occurs and the ways in which differences between places are deployed in strategies for and struggles over production. The emphasis thus is upon producing places, upon those diverse places in which goods and services in both commodified and noncommodified forms are produced. Second, there is an emphasis upon producing places, upon the production of places that are meaningful in various ways to people. It thus draws a distinction between capital's one-dimensional concern with profitable production spaces and peoples' concerns with meaningful places in which to live. While these concerns run through the preceding chapters in varying degrees, in Chapter 8 they become the prime focus of attention. Chapter 8 discusses the production of space and places, materially and discursively, recognizing that these are contested processes. It examines the role of the state in seeking to balance competing and contradictory claims. It also considers some aspects of consumption and identity formation related to people's senses of place. It emphasizes that class and other social struggles do not simply take place in and over space but actively shape that very space.
The final perspective centers on the ways in which the process of production is grounded in the natural environment, both drawing resources from it and discharging pollutants into it, and the fact that as a result there are natural limits to production. Put in slightly different terms, it explores how capitalist production is not but might be made sustainable economically, socially, and ecologically. Much of recent economic geography has paid but scant attention to the relationship between production and nature, so Chapter 9 focuses upon production as a process of materials transformation and upon relations between production, people, and the environment. It examines the social process of the transformation of elements of nature into socially useful products, grounded in the natural environment and having unintentional impacts on it (both as a result of production activities per se and through the impacts of consumption). It concludes by raising some normative and political questions about sustainable forms of production.

The final chapter reflects upon what has gone before and is organized around two sets of questions. The first is, What sort of capitalist economy and production system currently is dominant—for example, how accurate are claims that capitalism has become simply a post-industrial service economy? What does it mean to speak of a global economy? Second, how can the regulatory dilemmas posed by capitalist social relationships be tackled and the multiple contradictions of capitalist development kept within tolerable limits?

2.6. Notes

1. It therefore follows that neoclassical accounts, predicated upon assumptions of certainty and static equilibrium, fall at the first hurdle in the theoretical stakes. They manifestly fail to meet the criteria of theoretical "adequacy" as set out in section 1.4. For discussion of the limits of neoclassical and technicist views of the economy based on analogies with the behavior of physical systems, see Barnes (1995).

2. Seeking to finesse the problems of assuming perfect knowledge via assumptions of bounded rationality thus fails adequately to address the problems of the undersocialized conception of the economy that is inherent to neoclassical approaches.

3. In the context of geographies of consumption and studies of consumer behavior, behavioral approaches typically sought to discover the knowledge that consumers possessed about the retailing environment and how they came to acquire such knowledge (Hudson, 1974).

4. Others sought to get around the problems of ignorance about individual knowledge and motives in a very different way. This involved adopting probabilistic macro-scale modeling procedures, which in due course became more rigorously theorized via entropy-maximizing approaches that sought to predict the most probable distribution of activities and behaviors in space, subject to any known constraints (Wilson, 1970). These resulted in some circumstances in more accurate predictive models, but they pushed questions of explanation and understanding of social processes still further down the research agenda.

5. The analogy with the classical Marxian concept of commodity fetishism is deliberate.

6. Consequently, those familiar with the Marxian tradition may wish to pass directly to section 2.4. For those unfamiliar with Marxian ideas who wish to investigate them in more depth than they are presented here, Harvey (1982) remains an unrivaled account, although there is no substitute for Marx's own writings.

7. In a critical realist sense; see section 1.4.

8. That is, the amount of undifferentiated abstract labor needed under average social and technical conditions of production.

9. In contrast—say—self-sufficiency, with each person or household producing all that (s)he or it needs, or to the maximization of physical output per se.

10. As opposed to the sale of some fortuitously produced surplus in an economy essentially devoted to subsistence production.

11. Rather than ex ante by state production planning or some other criterion.

12. See section 1.2.

13. Clearly such circuits have definite geographies, with different locations forming sites of production and exchange, linked by flows of capital in the form of money, commodities, and labor-power. Over time, the spatial reach of such circuits has increased, with the circuits of commodities, money, and productive capital successively becoming internationalized (Palloff, 1975, 1977).

14. Other approaches to understanding commodity production and circulation, such as commodity chain analysis (Gereffi, 1994, 1995), conceptualize flows as linear. In contrast, conceptualizing commodity production in terms of a circuit of value as well as in terms of the physical movement of commodities allows scope for nonlinearities and feedback mechanisms and a more complex and dynamic conceptualization of the total production process (see also Hartwick, 1998; Leslie and Reimer, 1999).

15. The appropriation of raw materials involves a different type of labor process to that of transformative industrial production; see below.

16. Harvey (1985) points out that the determination of socially necessary labor time is contingent upon the speed with which commodities can be distributed through time and across space, which is captured in the concept of "socially necessary turnover time."

17. Clearly a full analysis of the totality of the production process must encompass consumption. Production and consumption are linked rather than wholly separate categories (McDowell, 1994, 160). Companies consume commodities to produce other commodities; people as final consumers purchase commodities in the belief that they will be useful to them, materially and symbolically. Little attention is given here to the symbolic connotations of consumption and links between consumption and identity formation. This does not imply that they
are unimportant, simply that a line had to be drawn somewhere in terms of coverage (see Lee and Wills, 1997; Wrigley and Lowe, 1995).

18. Recognizing this, the concept of sociospatial formation perhaps better captures what is at issue here (cf. Thrift, 1996a).

19. Structuralist readings of Marx saw no scope for individual agency. People had no role beyond passively reproducing structures via their actions (Gregory, 1978). As the focus of attention in the social sciences switched from structures to discourses, it seemed at times as if people now had no role beyond the passive reproduction of discourses. Both significantly play down the role of human agency (see “Agency, Structures, and Power Relationships” in section 2.4).

20. These issues are more fully pursued in Chapter 3.

21. This is precisely the root of difficulties for trade unions seeking to organize workers collectively, issues discussed in Chapters 4 and 7.

22. The limitations of her views on this point are also discussed in section 1.4.

23. See Chapters 5 and 6.

24. It is also worth pointing out that as a consequence there are things that it cannot deal with: for example, many aspects of use values cannot be captured in value categories (see also Chapter 9).

25. I am conscious that this discussion focuses upon Anglo-North American geography. Within the discipline in other countries and cultures, rather different paths were followed (for example, see Carney et al., 1980). Equally, the terms of engagement varied among social science disciplines (Blackburn, 1972).

26. Had the initial point of contact been more with—say—Althusserian Marxism, with its emphasis upon the existence of contradictory structures within capitalism (Althusser, 1977), the subsequent trajectory of development might have been different. But it was not—which emphasizes the significance of human agency and contingency within as well as outside the academy. Subsequently, geographers (including Harvey himself) explored other strands within the Marxist tradition (Castree, 1989; Harvey, 1996).

27. Harvey (1969) was the key text that sought to provide an epistemological underpinning to geography as spatial science. It was also the pivotal moment in Harvey’s turn to Marxism in recognition of the limits to orthodox positivist science.

28. Such approaches bore more than a passing resemblance to the deductive strategies of neoclassically inspired location theorists.

29. For a polemical critique of such positions, see Thompson (1978).

30. This is indicative of the limits to theory in this regard. Theoretical analysis can help define and explain the extent to which varied relationships between social processes and spatial forms are possible but revealing the extent to which they actually materialize is necessarily a question for empirical investigation.

31. See “Institutions, Instituted Behavior, and Social Regulation of the Economy” (section 2.4) and Chapter 3.

32. The production, circulation, and consumption of meanings within a circuit of symbolic exchanges has assumed an unprecedented significance within the contemporary capitalist economy (Thrift, 1994a, 215).

33. More radically, it can be claimed that no purely economic, social, or cultural relations are distinguishable. In contrast, each is already embedded within

the other (Halford and Savage, 1997, 109). This latter claim raises an awkward question, however, for if each is already embedded within the other, it may be difficult to distinguish them from one another—in which case, it is not at all clear what the cultural, economic, and social would denote.

34. He rejects the notion that classes can act as “collective agents,” however. It is certainly possible, but not very helpful, to claim this. While capital and labor may not act for themselves as unified classes (bourgeoisie and working class) in pursuit of common interests, based on a shared understanding of their class interests and class structural position, this is no more than a recognition that the class structures of actually existing capitalist societies are much more complicated than the two-class abstraction that Marx used in unraveling the fundamental inner structural core relationships of capitalism (see section 2.3).

35. These are relatively neglected within historical materialism as a consequence of its insistent concern with the centrality of class relations.

36. Indeed it can be argued that in so doing actor-network theory challenges the established dichotomy of society–nature and seeks to replace this by a new hybrid representations; the more limited issue of links between nature and production are considered in Chapter 9.

37. While all forms of social relations can be defined as actor networks, this still leaves unanswered the question of why some actor networks dominate over others.

38. Analogies with an earlier era in the history of geographical thought spring to mind here as geography sought to throw off its legacy of regional exceptionalism.

39. For example, capital can exert a structural power over labor, while some companies can exercise power over others by virtue of the resources they command (Allen, 1997).

40. Conversely, it explicitly denies the validity of conceptions of the economy and markets as naturally occurring, governed by natural processes.

41. “Old” institutional economics draws on two main strands of thought. One derives from Veblen and sees social norms, habits, and conventions as shaped by technology. The other derives from Commons and sees conventions and norms as the outcome of a struggle. Rather than a coherent set of substantive theories, “old” institutionalism comprises diverse strands of thought united in opposition to neoclassical approaches.

42. While the fourfold typology of ideal-typical worlds of production advanced by Salais and Storper is useful for expository purposes, it fails to capture the nuances of production organization in its practical complexity. Nonetheless, the concept of worlds of production remains a valuable way of thinking about the organization of production.

43. Reciprocal links between human behavior and institutional forms are discussed in “Agency, Structures, and Power Relationships” in section 2.4.

44. There is debate as to the extent to which regulationist positions derive from Marxian ones. For example, see Boyer (1990).

45. See “Capitalist Production, Accumulation, and the Circuit of Productive Industrial Capital” and “Making the Transition to Less Abstract Concepts” (both in section 2.2).