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**Transformation and Emergence:
Systems Logic in Parsons and Marx**

by

Christopher Powell, B.A.

A thesis submitted to
the Faculty of Graduate Studies
in partial fulfillment of
the requirements for the degree of
Master of Arts

Carleton University
Ottawa, Ontario
22 September 1998
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Transformation and Emergence: Systems Logic in Parsons and Marx

submitted by Christopher Powell, B.A.
in partial fulfilment of the requirements for
the degree of Master of Arts

Bruce Curtis, Thesis Supervisor

Chair, Department of Sociology and Anthropology

Carleton University
September 17, 1998

Abstract

This thesis examines the question, how do social systems reproduce themselves? It addresses this question by examining two seminal texts of system theory: Parson's *The Social System*, and Marx's *Capital*, Volume II. My reading of these works extracts working system models and examines the mechanics of system reproduction as described by these models. In particular, I focus on how Marx and Parsons link macro (holistic) and micro (reductionist) levels of explanation, and on problems of emergence that they do or do not resolve. Where system reproduction remains an emergent phenomena, the macro-micro linkage is broken and the attempt to explain system reproduction is unsuccessful. I find that neither Parsons nor Marx succeed in eliminating emergence from their models. As a result, neither theorist satisfactorily explains the persistence and reproduction of social systems. The implications of this failure for system theory generally are explored.

*This thesis, the first fruit of
my most cherished aspirations,
is dedicated to my parents,
Eugenia and Mark Powell,
who have always encouraged me
to pursue my dreams,*

*and to Sonya, Dave, and Sherri
with best wishes as they pursue their own.*

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Chapter 1: Order, Chaos, and the Persistence of Social Systems

If the purpose of history is to give a description of the movement of humanity and of nations, the first question to be asked, which, if not answered, leaves all the rest unintelligible, is the following: What is the power that moves peoples?

- Leo Tolstoy

How do social systems reproduce themselves? This question goes to the heart of the problems facing sociological system theory. It implicitly asks what social systems are and how they can be said to exist. It begs the question of whether systems are entirely the product of human agency, or whether they have a kind of 'agency' of their own that constrains human behavior. And it raises the question of how systems, as macroscopic wholes, relate to the individual persons, or actions, or energies, that form their microscopic parts. By asking how social systems reproduce themselves, I am addressing other core questions of sociological system theory - how system theory is possible, what it can be used for, and what its limitations are.

In the thesis that follows, I present the question of system reproduction to two very different theorists: Talcott Parsons and Karl Marx, each of whom has made fundamental contributions to system theory. In particular, I examine seminal works by each author: *The Social System* by Parsons, and the first two volumes of *Capital* by Marx. Each of these textual sources represents a point of origin for system theory; each provides a different paradigm for attempts to construct rigorous systemic explanations of social life.

In the next few paragraphs, I will introduce some of the themes of my investigation in a fashion that I hope will be accessible to the non-specialist. I intend to indicate the kinds of insights that system theory can potentially bring to the examination of social life, and to delineate some of the problems that make the question of system reproduction so important to system theory. After doing this, I will provide a more detailed explanation of the rationale and purposes of this thesis. I will bring this introduction to a close by providing a brief sketch of the structure of this thesis and a summary statement of its overall conclusions.

Themes and Questions

In the great novel *War and Peace*, Count Leo Tolstoy describes the epic sweep of the historical events pertaining to the War of 1812, and simultaneously attends to the most minute details regarding the individual lives of his principal characters. The book is a lengthy meditation on the relationship between individual agency or 'free will' and the constraining forces of history. At the end of the novel he discusses these concerns explicitly in an essay that begins with the statement: "The subject of history is the life of nations and of mankind. To perceive directly and encompass in words, that is, to describe the life of a single people much less that of mankind, would appear to be impossible." (Tolstoy 1869: 1412) Now that religious conceptions of fate or divine agency have been abandoned, Tolstoy argues, modern theories of history or society resort to using the free will, or agency, of individuals as an explanatory principle. The principle of agency leads historians to explain great events in terms of the will of 'great' individuals. But to Tolstoy, the more one examines the details of any historical situation, the less it appears that so-called 'great men' can really act on their own, and the more it appears that their influence or prominence depend entirely on the particular contexts in which they were embedded. Powerful individuals depend on the relations they have to other persons, and on the existence of particular structures of relations within society in general. 'Great men', in Tolstoy's estimation, merely ride the crests of waves that they themselves do not create. What drives history, then? What causal force produces such monumental events as the French Revolution and the Napoleonic Wars? Tolstoy argues that individuals are enmeshed in social relations not of their own creation, and are dependent upon historical forces of which they are not even conscious. The notion that history is driven by will or agency is false. Instead, Tolstoy proposes that theorists of history must renounce the notion of free will entirely, in order to be able to arrive at knowledge of the laws which govern history.

System theory can be imagined as an attempt to uncover those laws. Or rather, the concept of 'laws' is too restrictive: system theory is aimed at uncovering and analyzing the regularities that

appear in the dynamic processes of human social life, and of assembling these regularities into systemic forms. A system may be thought of as any set of parts that interact in orderly ways. The concept of system can be and has been applied to a diverse range of physical and biological phenomena, from the dynamics of weather and climate to the ecological interactions of plants and animals, from the processes of a single-celled organism to those of the human brain. Systems 'exist' in nature. Their existence is partly a product of the scientists' desire to perceive order in the clutter of a dynamic process, and partly a product of the order that is waiting to be perceived. Within the social universe it is also customary to speak about systems: about 'Ontario's hospital system', about 'the federal system of government', and even to the 'capitalist system' and other somewhat nebulous entities. Social 'systems' are most easily recognized when they are the products of wilful action, i.e. when they are deliberately produced and consciously maintained. A system of rules in a dormitory school, for example, exists because the school administrators knowingly create and enforce it. At higher degrees of scale, however, social systems begin to escape the wilful control of the actors that nominally govern them. This is most apparent when we consider capitalism, one of the largest social systems in existence. Most people participating in capitalist exchange are aware of the basic rules of ownership and exchange that constitute 'the system', but the effects of trade on market prices is not easy to predict or control. Markets, as complex systems, tend to take on a life of their own.

Systems that are made up of regular and orderly components can, surprisingly, generate wildness and chaos; this same chaos can also resolve itself into orderly forms. This dual phenomenon is known as emergence. Emergence occurs when a system produces outcomes, whether orderly or chaotic, that could not be predicted from a knowledge of the initial conditions. For example, even with highly accurate knowledge of all the relevant data, assembled at any given moment, it is impossible to predict the weather reliably very far into the future. Looking at an acorn does not tell one into what shape the tree will grow. In some ecological contexts, perfect knowledge of relevant population data for selected species will not allow one to predict the species' population several years into the future. Emergence remains a mysterious phenomenon even to

natural scientists, who only recently begun to study it in detail.¹ Emergence also implies that if we begin with a system outcome or effect, and trace the sequence of causal relationships that created that effect back to their ultimate cause, we may not find ourselves any more enlightened. This possibility is captured by the proverbial phrase ‘butterfly effect’, which refers to the possibility that a tropical storm in the Caribbean may have its ultimate causal origin in the flapping of a butterfly’s wings on the other side of the planet. Emergence disrupts causal logic in two ways: it makes it impossible to deduce effects from a knowledge of causes, and it means that significant effects can originate in the most trivial of origins. Between order at the highest level of systems and order at the base, chaos intervenes.

This presents a serious challenge to theorists who wish to describe either natural or social phenomena in terms of orderly systems. On the one hand are macro-level phenomena: for example, the formation of a new political party. On the other hand is a multitude of micro-level phenomena that constitute them: all the individual interactions that took place between specific people operating within a given political system to create a new political movement that achieved formal expression as a party. Each level of generality, the macro and the micro, seems to exhibit phenomena of its own and obey rules of its own. The two are linked by a causal sequence: we know that somehow the actions of some, though not all, individual Canadians have combined to create a new national party. We can even follow the specific processes involved up through a finely differentiated ascending sequence of levels of generality: from the brainchild of a disgruntled MP and the discontent of a few thousand voters, to the mobilization of resources, the forming of committees and launching of public campaigns, and so on up to the electoral results granting that party a fixed number of seats in the House of Commons. All this detailed knowledge, however, does not allow us reliably to predict when such initiatives will appear to transform the Canadian scene, or how deep their effects will be, or how long they will last. To make these kinds of judgments, social theorists must rely on a combination of knowledge and intuition, guided by

¹ For a lively account of the development of theories about emergence and about chaos, see James Gleick, 1987.

whatever distilled wisdom existing theories manage to contain. Moving from micro to macro levels of detail or generality can require completely different kinds of explanations, and completely different theories, as the focus of one's analysis narrows or widens.

Given these problems - emergence and macro-micro discontinuity - how is it possible to say that systems exist at all? Perhaps the social universe, the force of history, is governed by pure chance. And yet, orderly macro-level regularities do exist. Social institutions such as the state, the market, the church, the academy, and so on, persist even amidst the swirl and turbulence of day-to-day social interaction. Social structures can outlive the people who inhabit them by centuries. These structures change, sometimes slowly and sometimes in drastic crises, but they possess an essential continuity. The same is true for systems: for the system of markets that is capitalism, the system of nation-states that is the global political arena, and so on. How is this possible? How is it that stable patterns emerge and persist within the turbulence and chaos of social relations? And how is it that these systems take on 'a life of their own'? How do the specific properties of systems as wholes relate back to the properties of their constituent elements? These questions turn on the question of *system reproduction*. If there is an unbridgeable gap between micro and macro, between the behavior of individuals, how do we explain the fact that individual behaviors recreate systems on an ongoing basis? How are systems reproduced, or how do they reproduce themselves?

Research Question and Methodology

This last question - how do social systems reproduce themselves - provides the central investigative focus of my thesis. I explore how this question is answered in key works by two theorists who have each made major contributions to social theory: Karl Marx and Talcott Parsons. In particular, each of these theorists provides a point of origin for one of the two main trajectories in system theory. Talcott Parsons can be considered the first true system theorist in the Functionalist tradition of social theory. The roots of functionalist system theory extend prior to Parsons, and especially to Durkheim's description of the organic nature of social processes.

Parsons, however, stands out as the first functionalist theorist to construct a comprehensive account of social life that explicitly and self-consciously uses the concept of system as its central organizing principle. Marx's status as a system theorist is somewhat more ambiguous, since he does not identify himself as one. Yet his work on capitalism can be read as the description of a system; in fact, *Capital* can hardly be read as anything else. In *Capital*, capitalism appears as an integrated whole that is greater than the sum of its parts. It operates as a set of interrelated and interacting components whose rules and processes constrain the choices of individual participants and consistently, or systematically, create certain social phenomena without the direct intervention of purposive agency. Finally, the system theories of these authors have come into direct debate within the discipline known as 'development theory'. Parsons' work provided the foundation of the Modernization school of development theory, which enjoyed a certain hegemony within the field until the Dependency school, based on Marxian accounts of capitalism, emerged to challenge it in the mid-1960s.

I have chosen to conduct a detailed reading of specific works by these authors, rather than a more general reading of their theories and of the traditions that each has generated. Three main considerations have guided this decision. The first of these is that such an approach allows me to do justice to the complex system-models constructed by each of these authors. *The Social System* and *Capital* (particularly its second volume), stand out among their authors' other works because they describe complete models of social systems, models that link micro-level parts with macro-level wholes and that identify the principles and mechanisms by which those systems survive. I intend to examine not only the broad outlines but the specific mechanics of each author's theories, a task which would not be feasible in the context of a broader reading for a thesis of this length. The second reason for a focused reading is that it enables me to address my thesis question more directly. The question 'how do systems reproduce themselves' addresses phenomena of the whole; I am interested in how each author answers this question in terms of the parts. To judge the success or failure of Parsons' and Marx's respective answers to my question, I need to move my own analysis from micro to macro levels in a detailed and methodical fashion. Finally, my

intention with this analysis is to 'go back to the roots' of system theory. I wish to examine two of the foundational texts of system analysis in the original, as it were, without the diluting influence of a broader interpretive tradition.

Argument

In this thesis I will argue that both authors manage to describe system reproduction, but that neither satisfactorily explains it. I take the position that a satisfactory *explanation* of system reproduction would describe both systems in stasis and systems undergoing change. Although each system model is constructed in terms of dynamic processes, each ultimately portrays a system in some kind of static condition - either equilibrium (Parsons) or perpetual expansion (Marx). Furthermore, a satisfactory explanation would involve an effective macro-micro link, answering reductionist and holistic questions using the same theoretical language. The system models of both Parsons and Marx manage to forge macro-micro links when systems are considered in stasis or equilibrium, but these links dissolve when questions of system transformation are posed. In this regard, Marx comes closer to success than Parsons, because his model incorporates an inevitable tendency towards short-term disequilibrium, and to system disruption in the form of crises of overproduction. Parsons, on the other hand, loses hold of the macro-micro link as soon as disequilibrium and system change are introduced into his model. Moreover, Parsons seems to assign systems some kind of agency when he speaks of their 'functional needs'. This systemic agency must necessarily be an emergent property of systems. However, Marx's own macro-micro linkage admits emergence in the form of class agency, in which new system features are introduced as a conscious product of the self-interested actions of the capitalist class. It is possible that the existence of human agency means that emergence simply cannot be expunged from system models. Even so, system theory remains a powerful tool for understanding social life. Well-developed and comprehensive system models can provide an accurate and relational picture of the present, a map of the social universe. Finally, system logic can potentially be used to articulate social and political ideals and define goals for sociopolitical change.

Summary of Chapters

In the next chapter of this thesis, I examine Parsons' *The Social System* in detail. Parsons is explicitly and self-consciously a system theorist: he attempts to provide a general definition of social systems and to describe the universal, inherent properties of social systems generally. To do this he constructs what is essentially a terminology, a set of concepts and categories that make it possible for sociologists to describe systems and to analyze them. He describes the basic mechanisms of action of which systems are made. According to Parsons, social systems are maintained as long as their specific functional imperatives are met, as long as their constituent elements continue to operate in a well-integrated and harmonious fashion. Systems maintain themselves through mechanisms of socialization, which inculcate systemically defined values and motivations into people within the system, and through mechanisms of social control, which limit and eliminate behaviors that have the potential to disrupt the system.

In the third chapter, I examine the first two volumes of *Capital*. Marx, unlike Parsons, is not interested in systems generally. His project is to describe one particular system: capitalism. Like Parsons, he proposes his own terms and concepts for describing this system and its reproduction. He describes how, under the rules of commodity exchange, capital takes on a life of its own and constantly seeks to valorize itself (increase its own value) by continually re-entering into processes of production. He shows how this is generalized to the capitalist system as a whole, whose reproductive processes always include an element of expansion. He uses this analysis to make deductions about the effects that capitalist production has on social life, and to argue that capitalism creates problems that cannot be solved until the system itself is done away with.

In the fourth chapter, I provide a synopsis of my exposition and arguments up to that point, and then proceed with my final assessment of the success of Parsons' and Marx's attempts to explain system reproduction. I briefly note some of the major points of comparison between the two system-models, but I avoid going into a point-for-point comparison. My reason for this is that

each author defines a different object of study for himself and poses very different theoretical questions; although they are both talking about systems, they address different specific problems. Constructing a comparison between the two in terms of a debate would require going beyond their specific system-models and elaborating on the philosophy of history implicit in each work; this kind of comparison would turn away from my basic question of system reproduction. Instead, I use insights about macro-micro linkage that were developed in my examination of Parsons to assess Marx's own success in constructing such linkages. This allows me to use Marx's concept of class agency to critique Parsons' description of agentless system processes, and in turn to use Parsonian aspirations to pure system theory to critique Marx's use of class agency. The fact that 'agency' continues to be a relevant, and unresolved, factor in each author's system theory indicates that problems of emergence remain for both, and indicate that the macro-micro link is not established. Neither, therefore, has succeeded in overcoming the differences between reductionist and holistic explanations of system reproduction. In my final paragraphs, I provide a few speculations on what this failure implies for system theory in general.

Chapter 2: Talcott Parsons' General Theory of Systems

Introduction

In this chapter, I explore how system reproduction is conceived of in Talcott Parsons' *The Social System*. Parsons' work has had an enormous impact on the way sociology as a discipline has been practiced, especially in the United States and in Canada. From the 1940s through to the early 1960s Parsons exercised a dominating influence on the formation of sociological theory and on the setting of research agendas in American-based sociology. For at least a decade afterwards his work was subjected to relentless criticism, exercising an influence no less profound through the fact that any sociologist wanting to strike a different path had first to justify doing so by demonstrating the inadequacies of Parsonian theory. Although Parsons is rarely, if ever, mentioned in first-year courses in sociology today, functionalism continues to be presented as a major trajectory of sociological thought, and Parsons' structural-functionalism was an important phase in the development of that tradition. Despite the problems and limitations of his project (and these are many) an understanding of Parsons continues to tell us a great deal about the state of sociology today. Parsons' work was also central to the first great paradigm of 'development theory', known as Modernization theory, which continued to inform the policies of First World-Third World relations into the 1970s. Most importantly, he is a pivotal figure in the development of 'system theory' approaches to social analysis, and his later work on 'systems of systems' operating at global scales may even have contributed to Immanuel Wallerstein's attempts at a Marxist 'world system theory'. An understanding of Parsons - of his aspirations, his accomplishments, and his failures - continues to be essential to any contemporary attempt to conceptualize society in terms of systems.

In the course of examining the reproduction of systems, I will attach great importance to the phenomenon of 'emergence'. Emergence occurs when relatively simple, well-understood determinate processes combine to produce complex wholes that cannot be understood reductively. For example, the most sophisticated knowledge of thermodynamics does not allow scientists to

predict weather. Turbulence in a fluid, whether that of smoke rising from a candle or the currents of a river rushing over shallow rapids, cannot be predicted even though scientists possess exact knowledge about the mechanics of elementary particles. Human consciousness cannot be reduced to neurochemistry, and still less to genetics, despite trial-and-error successes with psychoactive drugs in the treatment of mental illness. Emergence presents both a barrier to and an opportunity for theoretical explanation. It is a barrier to conventional scientific explanation, which predicts the behavior of whole systems in terms of their component elements (as in astronomy, for example, where the motions of planets can be predicted for centuries into the future from knowledge of their mass, velocity, and of the forces that govern their motion). It is equally an opportunity, however, because knowing that emergence has occurred means that we have a qualitatively new phenomenon to investigate, one with properties and dynamics unto itself. As I shall explain below, Parsons claims that social phenomena are emergent from their biological and physical origins; this allows sociology to define itself as a complete discipline rather than a sub-specialization of, say, biochemistry. At the same time, Parsons tries to prevent emergence from separating the analysis of, on the one hand, micro-level social interactions between individuals and, on the other, macro-level systemic processes such as institutionalization, social control, and social change. Understanding the macro-micro link that he forges is essential to understanding and assessing his theory of how societies reproduce themselves.

Parsonian theory presents a special challenge for an analysis such as mine. This challenge is that, in one sense, it is so full of holes that it would be easy to get mired down in a perpetual critique that generates no useful information. For example, at a number of points in *The Social System* Parsons introduces completely arbitrary and unsupported categorizations in order to elaborate his system theory. One of these, the division of all human action into the three spheres of personality, culture, and society, is central to his basic theoretical schema, and I interrogate this division in Section I, below. Another of these is his use of five 'pattern variables' to categorize the value-orientations of entire societies. Because these pattern variables are irrelevant to the question of system reproduction, I have chosen not to examine them. However, these and other

categorization schemes occupy a central place in Parsons' theory. They endanger his entire theoretical project, because they are not logically implied by Parsons' fundamental assumptions and he does not provide substantive justifications for using them.¹ Furthermore, at several points in the text Parsons claims that his work is intended not so much to provide a rigorous theory as to provide a template for research. He expects many of his assumptions about social structure and functionality to be rendered obsolete by empirical research. Given these problems, it is a challenge to treat Parsons as having anything more than historical interest, or to find anything in his theory that holds up to critique. In order to rehabilitate Parsons enough to find useful ideas in his work, I have chosen to reconstruct selected aspects of it into something that I call 'the Parsonian model' of social systems.

Parsons builds his theory of society from the ground up, starting with basic assumptions about human action and working towards whole social systems. He does not explicitly construct a *model* of social relations, however. That is, he does not describe structured processes of causal interaction leading upwards from elementary processes to macro systems. Rather, he sets out a series of categorizations, building an interpretive framework that defines potential areas of social-scientific investigation and the relations between those areas. The advantage for Parsons in doing this is that it enables him to attempt to capture the whole field of sociological inquiry within a vocabulary entirely of his own construction; his attempt at 'grand theory' is a totalizing encapsulation of the social scientist's imagination. Virtually anything that a sociologist could want to talk about can be fitted somewhere into the Parsonian framework. The framework is therefore not falsifiable in any simple sense, and leaves us with the choice either to accept or reject it *in toto*. My preferred choice would be to make a *partial* use of his theory - something Parsons himself did

¹ This weakness is at least partly due to Parsons' manner of theorizing rather than to any specific clumsiness on his part. Much of Parsons' theorizing is carried out at the level of a taxonomy. That is, he is concerned with constructing categories that allow scientists to order the observed social world and that provide them a language for talking about observed phenomena. Any taxonomic project is vulnerable to the criticism: why these categories in particular, and not others? My point here is that I wish to avoid getting bogged down in dismantling the Parsonian taxonomy in its entirety; I will only critique it where doing so is specifically relevant to inquiries into the reproduction of social systems.

not intend (Simpson 1963: 1). To do so I shall therefore conduct a systematic (mis)reading of *The Social System* which allows me to describe its theoretical structure in terms of a model of causally related processes: the 'Parsonian model'. This will allow me to assess to what extent the model describes something that exists empirically, whether parts of it are more useful than others, and whether it can be adapted to fit into other theoretical approaches.

I. The Mechanics of a System

When you study an object from a distance, only its principle may be seen.

- Frank Herbert

According to Parsons, the basic unit of analysis is human action, and the grand processes and macrostructures of society are ultimately reducible to actions. In other words, starting with action, the scientist can proceed through an unbroken chain of orderly combinations and arrive at whole societies and even larger structures. The entire theoretical scheme outlined in *The Social System* rests implicitly on the assumption that there are no insurmountable leaps of emergence between lower-order and higher-order units of analysis. In any levels-of-analysis scheme, a very limited form of emergence does apply: institutions, for example, have properties of their own which makes the analysis of institutions as such, without reducing them to their composite status-role relationships, a worthwhile undertaking. At no point, however, does the movement from lower-order to higher-order units of analysis introduce an unmanageable complexity; it would always be possible to speak of institutions in terms of roles, for example, if some specific problem required the social scientist to go into more detail than usual.² If there is no emergence, the analyst can move freely from the particular to the general and back to the particular.

This uninterrupted continuity between the micro and the macro is very important, for several reasons. First, as Alexander and Giesen have identified, the problem of the analytical link between micro-level social interactions and macro-level social structures is one that has never been

² The concepts 'institution' and 'role' will be defined later in this exposition.

satisfactorily resolved by sociologists, and Parsons' work represents one of the most significant attempts to do so (Alexander and Giesen 1987: 21). Aside from this general significance, however, there is a reason within Parsonian theory for the importance of the macro-micro continuity: Parsons clearly states that no such continuity is present between human action and its biogenetic determinants.

It is presumed that the ultimate source of the energy or 'effort' factor of action processes is derived from the organism, and correspondingly that in some sense all gratification and deprivation have an organic significance. But though it is rooted in them the concrete organization of motivation cannot for purposes of action theory be analyzed in terms of the organic needs of the organism. (1951: 4-5)³

Social action is not a 'macro' smoothly reducible to 'micro' biological processes. Parsons makes this point repeatedly throughout *The Social System*, in different ways and with different emphases. Human action is conditioned and constrained by factors from its physical environments and from the individual's genetic and biological characteristics, but it cannot be deduced from even the most complete knowledge of those factors. In fact, according to Parsons, an understanding of genetics or biology is irrelevant to understanding most psychological processes (1951: 8-9). What this means is that the study of human action is established as a *discrete field of inquiry*, separate from and equal to the physical sciences because it is not reducible to any of them.

If action cannot be understood in terms of, say, the biochemistry of the brain and the physics of the environment, then how can it be understood? To answer this, we need to know a little more about action itself. Parsons defines an 'action' as any attempt by a human agent or actor, known as 'ego', to influence the outcome of the situation in which she finds herself. Action can be directed towards three types of objects:

- *physical objects*, which are inert and unresponsive;
- *social objects* such as another individual actor ('alter') or a group of actors (a collectivity); and
- *cultural objects* themselves, i.e. the products of symbolic communication systems, including beliefs and ideals.

³ In this chapter, all citation references indicate works by Parsons, unless otherwise specified.

Action is always undertaken with reference to some motivation or goal, and can be understood in terms of a person's ongoing efforts to attain gratifications and avoid deprivations.⁴ Over time, an individual accumulates experiences, acquires knowledge, and develops a system of expectations regarding the results that various actions will have in various situations. This system of expectations becomes more complex when the object of action is social, i.e. is another actor or a group of actors, because then communication becomes possible and, with it, whole systems of signification, meaning, and culture. Action can therefore be understood as "a function of the relation of the actor to his situation and the history of that relation, in this sense of 'experience'." (1951: 5)

Having defined action, Parsons introduces a further point, or rather set of points, of emergence. Although action is analytically continuous from the micro to the macro levels, any

⁴ Parsons defines action rather briefly in *The Social System*, but going back to *The Structure of Social Action* leads us to a more detailed explanation. In this earlier work (1937: 44-48), action has four principal attributes:

- 1) it involves an agent or actor
- 2) it is purposeful, it is directed to an end
- 3) it is initiated in the context of a "situation" which has multiple possible outcomes and over which the agent has partial control
- 4) it is normative, inasmuch as it involves some notion of which ends or outcomes are more desirable than others.

Four primary implications emerge from this definition:

- 1) an act is always a process in time
- 2) error, or failure, is always possible
- 3) acts are undertaken subjectively by actors (but studied objectively by observers)
- 4) action is not reducible to its physical components

Finally, the action schema can be focused on either concrete objects or analytical objects. Concretely focused action theory examines the concrete ends that action is directed towards - e.g. writing a paper - and the concrete means that it employs - e.g. reference books, pens, paper, etc. Parsons asserts that the concrete focus cannot move beyond mere description. The 'analytical' focus abstracts beyond the concrete elements of a situation to make generalizations about the "functional relations involved in the facts already descriptively arranged" (1937: 49). Moving beyond the concrete is necessary to handle the normative quality of action in a systemic way: what for one actor is a non-normative means or condition may be the product of normatively oriented acts originating elsewhere in the system. Statements about the normativity of a situation or situations are quite different when made with reference to the individual actor or to the system as a whole.

individual action simultaneously operates within three distinct systems, and these are *not* reducible to one another. These three action systems are:

- *personality systems*, in which action conditions and is conditioned by the internally structured needs and motivations of individual actors;
- *cultural systems*, in which action feeds into and is produced by the ongoing exchange of symbolic and linguistic communication, ranging from basic uses of signs and symbolization to higher-order constructs such as art, philosophy, religion, science, etc.; and
- *social systems*, in which action modifies and is constrained by structured processes of social interaction; through these structured interactions, social actors engage in symbolic communication with each other in an effort to achieve goals (fulfill their motivational drives).

Each system interrelates with and interpenetrates the other two: each conditions the others, but none is reducible to the operations of the other two (1951: 6). For example, the structure of social relations in a society cannot be deduced from a combined knowledge of its cultural system and the distribution of personality types within it⁵.

The basic unit for all three systems is not the individual actor, but action itself (1951: 18). In the Parsonian model, human beings are sidelined, treated mainly as a medium through which action processes flow; individuals are biological hardware, a relatively neutral field of analog switches through which the energies of action flow. Systems and sub-systems are present when these energies are organized into relatively regular patterns; at this point we can speak of the

⁵ These three system-types form something of a mystery. Why only three, and why these three? In later work, Parsons adds a fourth, admitting the behavioral organism as a system relevant to social action (1966: 6), but this doesn't clarify the matter. One advantage of the tripartite division is that it neatly allows for three 'sciences of action': psychology, anthropology (defined as the 'study of culture'), and sociology, but if so, then where are the other human sciences, such as economics, or politics? Moreover, why separate symbolic communication as something that is distinct from social relations? Parsons makes good use of this separation, but, like many of his categories, these seem to be chosen because they made intuitive sense to the author, or perhaps because they enabled certain kinds of analysis to be undertaken.

What is their relationship to each other? On the one hand, Parsons insists on their conceptual equality: they are definitely not arranged in any kind of hierarchy (1951: 6,18). In later work, however, he completely revises this, and locates them in a linear order with ascending and descending hierarchies of 'control' and 'conditioning' (1966: 28-29). These developments aside, there are some strange dissimilarities among the three. Cultural systems, unlike personality and social systems, are said to have no functional requirements (1951: 17), although no reason for this is given. Social and personality systems both combine motivational and cultural elements, leaving one to wonder where motivations come from and turning culture into a special case. Moreover, it is

algorithms and subroutines of systemic logics. Now, each of the three action systems interacts with the other two to produce order and regularity. Although none of the systems has conceptual priority and this process of order-production is nondirectional, it is possible to present a linear description of this process, starting with the personality system⁶.

Personalities never exist *a priori* of social interaction; instead, personality systems are constituted through processes of social interaction. At birth, the genetic individual enters the world unformed, possessing only some biologically derived character traits but no 'personality' as such, and is socialized by parents and various significant others from that moment on. The development of even a rudimentary personality is the product of this socialization process, which continues throughout the individual's lifetime and ends only with death (1951: 207). Given the presence of a personality system, therefore, action processes are filtered through the processing matrix of individual sentience (on both its conscious and unconscious levels) and reproduced via mechanisms of need-disposition and goal-oriented motivation. Action in, action out, and in between are the internal structures of personality. The most elementary unit of this structure is the 'need-disposition', which is produced by an individual's immediate reactions to a situation (1951: 7). When the individual becomes conscious of time⁷, and is able to formulate projections of future contingencies, then need-dispositions are translated into motivations. Motivations define desirable goals and spur the individual towards goal-directed behavior.

easy to understand social systems as an intersection of personality and cultural systems, but it is not so easy to read, say, cultural systems as the product of personality needs and social relations.

⁶ Although I speak of 'the personality system', 'the cultural system', and 'the social system' throughout this text, this language is potentially misleading; a more proper usage would refer to pluralities, i.e. to 'personality systems', etc. All three kinds of system occur in concrete contexts, as the product of specific relations among actual persons. There is therefore one personality system for every human individual, and many different social and cultural systems operate within the species as a whole. My use of 'the personality system' etc. is only a convenience for talking about the properties of these systems *qua* systems, as theoretically defined constructs.

⁷ Parsons is assuming a linear/sequential consciousness of time (1951: 8) in order to demonstrate that goal-directed action is a universal and fundamental element of human social action. He does not consider the possibility that social and cultural variation might produce alternative ways of conceiving of time. Such variation could in turn produce variations in the fundamental structures of action, at least as far as action is conceived of as experienced by the actor herself.

Parsons introduces a further three-part division into psychological systems, between cathectic, cognitive, and evaluative processes. Processes of *cathexis* react to gratification and pain, and define what goals or objectives are desirable in and of themselves. *Cognitive* processes are concerned with the mechanics of achieving positive cathexis, and with calculating the most successful means to ends. *Evaluative* processes are directed towards ‘overall system integration’: they provide a basis for deciding among multiple cognitively derived means and multiple cathectically desirable ends⁸. Action therefore follows a kind of circuit through the personality system, being input as social experience and being output as behavior. Every individual carries their own personality system, and in a reductive sense social systems are composed entirely of the interacting circuits of individual personalities. This situation gives rise to the problem of ‘mutual contingency’.

If I, as a sentient being, were alone in a universe filled entirely with natural objects, then my actions would be only a function of two factors: (i) my own internal, biologically derived motivations and cognitions and (ii) the structure of that natural environment. For example, rocks, plants, and (for the sake of argument) animals are not significantly capable of altering their own responses to my actions, based on experience of what I have done in the past or expectations about what I will do in the future. However, the objects of my action also include *other social actors* who are capable of communicating with me and of accumulating experiential knowledge on their own. This introduces a new order of complexity into my behavior. If you have or control something I want, I need to know how you will react to various possible actions I could take; likewise, if I am capable of impinging on your life in any way, then you need to guess at my likely actions and to know how I will react to what you do. However, we are both capable of creatively modifying our responses to each other; therefore, when dealing with each other we each face a perpetual unknown that is not resolved by experience. Parsons labels this ‘the problem of mutual contingency’ (or double contingency) (1951: 10-11).

⁸ Parsons will use this same three-part scheme, which resembles the Platonic division between Passion, Intellect, and Reason, to describe social systems.

Mutual contingency issues are resolved in different ways by social and cultural systems. At the cultural level, action coalesces around shared systems of meaning. That is, multiple Ego-Alter pairs⁹ cooperate to form a shared symbolic system which enables meaningful communication. Language represents the most elementary, and most essential, resolution of the mutual contingency dilemma, enabling social actors to exchange information about the purposes of their own acts and about the impact that others' acts have on themselves. Using language, social actors construct higher-order meaning-products, such as shared aesthetic standards (e.g. arts), shared systems of knowledge (e.g. science), shared metaphysical beliefs (e.g. religion), and so on. Knowledge of the meaning-systems of other actors gives Ego an indispensable field map for negotiating social situations; without shared meaning, the social world is alien, unknown, and potentially hostile. The most important meaning-products with respect to social life are systems of *value*. Values allow for the selection among alternatives in any given situation: cathectic values define the 'propriety of desire', providing a mutually understood standard for the good life; cognitive values define the criteria by which truth and falsehood are judged; and evaluative values define the relative priority of various claims on a group's energy and resources. All three kinds of value may come into play whenever Ego needs to get something from any Alter or group of Alters. Stable systems of value provide a reference point for decision-making that is based outside the expedencies of any particular situation or any particular Ego-Alter pair; they prevent social actors from having to reinvent the wheel every time they interact. As such, they provide a fundamental algorithm or switching mechanism governing the flows of action through social systems.

Within social systems, the mutual contingency problem is framed in terms of expectations and sanctions. Ego expects that if he takes action x , Alter will respond with action y ; his expectation is therefore a codified causal relationship of $x \rightarrow y$. Alter's actual response, $x \rightarrow y'$, is Ego's sanction for engaging in action x . Mutual contingency operates because Alter's own

⁹ Parsons describes social action in terms of multiple dyadic relations between 'Ego' and various 'Alters'. Ego, in his usage, refers to the individual used as point of reference. For 'Ego and Alter' we could substitute 'self and other', or 'me and you', or 'Jack and Jill'. Hence, 'Ego' is not to be confused with the 'ego' component of the ...

behavior is based on her expectations concerning Ego's potential sanctions towards her. To resolve the mutual contingency problem, action in social systems must stabilize around sustained patterns of interaction. Parsons labels these interactive patterns *status-roles*, and they serve as the next step up in complexity within the social system from action itself. Individual actors are really bundles of status-roles, so that the following hierarchy of complexity or 'chunking' applies (1951: 26):

4. collectivity (top)
3. actor
2. status-role
1. action (bottom)

So far in my discussion, social norms for behavior are still differentiated from the personal motivations of individuals; actors are playing their roles 'cynically', out of convenience. It is possible, however, for actors to internalize the normative standards that society applies to them, so that obeying a set of socially defined norms becomes an end in itself. When this happens, the expectation/sanction structures codified in status-roles become so well integrated with people's internal motivational structures that fulfilling personal needs and achieving positive social sanctions become identical. In this (very Platonic) fusion of civic duty and personal pleasure, the governing principle of social life has moved from expediency to introjection.

Complete integration of roles with motivations, that is the full 'institutionalization' of the normative structure, is not practically possible; some degree of difference inevitably remains. The same is true of institutionalization's polar opposite, anomie or 'the complete breakdown of normative order' (1951: 39)¹⁰. Nonetheless, the researcher can locate social systems at relative points along a spectrum between the two, i.e. to say that one system shows more

psyche in Freudian theory.

¹⁰ In an earlier work, Parsons asserts that all action is normative, and that normativity consists of 'a sentiment attributable to one or more actors that something is an end in itself ... (1) for the members of a collectivity, (2) for some portion of the members of a collectivity, or (3) for the collectivity as a unit.' (1937: 75). Parsons does not seem to consider the case of interaction between members of different collectivities who operate according to completely alien social and cultural systems. In such a situation, each actor would attempt to apply their own normative standards to the other, but until communication could be established it would not be possible to speak of any shared norms between the two groups.

institutionalization than another, or than itself at some point in the past or future. Where a complex of status-roles has achieved a relatively high degree of institutionalization, this complex may be said to comprise an *institution*. Institutions represent a second, more abstract way to chunk up from status-roles, giving rise to a new hierarchy:

- 3. institution (top)
- 2. status-role
- 1. action (bottom)

A collectivity is a specific set of concrete roles, occupied by particular individuals. For example, any particular nuclear family exists as a collectivity. An institution, on the other hand, is a more general complex of roles; for example, the 'nuclear family', patriarchal marriage, and matrilocal parenthood are all related institutions (in 1950s American society). Any institution always has many concrete participants; i.e. many actual 'families' participate in the general institution of family. Similarly, concrete individuals participate simultaneously in many institutions, such as 'the family', the Church, the state, and so forth. The process of institutionalization and the formation of institutions pave the way for still higher degrees of system integration. As common value-standards and stable role-expectations emerge, conformity with those standards becomes a matter of fulfilling social obligations - both to specific others, and to the system itself. The sharing of common values therefore leads to the shared experience of discharging commonly held social obligations. This shared experience reinforces notions of collective identity, and of responsibility towards the collective. Collective values are internalized in the personality systems of individuals, thereby reconstituting the personalities of members of the collectivity. As a result, those members come to identify with the collectivity as a whole, to consider its needs to be their own. Collective identification forms the essential basis of social solidarity and the formation of complete social systems:

This integration of a set of common value patterns with the internalized need-disposition structure of the constituent personalities is the core phenomenon of the dynamics of social systems. That the stability of any social system except the most evanescent interaction process is dependent on a degree¹¹ of such integration may

¹¹ Parsons does not specify precisely what degree of integration is necessary for system stability. In fact, this question has a fundamentally political aspect and gives rise to many provocative questions. For example, what ...

be said to be the fundamental dynamic theorem of sociology. It is the major point of reference for all analysis which may claim to be a dynamic analysis of social process. (1951: 42)

At this point, having worked up from action and the microsociology of value-formation to a point which foreshadows complete social systems, we are introduced to the Parsonian preoccupation with order, to the need for system integration, and to the key heuristic in his research scheme - functionality.

Through the process of institutionalization, the three action systems of personality, culture, and society are integrated with one another. In the Parsonian model, a healthy level of system integration is functionally necessary; all three systems must operate within a tolerable degree of harmony with one another, or system breakdowns will start to occur. Total integration of the three systems is an (unreachable) theoretical limiting point; too little integration, however, spells trouble. For example, if a society's role-structures and institutions are in conflict with its culturally defined values or with the motivation-systems of individual personalities, then one or all of these systems will experience disturbances: people will start to behave in socially deviant ways, or their cultural values will become contradictory and less communally agreed upon, or they will experience psychological distress/illness, or all of the above. In order for any one action system to function effectively, it needs to be relatively integrated with the other two. Any social system, therefore, is engaged in a reciprocal functional relationship with personality systems and with cultural systems, which Parsons labels the 'functional prerequisites' of the social system (1951: 28-29). Logically, there are four functional prerequisites. First, the social system must meet a minimum proportion of the needs of individual actors, including basic biological life-needs and minimal socialization requirements. It does not need to meet all of the needs of all of its

level of dissent can a system tolerate and remain functional? How politically, socially, and culturally heterogeneous can a society become and remain a society? What degree of conformity is necessary for the survival of social institutions? Parsons does not investigate these questions. I suspect, however, that they have no single answer - that some social arrangements demand high levels of conformity while others permit greater heterogeneity. As a result, social-scientific arguments over the functional needs of system integration remain bound up in political arguments over the kind of society we desire to live in.

members¹², and the system as a whole may even sometimes impose injury on its members (as during wartime), but it must meet enough of their needs enough of the time for its population to reproduce itself. Second, it must motivate individual actors to participate functionally in society. This prerequisite has two aspects: the negative problem of controlling disruptive behavior, which Parsons calls the 'motivational problem of order': and the positive problem of securing adequate active participation in the system's institutions and role-structures, which we might refer to as the 'motivational problem of conformity'.¹³ This positive problem of motivation is an important one for sociologists: active, conformist participation in social systems is not entirely 'spontaneous', but is reinforced by mechanisms of social control and socialization. The study of these mechanisms is therefore an important part of the sociologist's mission.

A similar pair of functional prerequisites applies with respect to the cultural system (1951: 33-35). First, the social system must provide the minimum conditions for the production, maintenance, and development of cultural systems. These minimal conditions include a society's networks of communication, its processes for teaching language to new members and of passing on its culture through socialization mechanisms, and so forth. Second, society must elicit adequate cultural resources for its own maintenance. These include values, as discussed above, and also instrumental knowledge, such as science and technology, along with religious beliefs, artistic products, and other higher-order symbolic constructions. These four functional prerequisites represent continual lines of strain between the three systems, like a set of mechanisms connected by springs. Each system pursues its own dynamics and its own logics, but as any two systems become too incompatible, more and more energy is consumed by minimal system-tasks. If the de-integration of two systems goes too far, the link between them breaks and the systems cease to contribute to each others' functionality.

¹² Although the base unit of a social system is action, not individuals, a system 'contains' all the actors whose actions contribute to it. For reasons which I shall explore below, Parsons does not consider the possibility that actors may participate in, and hence 'belong to', more than one social system.

¹³ This is my term, not Parsons', supplied for the sake of symmetry.

The concept of functionality is a complex one and deserves some further analysis here. My discussion so far treats functionality as a kind of absolute exigency: systems *must* function, or else they break down. For example, the values of a society cannot drastically conflict with the motivational structures in the personalities of the members of that society, or else people will cease to participate. What is appealing about a concept like functionality is that it can provide a way of investigating the relatively inalterable exigencies to which social relations are subject. But between the poles of absolute determinism, in which social dynamics are inflexible and not subject to change through the operation of agency, and absolute constructivism, in which social arrangements could potentially assume any imaginable configuration, I would prefer to find some happy medium. In this medium, social relations are open to being reconstructed by agents, but this process of reconstruction always depends on the meeting of certain conditions, and is always subject to certain limits. To use Parsons' language, for example, I might say that it is possible to dispense with racism, or hierarchy, or even the capitalist economy, but that for a society to do so it must find some other way to address the functional exigencies which those structures had addressed. This is a purely technical use of the word 'functional', referring to the underlying forces that determine the conditions according to which a given system is able to go on functioning.

Parsons adopts what he calls a structural-functionalist approach to social research, which enables him to make powerful heuristic assumptions. The 'structural' assumption I will discuss in more detail later in this chapter: simply put, Parsons assumes that society is structured and he provides a theoretical map of that structure that is intended to serve as a program of research. More importantly for my present discussion, Parsons assumes that elements in a social system exist in functional (or, potentially, dysfunctional) relationships to the system as a whole, either with regards to internal integration - the coordinated functioning of its various elements - or to its external integration vis-à-vis one or both of the other two action systems. This assumption proceeds from the observation that social systems, to exist, must be within tolerable limits of internal and external integration. The first question facing a researcher who investigates a

particular phenomenon, then, is how that phenomenon operates with respect to the functional needs of the whole system. It is reasonable to assume in most instances that a given status-role structure or institution must be contributing in some way to the overall maintenance of the social system in which it is embedded. Where dysfunctionality occurs, the immediate question is why the dysfunctional phenomenon continues to persist, and what kinds of adaptive mechanisms the system has developed to compensate for it. Parsons proposes that the significance of social phenomena can be tested along the lines of functionality:

The test is to ask the question, what would be the differential consequences for the system of two or more alternative outcomes of a dynamic process? Such consequences will be found to fit into the terms of maintenance of stability or production of change, of integration or disruption of the system in some sense. (1951: 22)

The functionalist perspective is heuristically powerful because it gives researchers an organizing framework in which to situate their work. It is problematic, however, because an understanding of the functional needs of social systems presupposes a notion about what exactly a social system is, in the sense of what its shape, boundaries, and dynamic properties are, and this is exactly what the researcher does not know and is trying to discover. Parsons resolves this problem by supplying a particular definition of a system as a theoretical reference point: the notion of self-sufficient, boundary-maintaining systems.

I have so far discussed the three action systems (personality, culture, society) as if they were separate and interacting entities. This is how Parsons discusses them, but I would like to point out an implication of his theory which he seems not to have explored. All three systems are built up from the same base unit - action. But there cannot be different actions for different systems. Any one action occurs simultaneously as a symbolic communication in some cultural system, as a goal-driven expression of some personality system, and as a status-role behavior in some social system. The three systems are therefore built from the *same actions*. They are therefore not separable in space or time. Rather, each 'system' is produced by different observer perspectives on the same phenomenon, in the way that looking into the semitransparent structure of a crystal latticework from different angles will reveal different structural patterns. The different

structures observed are as much a product of the observer's perceptual reference points as they are of the thing being looked at. To talk about action flowing into and out of systems, as I have done above, or about the interaction between systems, as Parsons does consistently, is not strictly accurate. Any concrete action is always simultaneously located in all three action systems. In this sense, then, it is not really possible for the three action systems to become de-integrated with respect to one another, or for strains and tensions to exist between them. Saying so would be a bit like saying that strain exists between the forces of gravity and thermodynamics that wrestle with the wing of an airplane. The strain is felt only in the wing itself, which bends and buckles under the weight of the fuselage. Or rather, the 'strain' is really a manifestation of our own normative conception of what a wing is supposed to be. The molecules in the wing, the energies of the air and of gravity, these do not feel any strain at all: they do what they do, obeying without hesitation the system logics of gravity, thermodynamics, and electromagnetic force; and if the wing tears right off the fuselage causing the plane to crash, we say that there has been a 'system breakdown' when really there has been no system breakdown at all, but only a radical change in structural form. In the same way, if we do not have any fixed idea about what a social system is *supposed to be*, then systems cannot disintegrate or breakdown, although they can expand or contract, remain stable or mutate, fragment or coalesce, according to the dynamic imperatives of functional exigency. In this framework, systems do not have needs, only properties. We would not say that a social system *needs* to be integrated with the values and motivations of the actors in it; instead we would say that if values and motivations are integrated, then *x* will happen, and if not, then *y* will happen. This is a completely naturalistic approach to social systems and to the notion of functionality, and one in which the 'test of functionality' takes on a very specific meaning. This is emphatically not what Parsons intends, unfortunately. If Parsons had been willing to let go of any fixed ideas about what social systems are supposed to be, of an attachment to systems-as-order, he might have been able to focus on truly universal processes and constraints present in social dynamics of change as well as stability. A broader approach to social systems would focus on systems in any state, whether that state involves the turbulence and flux of social change or the

relative stasis of established social 'order', and would look for the order and chaos present in both states. Instead, however, Parsons uses the account of systems that has been built up so far to situate a particular kind of system as the ultimate reference point for system theory. It is to this particular definition that I now turn.

Up until this point, I have used the term 'system' to refer to any set of interacting dynamic processes through which action is structured. I have conspicuously not produced any specific definition of what the holistic properties of a system are - for example, whether it is open or closed, bounded or unbounded, etc. Without such a definition, there is not really any question as to whether systems exist; action presumably has some kind of order to it, and the researcher's question is, 'what does that order look like?'. In order to make his functionalist perspective work, however, Parsons makes some very definite statements about what a system is. A 'social system' in the true sense of the term is *self-sufficient*: its internal processes provide all that it needs for its own maintenance and reproduction. This kind of complete system is called a 'society'; any non-self-sufficient set of relations is called a 'partial system'. Self-sufficiency may involve taking in resources from outside the system, as long as its internally ordered processes are sufficient unto themselves:

It is not essential to the concept of a society that it should not be in any way empirically interdependent with other societies, but only that it should contain all the structural and functional fundamentals of an independently subsisting system. (1951: 19).

Furthermore, whole systems or societies are bounded and are *boundary-maintaining* (1951: 36). Their internal elements are integrated and operate in a stable dynamic equilibrium, which can include orderly processes of change as well as static processes. Furthermore, the system maintains its own distinctiveness relative to its environment, and maintains clear boundaries defining its 'inside' and 'outside'. When Parsons speaks of social systems, therefore, and of their functional needs, it is with reference to this particular vision of what a system really is.

To summarize the discussion of this section: action provides the base unit of systems analysis. Actions directed at social objects can be said to build up into three kinds of action systems: personalities, cultures, and societies. In personality systems, the most important basic

unit above the level of action is the need-disposition or motivation. In cultural systems, actions are interpreted as symbolic communication; for sociologists, the most relevant symbolic product is the value. The exigencies of the mutual contingency problem lead to the creation of shared systems of value and, within the social realm, shared normative expectations regarding behavior. Within social systems, actions combine into status-roles; where values are sufficiently internalized by actors, status-role complexes form institutions. Institutions in turn enable the formation of societies, that is, self-sufficient and boundary maintaining social systems.

This interpretation of the basic Parsonian framework therefore sketches a model of a particular kind of social system, instead of (as Parsons himself seems to have intended) attempting to outline a universal categorical scheme. The advantage of my model-based approach is that it enables us to ask certain important questions about the Parsonian theoretical schema by relating it to a hypothetical concrete entity which it describes. For example, do Parsonian social systems, in the sense outlined above, actually exist? How well does this model describe the various phenomena which we might like to explain? Is social life, in any instance, really organized into closed, boundary-maintaining and self-sufficient sets of institutionalized role-complexes that integrate personal motivations with social values? Furthermore, is such a system desirable? Parsons places great emphasis on the need for systems to maintain order, and treats system breakdown as an undesirable thing. But aren't there some systems that we would like to see break down? What is 'functional' for a system might not necessarily be functional or desirable for human beings; slave states and despotisms might be self-sufficient and boundary-maintaining, but that does not make it rational for individuals to identify their own welfare with the welfare of these entities. This normative question is an important one, and Parsons' strategic silences and occasional remarks regarding normative questions are interesting. That is to say, Parsons extensively discusses the role that normativity plays within social systems, but he is very coy regarding normative judgments *about* social systems. These questions will be pursued again later in this chapter, but for now I would like to raise a more immediate concern.

The formation of cultural and social order hinges on the double contingency problem, on the impossibility of coordinated social action without minimally shared systems of meaning and normativity. The problem with using this concept as an explanation for social systems is that it is almost, but not quite, tautological to do so. Systems cannot exist without some resolution of the mutual contingency problem. Therefore if we find a system, we know that it has resolved the problem somehow. But unless an awareness of mutual contingency, and a desire to engage in systematized social relationships, is actually present in people's minds, then mutual contingency itself doesn't explain either how systems come to be or how they perpetuate themselves over time. Parsons' response to the accusation of tautology is not clear, but he does explicitly address the problem of how systems are reproduced, and it is to this explanation that I now turn.

II. The Mechanisms of System Reproduction

Only do not contend, and you will not go wrong.

- Lao-Tzu

It is an axiom of the Parsonian model of social systems that systems which reach an equilibrium tend to remain in that equilibrium (1951: 204-5, 251). In addition to being closed, boundary-maintaining, integrated, and self-sufficient, Parsonian systems are also *homeostatic*. The equilibria which are maintained in systems can be static or dynamic, i.e. they can involve unchanging arrangements of complementary roles or they can incorporate orderly and controlled processes of change. In either case, however, systems tend towards the maintenance of established states, in which the reactions of social actors to each others' behavior tends simultaneously to satisfy each other's needs and reinforce each other's commitment to social norms. Although Parsons does not provide reasons for his axiomatic assumption of homeostasis, it follows on his conception of institutionalization, in which personal desires and social values¹⁴ have become so well integrated that achieving the former and obeying the latter are identical.

¹⁴ A terminological note: throughout the following discussion, I use the term 'social values' instead of Parsons' ...

Based on the axiom of homeostasis, therefore, Parsons proposes a First Law of Social Processes: the *tendency to maintenance*. In the absence of any disruptive force, no special mechanisms are required for the maintenance or reproduction of integrated social systems.

There are two sources of disequilibrating forces or 'tendencies towards non-maintenance'. When an actor first enters a social system, usually upon birth but also by immigration or some equivalent, she is in a state of ignorance regarding the values and norms of that system. Her personal system of need-orientations is not yet integrated with the functional requirements of the social system, providing the first source of tendency towards non-maintenance. This tendency is resolved through mechanisms of socialization. The second source of tendencies towards non-maintenance comes from a fully socialized actor who, for whatever reason, makes a break with the system and engages in deviant behavior. The potentially disequilibrating effects of deviance are curtailed through mechanisms of social control. I shall now discuss each of these two kinds of mechanisms in turn.

Socialization

The socialization of any human individual begins at birth, and continues throughout the lifetime. Humans enter the world without any personality, values, or social behaviors, and without any universal predisposition to particular values or norms: there is no one human normal value-orientation pattern (1951: 227). Everything social about humans has to be learned, and this learning takes place through social interaction. Although the personality constitutes a system that is distinct from the social and cultural systems in which it is enmeshed, it is nevertheless constituted through processes of social interaction and of value-acquisition. The newborn human individual possesses a bundle of genetically determined predispositions and capacities, and hence does not arrive in the world quite as a 'tabula rasa'. Infants do, however, possess three qualities that make them highly susceptible to social learning:

own more cumbersome term 'value-orientation patterns'.

- *plasticity* - an exceptional capacity for learning in general and for 'being molded';
- *sensitivity* - a high capacity for forming social attachments with significant others; and
- *dependency* - a condition of helplessness and need to rely on others for the most basic gratifications of food, warmth, and protection. (1951: 215)

The presence of these conditions means that infancy and early childhood are the site of the most important socialization processes. It is during infancy that the most stable elements of personality structure are constructed. These elements are termed the 'basic personality structure' (1951: 207-208).

I will now summarize the process through which the basic personality structure is constituted. As mentioned above, the human infant enters the world possessing the qualities of plasticity, sensitivity, and dependency. Of these, dependency provides the most crucial lever for socialization: the infant is forced to adapt itself to the demands of its significant others, in order to obtain gratifications and avoid deprivations or punishments. This infant, and later the child, has seven basic mechanisms for learning about the world around her: discrimination, generalization, reinforcement-extinction, inhibition, substitution, imitation, and identification (1951: 209-213). The first two are cognitive mechanisms: discrimination allows Ego to break down the perceived world into discrete objects, and generalization allows her to group those objects into classes with common attributes. In particular, generalization is essential to developing emotional or gratificational attachments to abstract categories and cultural objects, and hence to the development of the group solidarity that is necessary for the functioning of social systems. The next three mechanisms are cathectic-evaluative in nature, and do not necessarily involve social objects: reinforcement-extinction is the simplest 'pain and pleasure' learning of behaviors, in which actions are reinforced or discouraged according to the results they produce; through inhibition, Ego learns to refrain from taking a motivated action even though an immediate pain-threat is not present; substitution involves Ego learning to transfer her emotional/gratificational cathexis from one object to another, i.e. to accept a new source of pleasure (say, verbal praise) at the expense of an old

(e.g. food or cuddling¹⁵). Finally, imitation and identification involve cathectic-evaluative learning through interaction with social objects. Through imitation, Ego learns specific items of culture: language, behavior-patterns, instrumental knowledge, symbolic systems, and so on. The most important learning mechanism from the perspective of reproducing social values is identification. Through identification, Ego internalizes the values of an Alter, based on her own affective attachment to that Alter.

Consequently, if we think of socialization as an interactive process between Ego and Alter in which Ego is the child and Alter the parent, Alter has three basic types of socializing mechanisms available to him.¹⁶ Alter has the power to hand out rewards and punishments, thereby influencing Ego's internal processes of reinforcement-extinction, inhibition, and substitution. Alter serves as a model for imitation and a source of instruction, teaching Ego what she needs to know about the essentials of social life. Finally, and most importantly, Alter may provide an object of identification, so that Alter's own social values are absorbed and internalized by Ego. Through this process, parents and other socializing agents (e.g. teachers, etc.) reproduce their own values in the child. Furthermore, because the socializers are themselves the product of socialization in the context of the social system itself (and so on iteratively backwards), the basic personality structure acquired through socialization is largely a function of the role structure and dominant values of a system.

¹⁵ These examples are my own, not Parsons'. He chiefly discusses inhibition and substitution in the context of a Freudian theory of the development of sexuality which, while interesting, is not worth going into here.

¹⁶ Parsons assumes that the primary caregiver will be the mother and that the father will play a secondary, though vital, role in socialization. In general, his vision of family life is rigidly patriarchal: childcare is the domain of mothers and employment in the market economy is the domain of fathers; mothers are associated with cathectic/expressive values, and fathers with cognitive/instrumental values. Parsons outlines reasons why this division of labour tends to obtain in 'primitive' societies (the physical helplessness of pregnancy; the necessity of breast-feeding, (1951: 155), and he explains why the family as an institution persists despite concerted attempts to undermine it (1951: 156-157) but he does not explain why the family in modern societies needs to be patriarchally ordered. His assertion that there is no one humanly normal value-pattern, as well as his original statements that the patterns of social systems are not reducible to physical or biological causes, indicate that his framework is not easily compatible with a biological essentialism that would posit the patriarchal family form as existentially necessary. As a result, I see no need to reproduce his patriarchal assumptions in the *technical* framework of his theory of socialization.

This is the first half of a partial answer to my thesis question: how do social systems reproduce themselves? In the Parsonian model, systems reproduce themselves on a generation-by-generation basis because social actors, who are themselves integrated into the system, socialize and hence integrate new generations of actors. At a micro level, parents reproduce themselves, but because their own identities and values are integrated into the system, then they are at the same time reproducing the system itself. This is analogous to the way in which the human body functions: in most of the body's organs, every organic cell dies and is reproduced sometime in a seven-year span, so that no cell in the body (with some exceptions) is ever older than seven years. The organism continues to function, despite the diversity of its cells, because each used cell is reproduced identically. In a similar way, the reproduction of individuals through family processes also reproduces societies.

Socialization does not literally reproduce the parent, however: children mature to become very different individuals from their parents and may occupy different locations in the social structure. The basic personality structure laid down in childhood contains only the most general elements of the system: its overall value-structure, a receptiveness to its peculiar role-structures and the demands it makes on collective solidarity. While each society has its own basic personality structure, actual personalities differ widely among individuals (1951: 228). Each individual is genetically unique in terms of her talents, limitations, temperament, and so forth. Individual children enter into somewhat different structured role-relationships with peers, teachers, other adults, and their own parents. Finally, parents themselves have their own idiosyncrasies. The personality is a system of its own, separate from and not reducible to the social system. Furthermore, the basic personality structure laid down in childhood is highly general, is mostly developed in a kinship/family context, and consequently does not prepare the individual for the details of specific adult social roles. It is a long way from the general valuation of rationality to particular social role of biochemist.

To counteract the variability of individual personality, therefore, and to carry individuals from the generality of the basic personality structure to the specificity of concrete role-behaviors, a

second phase of socialization is necessary: the 'situational specification of role-orientations' (1951: 238). As the individual moves from the family home to primary school, to secondary school and beyond (to use a North American example), she is progressively distanced from childish conditions of dependency and plasticity and is instructed in the essentials of adult roles - worker, citizen, parent, and so forth. An important part of this process is Ego's identification with significant others from outside the family. Through this identification, Ego absorbs and internalizes the values necessary for her to perform various roles successfully, from friend to voter to mechanical engineer. The internalization of role-associated values is essential for the social system to remain integrated with motivational systems, so that Ego fulfills her duties as an accountant, for example, not just out of instrumental necessity but out of professional pride. Through the situational specification of role-orientation, specific role-structures and general institutions maintain their essential continuity despite turnover in actual participants. Business enterprises, for example, continually receive new members without any major disruption in their activities; likewise, an institution such as 'the family' remains the same even though specific nuclear family units are constantly forming and dissolving¹⁷.

Along with the formation of the basic personality structure and the situational specification of role-orientations, one final mechanism is essential to the socialization process: the acquisition of 'situationally generalized goals'. The function of situationally generalized goals is to ensure that many different motivational drives can be brought to bear on a select few goals which are of particular importance to the system. Individual action is after all produced by psychological motivation. In order to ensure that system goals are met, therefore, the various idiosyncratic motivation systems of individuals must all be 'wired up' to the same goal. Parsons gives the example of the 'profit motive' in American society (1951: 243). The profit motive, as a situationally generalized goal, is not bound to any particular personality type. Neither is it an

¹⁷ This description does not assume that institutions remain unchanged as a result of successful socialization, but only that they possess a continuous identity. For example, 'the family' of today's Canada is a continuation, as an institution, of 'the family' of a century ago, although with the increase in divorce and the changing predominance of two-income households its specific dynamics have changed considerably.

innately human instinct or drive, and as a social form it is specific to only a few social systems. It represents a particular way of channeling the forces that are generated by the general quest for advantage, the pursuit of pleasure and avoidance of deprivation, which is itself a universal human motivation. The historical emergence of the profit motive is preceded by a number of other developments: the differentiation of economically productive activity into a specialized division of labour; the breakdown of diffuse solidarity as a bond between economically related actors; and especially the development of money as a medium of exchange. In societies where the profit motive is prevalent, money has become both a means to desirable ends and an end in itself, both a form of reward and a source of power. Within the modern industrial division of labour, motivation to seek monetary profit can come from several sources: from purely personal opportunism; from the requirements of an institutionalized role, such as that of the artisan or professional who sells a product, or of a business man or merchant who trades for gain; and from membership in a collectivity. In this latter case, the relevant collectivity can be a profit-oriented enterprise, such as a corporation of which Ego is a high-ranking employee, or it can be oriented towards ends other than profit, such as a church or a community organization which has some spiritual or social good as its purpose. In this instance, 'fundraising' is still ostensibly a profit-seeking activity which is necessary if the organization is to continue to function. In the case of both profit and non-profit collectivities, the individual's pursuit of profit is based on the securing of a collective gain rather than a personal one. In all these cases, the common denominator is not human nature, or even the individual's motivation, but the structuring of the situation of action. A range of motivations is funneled into a common channel; the universal pursuit of advantage is structured to create a relatively unique social form. As a situationally generalized goal, therefore, the profit motive is a secondary product of the socialization process.

These secondary products are essential to maintaining the integrity of the system after the primary childhood socialization process has ended. The demands of changing roles over the course of the adult's life cycle require that socialization be lifelong. In addition, social change creates its own socialization demands, as individuals are required to adapt to the changing values

and behavioral norms of a dynamic society. Mechanisms of socialization prevent the system from being disrupted when specific actors move from one role into another. They serve as the primary vehicle through which individual roles, generalized role-structures, and whole social systems are passed on to new actors or sets of actors. Socialization is therefore one half of the process of the reproduction of systems. Despite socialization, however, actors routinely deviate from socially defined norms; necessary task of containing this deviance is performed by various mechanisms of social control. I now turn to a discussion of the origins of deviance and the operation of social control mechanisms.

Deviance and Social Control

Social systems are founded on a *complementarity of expectations* among actors, and hence on common behavioral norms (1951: 249). This complementarity of expectations resolves the dilemma of mutual contingency; behavior that somehow deviates from common norms resurrects this dilemma and threatens the stability of social systems. Systems that survive have managed to develop a complex of re-equilibrating forces, which Parsons labels the 'mechanisms of social control', that limit the spread and impact of deviance. The complementary concepts of deviance and social control both have two aspects; they operate within the personality system of individuals and in the interactive system of societies. From the individual perspective, deviance is a 'motivated tendency to behavior' that contravenes institutionalized norms; from a system perspective, it is behavior that disrupts the equilibrium of the system. In both cases, deviance is a relative concept: it is defined in terms of some existing *status quo* of socially institutionalized norms. The two perspectives (social and psychological) are different ways of looking at an identical process: because the institutionalization of norms is the basis of system stability, and because all social processes are interactive, it follows logically that the violation of norms by Ego reinstates the mutual contingency problem for Alter and is disruptive for the social system. As with socialization processes, Parsons describes the mechanism of social control in terms of an interaction between

social and motivational systems.¹⁸ Both the genesis of deviance and the means by which it is resolved are located in a vortex where the motivational processes of Ego's psyche are intertwined with the processes of social interaction which are structured by the social system.

I will now describe the first of these two phenomena: the genesis of social deviance. As with all social action, deviance is necessarily motivated. The origins of this motivation are social: human beings are not possessed of any innate propensity to deviance. Instead, we tend to seek out stable orders and resolutions of the mutual contingency dilemma. As I mentioned when discussing socialization, the persistence of equilibria is a fundamental axiom of action theory (1951: 251). These equilibria are maintained at the individual level by mutual cathectic attachments between Ego/Alter pairs, in which expectations are complementary, values are internalized, and the attitudes that social actors have towards each other function as sanctions in themselves without the

¹⁸ The distinction between social and personality systems should not be mistaken here for an instance of the macro/micro distinction. Rather, the distinction is between the operations of the personality system in which an individual's need-dispositions, motivations, and goals are shaped, and operations of the social system in which the individual enacts or refuses to enact various status-roles, and either reproduces or disrupts the institutionalization of various norms.

The attentive reader may have noticed that in the preceding discussion of socialization, the social-systemic process of socialization is explained mainly in terms of the passing on of values, which properly speaking are a cultural-systemic phenomenon. Similarly, in his discussion of social control Parsons moves fluidly back and forth between motivations, which are a personality-system phenomenon, and various social-system phenomena such as roles, institutions, etc. Although this may indicate the interdependence and interpenetration of the three systems in any action process, a less charitable reading begs the question of whether and why the three systems are separate at all. If psychological, cultural, and social processes are made up of the same material and mesh so seamlessly where vital questions of system-reproduction are concerned, then how independent can they really be? Parsons' argument for their separation was that they are irreducible to each other; surely, however, the principle of irreducibility can be used to take his three-part subdivision further. Economics, for example, is not reducible to politics, or vice versa, and each combines aspects of motivation, value, and role-orientation. Are the 'three systems' really systems at all or merely convenient, and ultimately *ad hoc*, categories? This thread of interrogation will resurface towards the end of this chapter, where I will engage in overall criticism of the Parsonian model.

This question is quite serious because it has implications for how major projects of social analysis will be framed. If, for example, I accept the 'three systems' model, then presumably political systems and economic systems either: a) do not exist, and politics or economics are merely 'synthetic' sciences, or b) exist as *subsystems* of one of the 'big three', most likely of the social system. In the latter case, we would have to assume that the boundaries of economic systems must necessarily be coterminous with the boundaries of social systems. If we accept the nation-state as a unit 'society', then our analysis is locked into the boundaries of statist theory, and provides no way to analyze transnational processes. This makes it impossible to analyze global systems. (Note: Parsons did revise his position somewhat in his later work (1966), in which he discusses 'systems of systems'.)

immediate need for material reinforcement. Actors who are integrated with the social system tend therefore to engage in positive feedback loops, reinforcing each other's commitment to the system. The motivation towards deviance can originate at any moment in which the system, for whatever reason, somehow fails to meet Ego's expectations. Seeking to achieve any given goal,¹⁹ Ego is unsuccessful even though she has conformed to the norms of the situation, and hence ought to have been successful. This failure constitutes a violation of Ego's own internalized norms. This in turn introduces strain into Ego's motivational system and requires adjustment on her part. Ego has three simple ways of making this adjustment:

- 1) by restructuring her own needs, repressing or inhibiting her desire for the object;
- 2) by seeking a different object for the same purpose (transferring her cathexis); and
- 3) by renouncing or redefining the relevant values, hence deciding that the goal 'wasn't important anyway'.

In any of these three cases, Ego may over time learn 'what went wrong' and re-establish equilibrium with the system; conversely, the relevant Alter may change his behavior and give Ego what she wants, also restoring equilibrium. It is also possible, however, that Ego may never really resolve the situation and may harbor an ambivalent, conflicted attitude. In terms of Ego's own motivations, this conflict is between impulses towards alienation and towards conformity. For Ego to go on functioning, she has to repress one or the other of these impulses. If she represses the alienative side, she is committed to 'compulsive compliance' with social norms - compulsive because of the element of repression involved. If she represses her conformative impulses, she engages in 'compulsive alienation'. In the first case she tends towards rigid or fanatical overcompliance with norms; in the latter, she tends to break away from them. In either case, her actions have become deviant²⁰.

¹⁹ The goal in this case can be anything, whether a material good or some symbolic good (such as approval or esteem); Parsons focuses on the latter case in his description.

²⁰ Parsons also implies that a symmetrical process is possible where Ego fails to receive a punishment or penalty where it is normatively required, especially in his discussion of 'partners in crime' (1951: 274) and of the mutually reinforcing nature of deviant sub-collectivities (1951: 286). Although Ego might be subjectively pleased by 'getting away with murder' so to speak, I suggest that the Parsonian model is more coherent if we

This description begs the question, what is the source of Ego's initial frustration? One possibility is that Alter, in failing to fulfill Ego's expectations, may himself have been behaving in a deviant manner - for example, by overcomplying and applying too-high standards of performance. In this case, Ego could get into a 'vicious circle' with Alter, making more strident demands which land on increasingly deaf ears, and ultimately being forced into some kind of compulsive overperformance or into an alienative break with the situation. Still, this does not explain where Alter's deviance came from in the first place. Parsons does not consider random variations in behavior to provide a major source of motivations to deviance. If a society's norms were perfectly institutionalized, then compliance with norms would always be the best way to achieve personal goals. Social systems are never perfectly institutionalized, however. They always contain areas of normative uncertainty where the line between deviance and conformity is unclear. Given the fact that systems necessarily develop over time, it is possible to imagine that even well-integrated systems could have 'pockets' or niches of activity where no clear institutionalized norms have been established²¹. Furthermore, Parsons observes that system dynamics can create situations where more than one normative standard applies. In these cases, the applicability of norms is questionable, creating a relatively unstructured and confused situation where an individual's personal desires can swing the balance (1951: 272).

The problem of ambiguous or contradictory normative standards becomes most severe when it crystallizes into *role conflict*. Role conflict is said to occur when an individual is exposed to conflicting sets of legitimated role-expectations (1951: 280). All social actors engage in multiple roles (breadwinner, parent, 'good citizen', etc.), the demands of which often directly contradict each other. Social systems typically structure roles to minimize the conflict between them by designating separate times and places for the enactment of separate roles, and by establishing

treat such a non-penalty as constituting as much a 'frustration' as a non-reward. Hence Ego, noticing the absence of a normatively required penalty, repeatedly tests the system; meeting with repeated failure to obtain negative sanctions, she is faced with the same options as if she were faced with failure to obtain expected rewards, although her subjective experience of the process might have quite a different flavor.

²¹ Parsons does not specify this point, but it follows from his general action theory.

hierarchies of precedence regarding the demands of multiple roles. The delicate balance of this allocative ordering can be upset, however, either by some problem with the system's distribution of rewards and penalties, so that Ego does not receive the proper response to her actions; or by deviance by Ego himself; or by larger conflicts between social groups which force Ego into a situation of conflicting loyalties. For example, one can imagine the situation of a worker involved in the Winnipeg General Strike²². A downturn in the economy may place Ego's role as family breadwinner into conflict with his role as obedient employee; his loyalty to fellow-workers may exacerbate this situation. In such a situation, Ego finds it difficult to maintain his personal equilibrium. He will likely slide into either overcompliance or deviance, becoming stolidly anti-strike or joining the picketers. Role conflict places especially severe strains on the individual because he must deal with competing sets of completely institutionalized norms. Systematic role conflict can therefore produce systematic deviance. As such, it is one of the principle sources of social change. It is also one of the principal threats to the stability of social system, and the need to limit role conflict is one of the core functional needs of any social system (1951: 282).

Before discussing the mechanisms of social control, I will briefly sketch out how deviance plays itself out at larger scales. First of all, deviance by one actor tends to disrupt systemic equilibrium and encourage deviance by other actors. In a perfect system, Alter's reactions to deviant behavior by Ego should encourage Ego's return to conformity. In every Ego-Alter pair, Alter provides Ego with positive and negative sanctions whenever they interact. At the same time, however, Alter is also social actor himself for whom Ego's (deviant) actions operate as positive and negative sanctions. By being deviant, Ego is failing to reinforce Alter's conformity. As Ego deviates from the social norms that apply to the particular situation in which Ego and Alter find themselves, the mutual contingency dilemma resurfaces. Alter has two options. He can choose to

²² I have deliberately chosen an example of an illegal, and hence non-institutionalized, worker action. Where a legal union exists and the option of a strike vote is present, Ego may experience similar role-conflicts and internal stresses, but the result is not as likely to be deviance, since striking has now become institutionalized behavior. The case of a worker deciding whether to cross a legal picket line, where anti-scab legislation does not exist, provides an example of a situation where two institutionalized but contradictory normative standards apply to the same situation.

adapt himself to Ego's behavior, which resolves the dilemma in that situation but also joins Ego in deviance. Alternatively, he can intensify his conflict with Ego, trying to bring Ego 'back into line'. In either situation, Ego tends to find herself in a negative feedback loop wherein Alter's reactions only reinforce her own deviance (1951: 272-4). Furthermore, as Ego goes further down the path of deviance, she develops an emotional investment in that deviance, which Parsons labels *secondary gain*. Ego comes to expect that conformity will only result in deprivation, and eventually becomes motivationally unable to abandon her deviant ways.

Ego's deviance can be purely individual, as in cases of petty crime or personal rebellion, or else it can be linked to the activities of a deviant sub-collectivity, such as a criminal gang, teen sub-culture, or political sect. Group members can reinforce each other's deviance and also help shoulder aside the effects of social sanctions which their deviance prompts. There is a special attraction for participating in a deviant group: by obeying its norms, Ego can be both compliant and deviant at the same time and thereby satisfy both the conformative and alienative sides of his motivational ambivalence²³ (1951: 286). Deviance that spreads through the formation and growth of sub-collectivities is therefore harder to contain than individual deviance. In some situations, deviance can extend beyond the 'ghetto' of sub-collectivities and indicate the presence of indeterminacy and conflict within the system as a whole (1951: 291). This can happen where normative patterns are indefinite, or where conflicting patterns have emerged out of response to particular functional necessities. In the latter case, competing normative patterns tend to shade into each other and are connected by 'bridges' of common value-orientation. This provides opportunities for deviant groups to legitimate themselves, creating sub-systems of legitimation that are only partially deviant. Groups that employ this tactic become very difficult to discourage. Alternatively, a deviant group can spurn such connections entirely and rely on the defensive morale

²³ This can be asking a lot of these groups, however, and as a result many deviant sub-groups are shot through with tensions, prone to dogmatism, or rife with power-struggles. Parsons' insight here seems uncomfortably accurate, at least as far as radical idealistic groups are concerned. Mario Vargas Llosa's novel, *The Real Life of Alejandro Mayta* (Vintage International, 1989) about a fictional Peruvian Trotskyist involved in an abortive revolutionary insurrection, provides a comic and yet tragic account of how marginalization can operate within the most marginalized groups.

generated by its own secondary gain processes, which are augmented by dramatic ‘bridge-burning’ gestures.

A “fully fledged revolutionary or prophetic religious movement” can try to have the best of both worlds, declaring the institutionalized normative pattern to be illegitimate in its own terms. Societies which have evolved to a high degree of complexity are especially open to this manoeuvre: they generally have incorporated some kind of romantic-utopian element into their values, as a compensation for the increasing strain brought on by the discipline that maintains them. For Western liberal democracies, this utopian element is present in the Enlightenment ideals of liberty, equality, and fraternity and of emancipation through rational progress. Where the functional needs of institutionalized orders conflict with these ideals, social systems need to resort to processes of compromised interpretation. This leaves them open to charges of hypocrisy and to self-legitimizing moves by deviant movements which can seize the moral high ground. In Parsons’ estimation, this was one of the points at which ‘modern liberal-individualistic’ societies are most vulnerable to breakdown: the diversion of ideologically legitimated deviance into alternative channels is a major functional concern for these societies.

Having described the origins of deviance, I will now consider the mechanisms for containing and eliminating it. First of all, deviance is conditioned by the ‘reality factors’ that an individual must consider. These considerations are of the ‘can I get away with it? does it pay?’ variety. Negative or punitive sanctions have an obvious role in discouraging deviance. In particular, the use of *force* can provide an infallible means for preventing any given act (1951: 277-278). Perhaps surprisingly, however, force and other negative sanctions are not the core of effective social control. Rather,

The core is to be found in the balance of forces which is involved in the building up and the counteraction of *motivation* to deviance, that is, of the alienative component of the need-disposition system. ... If any empirical justification of this statement is needed at this point perhaps mention of the enormous and tragic willingness of compulsively oriented people to “punish themselves” in the sense of incurring sanctions and deprivations which, if they were “sensible”, they could easily avoid. (1951: 278, emphasis added)

Parsons' conservatism shows in this example, but one might add that the heroic willingness of people to defy authoritarian rule is an equal support for his argument. Social control is a value-neutral concept which is always defined relative to the ideal equilibrium of a given system (1951: 298). The most important problems for social control concern people who are willing to endure negative sanctions; effective control requires either preventing deviant motivation or else reintegrating it with the functional needs of the system. This tends to function at the level of normal, day-to-day interactions. The elementary control of deviance has three elements: *support*, which allays the anxiety that a deviant or potential deviant experiences with regards to the system; *permissiveness*, which allows limited amounts of deviance in order to subvert and co-opt it; and the *restriction of reciprocity*, by which Alters refuse to encourage Ego's deviance either through collaboration or conflict (1951: 300-303). These aspects may be employed consciously, as in the case of doctors or psychotherapists, but more often they operate unconsciously through the way that social rules are structured²⁴. Normal social life is a process of mutually influenced contingent action, in which minor deviance appears ubiquitously. Social devices such as disagreement, silence, or humour as responses to expression of deviance are essential components of the positive feedback loops that 'discipline' deviance at its most elementary levels.

The three elements of permissiveness, support, and restriction of reciprocity also function at the level of institutions, along with the two additional mechanisms of insulation and isolation. Customary rituals invoke the first three elements to provide channels for 'acting out'

²⁴ In a sense, the day-to-day mechanisms of social control bear strong resemblance to the operations of "power at the capillary level" discussed by Foucault in, for example, the first volume of *The History of Sexuality* (Foucault 1976: 92-103). Parsons almost never uses the word 'power' in *The Social System*, and greatly de-emphasizes the role of force relations, but his emphasis on the way systems are based on decentralized and local interactions has very interesting resonances with Foucault's approach to power, and more generally with the concerns of others whose work has had the labels 'postmodern' or 'poststructuralist' attached to it. Parsons' later work (e.g. *Societies: Comparative and Evolutionary Perspectives*, 1966) takes a rather different (more 'top-down') approach to system theory and represents, I would argue, a fundamental theoretical break from *The Social System*, indicating that his real preoccupation was with systems as macro-level entities and not with the 'microsociology of values' that I have described earlier in this chapter. However, it is interesting to speculate whether a different appropriation of his work is possible: by elaborating his action theory of social life, was Parsons unconsciously a poststructuralist before its time? Or perhaps the continuities between the present 'post' era of sociology and its immediate precursor are more important than is commonly supposed.

strains that would otherwise lead to alienation. Funeral ceremonies and the institution of mourning, for example, encourage the catharsis of bereavement feelings by allowing the individual to withdraw temporarily from ordinary patterns of social life while encouraging his eventual return to duty. Secondary institutions such as youth culture also provide self-limiting safety valves for alienation; youth culture lets individuals act out their alienative feelings within a limited time frame, until age returns them to mainstream society. Both ritual and secondary institutions operate within established legitimacy frameworks and yet shade off into the fringes of deviance, providing a bridge 'back into the fold' for the potential deviant. Some mechanisms operate at the very edge of deviance; legalized gambling in Ontario, for example, or the semi-legalization of marijuana use in the Netherlands, represent the accommodation of a practice that is considered illegitimate by many and which can neither be stamped out nor freely legitimated. These examples highlight the importance of insulative mechanisms. At a micro level, devices such as personal tact or anonymity serve as buffers against potential conflicts; at macro levels this can be accomplished by allowing enclaves or ghettos for activities whose legitimacy is controversial. Insulation therefore can resolve many situations where normative frameworks are uncertain or in conflict. Finally, isolation serves to prevent the formation of deviant sub-collectivities or structures, and to prevent any structures that do form from being able to claim legitimacy for themselves. Isolation mechanisms treat the most pernicious manifestations of deviance, such as illness and crime. Illness, conceived as a form of withdrawal and hence of deviance, is treated first and foremost by insulating the sick individual both from normal society and from other sick persons. Criminality is treated mainly by denying it opportunities for legitimacy. A great deal of punishment is not really directed at criminals, but at normal society (1951: 310). Punishment serves to reinforce the overall normative framework through the ritual expression of social values; overpunishment is therefore a product of social ambivalence regarding values. The 'criminal role' is ineffective as a means of rehabilitation, while the 'sick role' is highly effective. Physiological considerations aside, the difference lies in the action of therapeutic mechanisms²⁵.

²⁵ Again, Parsons' analysis has interesting resemblances to Foucault's work in *Discipline and Punish* (Foucault ...

Therapeutic mechanisms are the most sophisticated tool of social control. In the case of the 'sick role', the deviant individual is cut off from ordinary life and placed in a highly structured one-on-one relationship with a professional Alter. This relationship provides the deviant with cathartic support which diminishes her alienation and with permissive opportunities for the expression of that alienation; in turn, this support and permission are exchanged for an obligation to rehabilitate and re-conform. The role of therapy therefore has four aspects: the collectivity-orientation or 'helping' role of the therapist; the permissiveness of the sick role; the refusal to reciprocate by the therapist; and the manipulation of rewards, especially of approval, by the therapist (1951: 314). Now, this would be only of incidental interest to the study of illness, except that the therapeutic role also operates in large-scale public institutions. By way of example, Parsons shows how this role operates in the structures of liberal democracy. Political or social discontent rarely entails a complete break with institutionalized values; 'selling out' and 'getting well' are equivalent processes of re-equilibration for the radical and the sick person respectively. Public office establishes a collectivity-oriented or helping role equivalent to that of the therapist, and also ensures that the incumbent of office has a legitimated reason for 'refusing to reciprocate' the deviance of discontents. The structures of partisanship create areas of permissiveness where alienation can be enacted through the expression of critical opinions and the lodging of competing claims to legitimacy²⁶. This permissiveness has circumscribed limits. Delegitimizing criticisms are generally applied to the actions of particular incumbents or governing parties but not to the system as a whole, and achieving public office or institutional power functions to bind political challengers to the needs of the system. The manipulation of approval as a reward functions explicitly within liberal democracy both in top-down relationships with authority-holders and in bottom-up relationships with voters. On the whole, the successful enactment of therapeutic functions within

1975): the conception of illness as deviance; the importance of isolation in its treatment; the ineffectiveness of the penal system as a means of rehabilitation; the focus on the soul of the deviant.

²⁶ Similar areas of permissiveness exist in educational institutions, through the encouragement of academic freedom and critical expression, and in religious institutions, through the practice of confession (1951: 317).

structures of governance is an essential means through which the system maintains its own legitimacy in the face of challenges arising from periodically widespread alienative tendencies²⁷.

The operation of social control mechanisms in the Parsonian model is summarized in Display 2-1, in Appendix A. These mechanisms have two striking features. As noted above, they generally operate at the most local levels in ordinary social interactions, thereby functioning in a radically decentralized manner. Furthermore, they generally develop without deliberate planning on anyone's part (1951: 319). Both of these aspects are logical implications of the action model and of the microsociology of value-construction through which mutual contingency problems are resolved. In this model, control is not a function of political or economic power wielded purposefully by individuals. Rather, the values of established social systems acquire a profound inertia which individual agents are unable to overcome; this same inertia tends to limit the formation and spread of deviant groups or sub-collectivities. The social system as a whole operates as a positive feedback loop which cycles around some (theoretically determinable) point of equilibrium. Minor disequilibrating influences are resolved by the system on an ongoing basis. Major system disruptions produced by widespread or determined deviance tend to prompt some kind of structural accommodation, shifting the point of equilibrium without destroying the system itself.

Balanced against this naturalistic description of the system, however, is the sheer fact of Parsons' analysis and the question of the uses to which it can be put. If systems operate according to inexorable tendencies that conscious agents are unable to affect, then what would the point be of systemic analysis? Is it only to give us a better understanding of how to operate within systems, of where our place is and what our duties are? Parsons describes deviance in terms of pathology: it involves symptoms of anxiety, fantasy, hostility; it is most effectively resolved by therapeutic functions. Parsons' usage of deviance seems to equate the human rights activist in China with the petty thief in Wisconsin under a term that carries a pejorative undertone. And yet Parsons has done

²⁷ The collectivity-orientation necessarily to the therapeutic function of governing explains why, in Parsons' estimation, the business class has not become the official governing class of the United States or other liberal democracies despite its prestige and importance (1951: 318). Its institutionalized valuation of the self-interested pursuit of wealth is incompatible with the therapeutic functions of public office.

more than reify a particular value-structure: he has described how value-structures are constructed and maintained. Surely his work, by providing us with a measure of systemic knowledge, should give us, or someone, a degree of control over previously uncontrolled aspects of social life. If accurate, we would expect the Parsonian model to free us from the bondage that results from our own ignorance of the social forces in which we are enmeshed. Furthermore, it also seems naive to assume that the development and maintenance of systems is unaffected by conscious intervention: persons who wield great power must possess some spark of Machiavellian insight that enables them to foresee how their actions shape the systems in which they take part. These questions touch on issues of social change, which have so far not been discussed. At this point, by understanding socialization and social control, I have produced a nearly complete explanation of how systems reproduce themselves. This model is completely fixed, however: it reproduces itself too perfectly. History does not demonstrate this kind of continuity. To answer my research question fully, I therefore turn to Parsons' discussion of social change.

III. Change In Systems and Change Of Systems

This universe presents only changing relationships which are sometimes seen as laws by short-lived awareness. ... If you must label the absolute, use its proper name: Temporary.

- Frank Herbert

Taken at face value, *The Social System* describes the model of a system that never changes. Certainly, Parsons spends more time talking about the means by which equilibrium is maintained than elaborating on processes of social change. This is true not only in the sections on socialization and social control, but even more evidently in sections on social structure (Chapters 3-5, 10) and in discussion of belief systems and symbolic communication (Chapter 8-9). In nearly every case study or example that he analyzes, Parsons is eager to demonstrate how a particular social arrangement maintains its own stability. Although the equilibria of systems can be either static or dynamic, either unchanging or incorporating 'regular and orderly' processes of change, the overall impression of a superficial reading is that equilibria tend to persist. Correspondingly,

his work has frequently been criticized for explaining social order and not being able to explain change. As far as *The Social System* goes, this criticism is trivially valid, since Parsons freely admits that he has no theory of social change (1951: 486); in his estimation, the state of empirical knowledge at his time of writing was insufficient for him to develop one.

On an ideological level, one can argue that the whole impact of the Parsonian model is to normalize order and to excise change from the social imagination. There are several reasons for thinking this: one is the noisy silence which surrounds questions about change throughout most of the text; another is Parsons' treatment of deviance as pathology in the chapters on socialization and social control. *The Social System* constructs stability and order as the knowable and the known, and change as unknown and as *unknowable*. At the end of Chapter 11, Parsons acknowledges that a theory of social change is presently unavailable, and adds that "when such a theory is available the millennium for social science will have arrived. This will not come in our time *and most probably never*" (1951: 534, emphasis added). If the chance and contingency of change processes can never be resolved, then it would seem better to play it safe and stick to what we know by minimizing social change.

I will return to questions of ideology later, but for now I wish to raise the face-value association between Parsonian theory and non-change, because this association is reasonable and because it could lead us to make a grave error in believing that the Parsonian model is essentially static. The truth is quite to the contrary: if this model seems to address questions of order so obsessively, it is because it is fundamentally constructed out of dynamic processes. Consider the premises of the model: Social action represents an independent set of phenomena not reducible to any biological or physical root causes. Furthermore, there are no innate human values or norms, there is in fact nothing essential to the human psyche at all (beyond a minimal set of needs, desires, and capacities which vary highly between individuals). There is therefore no essential basis for any particular kind of social order. Nor is there any ultimate point of origin for human society; unlike Rousseau, Locke, Hobbes, or even Marx and Engels, Parsons refuses to provide any 'myth

of origin' which accounts for the first genesis of social institutions.²⁸ More fundamentally, his basic unit of analysis is not the institution or the individual, but action. While institutions may persist for centuries and even individuals exist continuously for decades, an action flares only momentarily and traverses a short arc of time from origin to destination before being extinguished. As an 'atomic' unit, actions lack the permanence of matter. How is it, then, that enduring structures can be built from such evanescent material? How is society possible? This question haunts *The Social System*.

Accept, for the sake of argument, that societies exist, that social structures and institutions are empirically observable things and not just heuristically useful concepts (accepting also a distinction between things and heuristics). Parsons' first task is to establish an independent basis for explaining society, distinct from the disciplines of natural science or from the 'transcendent realities' of religion and philosophy. In response to this he constructs an action theory: action is immanent to the material world, yet irreducible to physicality. But human actions are chancy, idiosyncratic, contingent and situation-bound. They may even be chaotic; Parsons' next task is to show how it is possible that order can emerge from such a flickering field. To do this, he introduces the problem of mutual contingency. Actors' motivations become complementary as their fates intertwine: sustained interaction creates local systems of meaning and value. There is no starting point for this system, no mythological moment when humans awoke and created society. Even when he begins an evolutionary analysis by starting with the most 'primitive' hunter-gathering tribes, society is already present (1966: 33). Taking the existence of local social systems as a given, we then need to account for their persistence over time through multiple iterations of the basic ego-alter social interaction, and for their evolution into the large and complex societies which we inhabit today. At every moment, action remains dynamic. Society is a circuit composed not of fixed switches and wires but of innumerable capacitors between which the energies of action

²⁸ This is true also of his later work, *Societies: Evolutionary and Comparative Perspectives* (1966). Although that work is explicitly organized around a teleological evolutionary framework and describes a process of differentiation and complexification that transforms social structure from primitive to modern over the course of ages, Parsons refrains from resorting to any 'state of nature' speculations or comparable myths or origin.

swiftly leap. To account for order, Parsons introduces the axiom of homeostasis. Just as mutually contingent uncertainty requires the local creation of common patterns of value and normative expectation, mutually contingent interaction fundamentally tends to reinforce and stabilize these patterns. In modern industrialized liberal societies, 'local' systems have become quite large, complex, and internally differentiated. There is no discontinuity, however, from the processes that regulate small, simple systems and large, complex ones. At the micro and macro levels of scale, interaction has a tendency to homeostasis. Actors internalize and renegotiate mutual value standards. They obey and mutually enforce common normative standards²⁹. New entrants into the system are socialized by those who have already been socialized, and so on backwards through time. Deviance is co-opted, or else contained, or else accommodated. It is only with the accommodation of unresolvable deviance that we suddenly find limits to the explanatory power and theoretical coherence of the Parsonian model.

To explain these limits, I must first outline how change takes place in the social system. Parsons does not specify how this takes place, but based on his model I can imagine at least three points of origin for powerful disequilibrating forces. First, due to a change in material circumstances, resource depletion, or technology, some new functional exigency could develop which reconfigures an important institution. Second, deviance of some sort (such as a 'radical' political movement) could entrench itself, requiring accommodation by relevant role-structures and normative frameworks. Third, ongoing processes of institutionalization could extend into a previously unintegrated region 'within' the system, placing new demands on the system as a whole. In each of these cases, strains are generated between the demands of change and the imperatives of previously institutionalized role-structures. Any such strain provokes resistance and re-equilibrating responses (1951: 491). There are two general exceptions to this: action within those sub-systems whose function is to generate an ever-changing cultural content, such as scientific research or artistic innovation; and functionally routine processes of role-transformation,

²⁹ "Common" in this sense meaning "commonly held" and not necessarily equal. You and I may enact very different and unequal roles, yet have a common understanding of what those roles involve.

such as socialization. In all other cases, vested interests inhibit system change. By virtue of institutionalization, actors have internalized their role-behaviors. They have also come to rely on them for gratificational rewards. These vested interests may involve material rewards or non-material ones such as public prestige or self-affirmation. Institutionalization is thus an inherently conservative force, and a blind one: conforming individuals do not easily discriminate between change that tends to system disruption or disintegration and change that merely alters the system. Given the distribution of vested interests throughout the system as a whole, the following process describes large-scale social change (1951: 496):

1. Change occurs in one area of the system.
2. Because of the interconnectedness of all sub-systems within the whole system, change on one area provokes strains in other areas.
3. These strains provoke re-equilibrating reactions (larger-scale social controls).
4. Somehow, these reactions are mitigated. *This is the key step.*
5. Processes of change within the 'deviant' sub-system consolidate and extend themselves.
6. To adjust to this new phenomenon, all other system components experience corresponding changes.
- 7a. The situation is partially resolved, institutionalizing a chronic tension which could flare up again sometime in the future.
- 7b. Alternatively, the situation is fully resolved, and the system as a whole experiences a *change of state*.

A change of state represents a dramatic shift in the equilibrium point about which interactions in a system fluctuate. The process leading to a change of state is independent of any specific cultural or social content; this 7-step model uses the language of systems which we have discussed so far to outline the general model of how change occurs in any system, whether 'primitive' or 'modern'.

There are three areas of considerable uncertainty in this model, however: the impetus to change in the first place, the moment at which change overcomes the re-equilibrating forces it provokes, and the question of whether the change will be fully or partially resolved (Steps 1, 4, and 7 respectively). There is nothing in the Parsonian model that would allow us to predict when or how each of these steps will occur. Given Parsons' admission that he cannot propose a theory

of change as such, this is not surprising. What the model does provide is a *template* for examining processes of change, a set of terms and an analytical framework through which empirical information about change can be rendered sensible:

Thus, while we repeat we do not have a complete theory of the processes of change in social systems, we do have a canon of approach to the problems of constructing such a theory. ... We submit that, without conceiving the problems in terms of the social system as a conceptual scheme, it is not possible to know what you want and thus even to measure progress toward the goal of attaining such a theory. (1951: 534-5)

To show how his ‘canon of approach’ should operate, Parsons discusses three examples of major processes of social change. These are: the cultural changes introduced by scientific and technological advance; the ascendancy of charismatic revolutionary movements; and the adaptive transformation of revolutionary movements. These case studies are not worth examining in detail, but I have summarized them in Display 2-2, in Appendix A. What is striking about these case studies, aside from what they reveal about their author’s political preoccupations, is how different each is from the other in terms of basic questions examined, variables identified, and structures that are focused on. Based on these examples the social scientist needs to examine social change in a very context-sensitive manner, selecting her methodological approach and conceptual tools on a case-by-case basis as seems appropriate to the specific phenomena under study. A theory of social change, if it will ever be developed, will emerge only after a great number of individual cases have been empirically examined so that their key characteristics and dynamics can be tabulated and categorized. When it comes to change processes, social scientists are like field biologists operating before the great taxonomies of the natural kingdom have been developed: possessed of structural knowledge but no ‘first principles’, their task is to identify the different species of animals that are out there, observe their behavior, and lay the groundwork for ecological theorizing which may come later.

Before this ‘millennium’ arrives, a few general statements about change are possible, according to Parsons. One is that there is no *single* source of change (1951: 493). For example, Marx’s famous statement that “the history of all hitherto existing society is the history of class struggle” (Marx and Engels 1848: 79) would be rejected by this model, as would any other

monocausal explanation; change can originate from anywhere in the social system and concern any aspect of social life. Despite this, however, Parsons believes that change in belief systems at least has an overall teleological direction: towards ‘rationalization’ (1951: 499). What this means Parsons does not exactly specify. By inference, we can deduce that rationalization implies a cumulative development of the kinds of ideas espoused in contemporary Western science. Although Parsons believes that there are grounds for “considerable confidence” in rationalization as a “general directional factor in the change of social systems,” those grounds are less obvious to me and may rest only in his love of teleology. At one point he notes that expressive symbol systems do empirically demonstrate a cumulative developmental direction, but feels compelled to assert that there “must be one” (1951: 500). The Parsonian model itself does not incorporate or imply any necessary theoretical reason why the evolution of societies should proceed in some particular direction; if such a direction exists, it must represent an emergent property not deducible from the elements of the model itself. Furthermore, culture does not develop in a linear fashion (1951: 487), and the tendency towards rationalization produces strains in many areas of the system and is frequently ‘blocked’ or even ‘reversed’ (1951: 501-502). This may be one of Parsons’ most transparent slips into normative and Eurocentric applications of his system theory. Nevertheless, it is his most definitive word on macro-scale patterns of social change in human history.

I said earlier that the accommodation of unresolvable deviance represents the first indication of the explanatory limits of the Parsonian model. Having explained the model’s implications for the study of social change, I can make a bolder statement: problems of social change indicate the failure of this model to bridge the macro-micro link. Where the discussion only concerned social stability and the maintenance of order, the link appeared sound. This was the case by virtue of the homeostatic nature of the model: the processes that maintain order at local levels are the same as those that maintain order at large scales. In this sense, the Parsonian model is self-similar across different scales and analytically flat. It has no hierarchy of mechanisms; scale introduces new structures and new phenomena, but not new dynamic processes. Of course, emergence does

appear with respect to the content of social relations; one cannot predict an industrial democracy from a nomadic forager tribe. Both highly complex and highly simple societies, however, are held together by the same kinds of social glue: mutual contingency, socialization, and social control all serve the same functions and operate according to the same basic principles.

When it comes to social change, however, the macro-micro link is shattered and emergence reappears in the model. There is nothing in the model that tells us when a trend to deviance or an uneven process of institutionalization will produce a source of social change, or when re-equilibrating mechanisms will fail, allowing change to spread, or when spreading change will result in institutionalized strain or lead to a complete change of state for the system as a whole. The only way to determine these things is to observe empirical cases and develop generalizations. Where change is concerned, Parsons' model has the same problems experienced by meteorology, fluid dynamics, and the other sciences where "chaos theory" originated. George Box's aphorism leaps to mind: "the only way to know how a complex system will behave after you modify it is to modify it and see how it behaves" (Gregerson and Sailer 1993: 777). The applicability of this aphorism to the problem of change within the Parsonian model reflects the problems of emergence that the model incurs when it is applied to the analysis of social change. Parsons provides us with a vocabulary and a set of categorizations - a taxonomy - for talking about systemic phenomena. The value of this contribution is that it enables social scientists to sort empirical phenomena according to their location in a theoretical model of a social system and to direct further research accordingly. Interpreted as a model and not simply as a taxonomy, however, Parsons' theory bridges macro and micro only so long as the system being observed remains in certain very particular and recognizable forms of equilibrium. So long as this equilibrium pertains, it is possible to describe macro-level phenomena as articulations of micro-level phenomena or, alternatively, to describe micro-phenomena in terms of macro-level imperatives. When the system departs from that equilibrium - that is to say, when dramatic social change occurs - the model can neither explain the behavior of the system in terms of its constituent elements, nor explain the

actions of individuals as instances of the system as a whole.³⁰ The inexplicability of social change constitutes a failure of the model to bridge the macro-micro link, under anything other than ideal conditions.

Parsons, aware that his earlier work had been criticized for providing an overly static account of social relations, attempts to rescue it from these charges with his chapter on social change. Although he has no theory of change, change can be theoretically analyzed:

... so far as we have sound knowledge of the interdependence of variables, this knowledge is as applicable to the understanding of processes of change as well as of process within equilibrated systems. The difference is not a *theoretical difference at all*, but depends on the empirical problems which are at issue, and the scientific resources available to solve them. (1951: 533)

He re-emphasizes this point at the close of Chapter 11:

... there is a certain falsity in the dilemma between 'static' and 'dynamic' emphases. If a theory is *good theory*, whichever type of problem it tackles most directly, there is no reason whatever to believe that it will not be *equally* applicable to the problems of change and to those of process within a stabilized system. (1951: 535)

Its failure to link the micro and macro where change is concerned constituted an important enough shortcoming of the Parsonian model. These statements, however, indicate that the model's inadequacy with respect to change may represent something even more serious: a failure of the model to be theoretically coherent *on its own terms*.

Parsons makes a distinction between states in equilibrium and states undergoing change, but the distinction is only relative. Equilibrium is never perfect: institutionalization is never complete, always leaving some discrepancy between motivations and normatively structured rewards. Different functional mechanisms within the same system can come into conflict, producing strain. Accommodations to strain are always local and temporary. In a sense, 'the system' never fully exists; it always exists as a potentiality that forever recedes into the future. In the long run the system may achieve its equilibrium, and hence its reality, but 'in the long run, we

³⁰ In a sense, deviance itself has already been defined as behavior whose explanatory principle departs from system-as-norm. The widespread 'deviance' associated with social change represents an increase of uncertainty within the system-model.

are all dead' as Keynes said; the long run never arrives. Processes of change cascade endlessly through systems, never reaching a final resting point. We could say that systems *are composed of* interacting and endless processes of change. This would accord with the basic mechanics of action theory, but it would distort the Parsonian language, in which change *disrupts* systems and even threatens to disintegrate them. Parsonian systems are closed, boundary-maintaining, integrated, self-sufficient, and homeostatic. Such systems may indeed exist, but from the perspective of an observer their reality is never fully manifest. Parsons knows this, admitting that equilibria are more ideal than actual, but he does not dwell on what it implies for his theory. He seeks to map out the local patterns of specific systems using the terminology he has invented. The question is, has he given us anything more than a terminology? It may be possible to engage in vigorous projects of research, but if the Parsonian model of action processes self-destructs when exposed to Parsons' own maxim regarding the analytical equivalence of change and stability, then the 'millennium' of mature social theory which he assigns to the future will prove even more elusive than even he expects.

IV. Analysis and Conclusion

In the centre of Fedora, that grey stone metropolis, stands a metal building with a crystal globe in every room. Looking into each globe, you see a blue city, the model of a different Fedora. These are the forms the city could have taken if, for one reason or another, it had not become what we see today. In every age someone, looking at Fedora as it was, imagined a way of making it the ideal city, but while he constructed his miniature model, Fedora was already no longer the same as before, and what had until yesterday a possible future became only a toy in a glass globe. ...

On the map of your empire, O Great Khan, there must be room both for the big, stone Fedora and the little Fedoras in glass globes. Not because they are all equally real, but because all are only assumptions. The one contains what is accepted as necessary when it is not yet so; the others, what is imagined as possible and, a moment later, is possible no longer.

- Italo Calvino

The purpose of my discussion so far has been to dissect the vast, self-referential, and somewhat amorphous theoretical scheme proposed by Parsons in *The Social System*, extract from it its core elements, and assemble these elements into a relatively simple causal model. What I have

labeled the Parsonian model is really a creation of my own, constructed in order to give me a way of conveying key Parsonian ideas and of critiquing those ideas. The Parsonian model represents my best attempt to make Parsonian theory work. During my exposition of the model, I have raised a number of concerns about Parsons' attempt to link macro and micro in a comprehensive structural-functionalist theory of human action. At the end of Section I on the mechanics of systems, I pointed out that the core of action theory focuses on how systems are formed and perpetuated and contains no elements for critiquing them. At the end of Section II on socialization and social control, I raised the question of agency and the uses of theory: now that system theory has demystified the workings of social life, how should this knowledge change the systems it describes? What should we use system theory to do? At the end of Section III on social change, I suggest that Parsonian theory fails to bridge the macro-micro link. In this final, analytical section I return to these questions. I inquire into what functionality really means, interrogate Parsons' normative subtexts, and critique the utility of Parsonian theory as a guide to social action. In the end, the Parsonian model does not bridge the macro-micro link, and does not provide a convincing account of how systems reproduce themselves through time. I conclude this chapter by suggesting that despite this failure (not a surprising one, given the magnitude of the task) several elements of the Parsonian model are worth salvaging for future attempts at system theory.³¹

Parsons states that action theory is closed at the theoretical level but remains open at the empirical level (1951: 489). Equilibria are ideal, not actual. Social theory, and system theory in particular, is an attempt to digitize and fix processes that are analog and fluid. To create an analogy of this process, take a Polaroid snapshot of a television image. The results will show far more

³¹ It is important to note that my criticisms of Parsons are directed entirely at his particular system theory outlined in *The Social System*, and may not necessarily apply to later permutations of that theory as developed either by Parsons himself or by others. For example, I criticize the Parsonian model for assigning a secondary or derivative role to processes of political economy. However, Parsons later collaborated with Neil Smelser to attempt to synthesize social and economic theory (Parsons and Smelser 1957). I cannot here provide an assessment of the importance of that or other 'Parsonian' works subsequent to *The Social System*. (Nevertheless, one might suggest that constructing an entire theory of social systems without any reference to materialist considerations, and then subsequently attempting to 'integrate' such a theory with economic theory, is a strikingly inefficient way to proceed.)

fuzziness and pixellation than you remember from viewing the original moving image; compare it to a single cell from a movie reel and the differences are obvious. A television image captured to still-frame reveals the low resolution of the medium. The pixels on a TV screen are large dots of red, green, and blue colour. Moving images blur dramatically. “Frames” do not exist; video images are assembled through the process of interlacing in which successive overlays are rolled on over top of each other in alternate lines³². The crisp image we perceive off the screen is assembled by our perceptual systems: on the mental screen, blurring fields of color are resolved into images; fat RGB pixels disappear into continuous shapes; the flickering of interlaced overlays is invisible. The process of constructing a computerized graphic image of a ‘still frame’ from video must simulate this assembly; a still video capture must layer and synthesize several consecutive ‘frames’ of video to construct the simulation of a photographic image where no such image really exists. Even then the results are inferior to our experience.

Doing social theory involves processes similar to the still-image capture of a video playback. The patterns and orders described by theorists are wholes that are assembled in the minds of observers out of pixellated and blurry components. Choosing the base unit of analysis sets the size of the pixels in the image. Set your pixels too large and the image is chunky and

³² Interlacing: Film projection creates the illusion of a moving image by projecting a rapid succession of complete images on a blank screen (30 images per second does the trick). Thus, if you examine a reel of movie film, you will see a succession of cells or ‘frames’, each of which is a complete photographic image unto itself. In the early days of television technology, transmission mechanisms were unable to match this 30-frame-per-second requirement. To cut down on the amount of information that needed to be sent in a television signal over a given span of time, television signals were ‘interlaced’. This involved dividing the image into a number of horizontal lines, and then transmitting only half of those lines in the required 1/30th of a second interval: first the odd-numbered lines, and then, in the next ‘frame’, the even-numbered lines. Furthermore, the image was not projected instantly, as happens when light is cast through coloured film, but tracked onto the screen, as the single-point beam of a cathode ray was swung magnetically from left to right along each successive line. This is why pressing Pause on older VCR’s left a broad horizontal line of static distortion at some arbitrary point on the screen. Newer VCR technology eliminates this distortion by scanning repeatedly over successive frames when Pause is engaged. Even so, the result contains noticeable blurring as an object that is at one screen location in one ‘frame’ is slightly moved in the next.

Pixellation: Video display of any kind creates the impression of colour through many discrete ‘pixels’ each of which contains a red, blue, and green light emitter (the three primary colours of emitted light). By altering the relative brightness of each of these RGB elements, the entire spectrum of light can be simulated because the visual system of the observer blends the three elements together into a single dot.

overly general; as they grow smaller, the picture becomes sharper but involves more and more information that needs to be processed. Parsons has set his pixels very small indeed: they are individual actions. At the 'pixel' level, social forms are not visible. For example, when a bridegroom stands at the altar and speak his marriage vows in a church wedding, he is participating in a situation that has not been created from scratch. The actual exchange between groom, bride, and priest is informed by common values regarding fidelity; common religious beliefs regarding God and the legitimacy of the Church; common understandings of their respective roles as 'groom', 'bride', and 'priest'; and many other structures and institutions. Most of these external structures the groom has played no part in creating, although by participating in them he recreates them. His actions are located in a long chain of action, of ego-alter exchanges which originated elsewhere and which may never end. Or rather, any given action is simultaneously located along the length of a multitude of action-chains which branch out wildly into the past and the future. Almost none of the information relevant to a single action is contained in the specific situation that surrounds that action. Action is rather the product and component of a number of simultaneously unfolding social processes which unfold and interact unevenly through the medium of human life. To perceive any of these processes requires an accumulation of historical knowledge: to arrange them in any kind of comprehensible order or pattern requires some kind of 'interlacing' via a theoretical framework. Parsons has tried to provide us with such a framework.

Our attempts to fix the system into a definable pattern are products of the need to know, the need for signposts indicating the likely consequences of this or that course of action. The impetus that drives social theory is the same as that which drives local actors to produce local value-patterns that resolve mutual contingency dilemmas. Every human, consciously or unconsciously, is a social theorist seeking maps of the future. Asking for a theory of change is effectively a demand for *prediction*. But the mechanisms of prediction do not only foresee the results of contingency, they create those results. The oracular vision imposes its own order on the unfolding of the social universe, fixing contingencies into the pattern defined by the prophetic utterance. This happens because the maps provided by social theory tell us not only how to travel, but where we can go and

where we cannot go - and where, by inference, we should want to go. From this perspective, evaluating Parsons' work involves more than just assessing its ability to provide explanations for this or that phenomenon, or to generate useful questions for researchers. It involves asking what *kinds* of questions we are prompted to ask, and what kinds of explanations are provided. My critical assessment of *The Social System* therefore requires an interrogation of its normative subtexts.

The core question for a skeptic investigating Parson's work is that of functionality itself. In the functionalist theory that underlies his project, the operation of social institutions is made explicable by referring to the functions that those institutions are supposed to fulfill for the social system as a whole. Social systems, being homeostatic, self-sufficient, and boundary-maintaining after the fashion of biological organisms, are supposed to have functional needs which are more or less effectively met by their institutional components. This conceptualization is one way of incorporating a kind of existential exigency into one's social theory. That is, it assumes limits to the variability of patterned social relations. While social patterns are *constructed* through ongoing intentioned actions of human agents, and hence are free from any narrow determinist logic, not all patterns are equally 'constructible'. The range of possible human social arrangements may be large, and theoretically may even be infinite, but nevertheless many conceivable arrangements are not possible, or at least not sustainable. The difference between tenable and untenable social arrangements, institutions, or structures, may be ascribed to some generalized notion of exigency (or exigencies), and the task for the social theorist is to discover the rules of operation of this exigency. In Marxist theory this exigency is generally treated as material, i.e. arising from the interaction between humans and nature through processes of production. Material exigencies set bounds on human agency and even provide imperatives which drive intentioned activity. In Parsonian theory, the exigency that determines the survival of institutions is the set of interrelated functional needs of the system as a whole. Dysfunctional arrangements may persist, but if a society exists at all then these are necessarily subordinate to the service of overriding functions.

and their persistence may be explained with reference to conflicting exigencies produced by imperfectly integrated functional needs.

The concepts of 'functionality' and 'functional necessity' attract skeptical attention, however. For one thing, they lead into an Aristotelian final-cause model in which "the reason for the acorn is the oak tree" (Simpson 1963: 18)³³. Social arrangements (with a few exceptions) persist because they are functional for society, that is they contribute to the perpetuation of a given integrative equilibrium. Integrative equilibrium is necessary for the persistence of society, but *why does society need to persist?* Keep in mind, that unless I wish to break the macro-micro link and readmit emergence into Parsons' theoretical scheme, I have to reject the idea that society is qualitatively greater than the sum of its parts. Society cannot be a mysterious pattern that materializes for no discernible reason out of the otherwise chaotic welter of ordinary action. If societies exist, we need to explain their existence in terms of concrete mechanisms that perpetuate them and of regular principles that ensure the continued 'functionality' of those mechanisms. Functionality does not in itself explain anything. Rather, functionality is what needs to be explained for us to understand both how and why systems reproduce themselves through time.

This is exactly what Parsons is trying to do with his action theory of systems. Functionality is, in the end, not a proposed causal explanation or a variable that can be operationalized; it is a *heuristic device* which orients the sociologist towards certain important questions (1951: 495). With regard to any social phenomenon, these questions include: How is this phenomenon structured? How is it integrated or not integrated with the rest of society? How does it relate to the overall perpetuation of a given status quo? With regard to systems as wholes, we are directed to ask: what are the conditions for the perpetuation of this system? What forces are present in the system that disrupt its equilibrium and have the potential to disintegrate it or force it

³³ Simpson states that this problem is more present in Parsons' later work, which analyzes systems from a 'top-down' perspective, than in *The Social System*, which builds its theory from the ground up. Given the importance of a structural-functionalist paradigm to informing the basic assumptions of action theory and the research agenda which *The Social System* develops, unraveling functionalism is still important to an understanding of this work.

to a change of state? Structural-functionalism is a program of research, not a theory, and Parsons indicates that his structural categories will be progressively eliminated as the development of empirical knowledge takes away the need for their existence. The functionalist paradigm lets us work backward from what is known to resolve what is unknown. Any given structure within society, whether deviant or institutional, must have overcome a number of situationally specific exigent forces *in order to exist*. Moreover, given that the social system exists, any element within that system must have (up until the present moment) been either compatible with the system, or else must be contained somehow and prevented from destroying it. Knowing this, the researcher can focus his attention on the concrete action processes that have created the given status quo, and eventually produce a rational and value-free explanation for how particular values and norms came to be.

Is Parsonian theory really as value neutral as this? The concept of 'functionalism' carries a heavy normative baggage which Parsons does not interrogate. In particular, functionalist language persistently evokes a potential confusion that Parsons makes no effort to dispel. Within Parsonian theory, this confusion originates from the fact that actions, not individuals, provide the fundamental units of analysis. Institutions, collectivities, and societies, in Parsonian theory, are not made up of people - they are made up of actions, articulated within roles. If one overlooks this key point, then functionalism reads as an out-and-out valorization of any existing order. To say that a given institution or set of roles is functional for society would imply that all, or at least most, of the members of that society enjoy a net benefit from its operation. The same assertion has no such implication if we remember that societies are distinct from the human beings that inhabit them. A phenomenon can be functional for society itself, as a system, without being of direct benefit to any of the human beings that inhabit that society.

Does this exhaust the meaning of functionality? How reasonable is it to divorce system-needs from human needs, and to treat functionality as pertaining only to the former? One can take as a case study, 'capitalist exploitation' in the purely technical sense of the appropriation of surplus value from productive labour by a class private capitalists. Marx identifies exploitation as a

necessary element of capitalism; all profit comes from exploitation³⁴. Using Parsonian language, we can translate this to mean that exploitation is a functional necessity for capitalism. One could make the further claim that the organization of surplus labour in *some* fashion is a universal functional requirement pertaining to all social systems. In this case, exploitation represents the particular resolution of this requirement that is distinct to capitalism.³⁵ Is our analysis of exploitation therefore complete once we have determined its functionality for the system of capitalism? Unlike Parsons, Marx would have us ask *for whom* a given phenomenon is functional. What individuals or groups within a society have the most to benefit by the continuing functionality of the system, and who is negatively affected by that functionality? According to Marx's analysis, the worker is definitely worse off and the capitalist is better off because of exploitation³⁶: the capitalist class as a whole benefits from exploitation at the expense of the labouring class. Clearly, exploitation is functional for a small, power-holding group within society, but not for the labouring majority.

He does not seem to consider the possibility. Parsons allows that functionality may consistently operate at the expense of *some* of society's members (e.g. the functionality of a prohibition against murder may operate at the expense of murderers), and that it may operate against the immediate interests of *most members some of the time* (as in the case of conscription during a necessary war of self-defense), but he doesn't consider that it could operate consistently and uninterruptedly against the real interests of the vast majority³⁷. For exploitation to be experienced as functional by the working class, it would need to produce some ultimate benefit, or

³⁴ See my discussion of surplus-value and exploitation in Chapter 3, below, for a fuller explanation of this claim.

³⁵ 'Surplus labour' is a concept defined by Marx to designate labour that is performed beyond what is required to produce the minimal necessities of life (Marx 1867: 325). Any material wealth that exceeds bare subsistence is therefore produced through surplus labour. All societies organize surplus labour in some fashion; in capitalist societies, this organization takes the form of capitalist exploitation. Resnick and Wolff (1995) have argued that the way in which a society 'produces, appropriates, and distributes' surplus labour defines whether that society is 'capitalist', 'socialist', or otherwise, regardless of the official ideology or political institutions of that society.

³⁶ Although not because of the necessity of surplus labour; see the previous footnote.

³⁷ To paraphrase, functionality can injure all of the people some of the time, and some of the people all of the time, but it can't injure all of the people all of the time.

forestall some undesirable disadvantage, that compensates for its negative effects. Otherwise, we would be left with the conclusion that what is good for the system is not good for the people in it. Parsons avoids considering such a possibility with remarkable diligence. As a result of this avoidance, his text has a subtle tendency to equate 'the functional' with 'the good'. At the very least, it lends itself to an insidious confusion between the two. This can have major consequences regarding the normative implications of system theory. For example, the Parsonian agenda for research directs the social scientist to an exploration of how exploitation is functional for systems. It does not warn the researcher against assuming that it must also be functional for people. If the researcher fails to hold firmly to the distinction, then they would find themselves researching the question of why labourers should accept being exploited, and assuming a priori that there is a positive answer. Hence, the purpose of social-scientific research could be reduced to discovering legitimations for the status quo.

Such a degradation would result from a confusion that Parsons does not sufficiently guard against. But is any normative perspective *built into* the Parsonian model? Although ostensibly my main concern is with the explanatory power of the model and not its ideological subtexts, the two are in fact deeply intertwined. At the end of Section II above I raised the question of agency, in the form of 'what impact is system theory supposed to have on social life?'. How should our actions change as we learn more about the workings of systems? *The Social System* does not contain any normative prescriptions directed at any particular society, but it is clear that action theory is at least intended to generate scientific analyses with normative impacts:

For example, whether or not it is possible completely to abolish coercive power from a society, or to do without any inequality in social stratification in an industrial society, is *not* simply a matter of opinion The question of what elements in an ideology are utopian is, with a certain margin of error, a scientifically answerable question, and with it the question of the probable consequences of attempting to institutionalize such values literally in a large-scale society. (1951: 534)

System theory is therefore intended to provide a road map to the future, a calculus for answering strategic questions of political theory. But what kinds of answers will it generate? There are two ideal-type cases possible. The first is that Parsonian system theory is a technical, value-neutral framework for analyzing the genesis and evolution of values, and as such is equally open to use in

the service of 'left' and 'right' political projects. The second is that it contains a built-in normative bias that cannot be separated from its basic mechanical insights.

For the first possibility to be true, we would have to strip the words 'functional' and 'society' of their normative load and assign them completely value-neutral meanings. It is possible to treat 'society' as an entity distinct from its members, such that the health of a society is conceptually *unrelated* to the welfare of any or all of its members. Hence, the most miserable dystopia could be full of well-functioning institutions, viewed from the perspective of the perpetuation of that dystopia³⁸. 'Functional' in this case takes on an entirely technical meaning of 'those institutions which perpetuate the system'. Noam Chomsky, for example, argues that the 'function' of the mass media in America is to legitimate the American state's terrorist actions at home and abroad³⁹, actions of which he himself is relentlessly critical. Reading *The Social System*, however, gives one the clear impression that this is not what Parsons had in mind, for several reasons. First of all, he does not discuss this possibility of functionality being undesirable. In fact, he does not attempt to explicitly address the ethical implications of system theory at all. The obvious reason for not doing so is that system theory is a theory about values, and hence stands outside the realm of value itself. System theory is perfectly technical knowledge.

If so, however, *The Social System* contains a surprising number of normative statements. Parsons cannot seem to resist inserting his own values into the value-relative framework he has devised. He valorizes a particularly American way of life, composed of industrial capitalism, liberal democracy, and territorial statism⁴⁰ - not to mention the patriarchal nuclear family. His

³⁸ For example: picture a slavery-based despotism, in which the slaves are worked almost to the point of death even though a huge surplus is produced, while the rulers themselves are subject to grueling random torture and execution, even though the society enjoys peaceful relations with its neighbours, and where to live is to be miserable, save for the grim joy, available only to a few high priests, of having satisfied the society's bizarrely nihilistic value system. Is such a value-system functional because it successfully maintains an excruciating way of life for centuries, even millennia? Does persistence justify persistence?

³⁹ Hence his discussion of the 'propaganda model' of mass media functioning (Chomsky and Herman, 1988: 1-36).

⁴⁰ At one point he asserts that force is necessarily territorially based, implying a nation-state model of societal boundaries (1951: 162). He never explains why this should be the case, however. Guerrilla war and terrorism illustrate uses of force that violate the principle of territorial locality, as do United Nations 'police actions' or cold war neo-imperialist 'interventions'.

evolutionary scheme, full-blown in later work (*Societies: Comparative and Evolutionary Perspectives*) but already implicit in *The Social System*, makes the equation 'more complex = more advanced = better' and he attaches the explicit (and unexplained) teleology of 'rationalization' to it, as I have mentioned above. His concept of politics is a peculiar mix of 'liberal' and 'conservative': Parsons considers the therapeutic model to be the ideal way of resolving deviance, as opposed to methods of punishment or ostracism⁴¹; however, he pathologizes any and all deviance, including rationally-based ethical or political critique, and shows a clear disdain for any politics with radical or transformative agendas. In general, he avoids critiquing relations of power (except those of American enemies, such as the Soviet Union) and makes the equation 'systems that survive = good systems'. In this sense he fails to rise to the Simmelian challenge of liberating us from history. Or, perhaps, the truth is more insidious. Marx, in *Capital* and his other writings, presented a series of insights into the workings of political economy and laid them (nominally) at the feet of the dispossessed, offering up his normatively charged social analysis as a handbook for revolution. Parsons seems to lay his own insights regarding the social construction of values at the feet of the ruling elite. If so, is *The Social System* nothing more than a handbook for counterrevolution?

On my first reading of the text, I was reminded of Plato's *Republic*, in which the author pretends to begin from purely rational, value-neutral premises and through simple logic to arrive at a complete system of moral and political philosophy. This device constitutes an attempt to imply that there is a normative code by which human beings should live, inscribed in the existential exigency-structures of the universe. At first reading, I thought that Parsons was trying to make the same move. Couched within the dispassionate language of action theory, with his silences and selective emphases, he shouts a passionate apologia for postwar America and the way of life it represented. This may have been his intent, but I suspect that what actually happened is a little

⁴¹ This is actually one of the more valuable and perhaps overlooked implications of Parsons' work. The deviant individual is not a sinner who must be punished or a natural criminal who can only be disposed of, but a temporarily alienated member of a community who needs to be reintegrated into that community. In many Western states, 'welfare state' policies have assigned important societal functions to social workers and other therapeutic professionals, thereby, and perhaps unwittingly, realizing a very Parsonian social vision.

more complicated. In action theory, Parsons succeeds in creating a value-neutral framework for the analysis of value processes. The difficulty is that this framework does not actually support Parsons' normative conclusions. My earlier illustration of system theory as applied to an airplane wing supports this. In order to make the theory produce what he wanted it to, Parsons needed to introduce a number of arbitrary elements which do not jibe with the core of the model. The three spheres of action, the five value-orientation patterns, the teleological rationalization of human culture, these all fail to emerge as necessary implications of action theory, socialization and social control mechanisms, and homeostatic regulation of change. They stick out like sore thumbs to a reader who doesn't share Parsons' social ideology. It is possible to accept his logic without accepting what he tries to do with it.

The logic of the action-based model uses 'functional necessity' as a label for the exigency that constrains social action. At the same time, the processes that create stability are the same as the processes that create change; there is no analytical distinction between the two. Tsun Tsu's famous maxim applies: know your enemy, and know yourself. The Parsonian model can, in theory, be used to identify the points of incomplete integration, of dysfunction, at which deviance is generated and hence at which the potential for social change is located. It also identifies the obstacles which face any program of change. Whether reformist or revolutionary, any attempt at social change must first overcome established mechanisms of equilibration and then, necessarily, must succeed in institutionalizing itself as a new order. The Parsonian model contains the language for analyzing all these aspects of change processes. The core elements of the model are, in fact, open to being appropriated in the service of directed social change.

Does this justify a reinvigoration of Parsonian theory along the lines that Jeffrey Alexander (1985) proposes? In this respect, the model suffers from two major flaws. The first of these is that it contains almost no account whatsoever of the role that *power* plays in social action. Relations of power, force, of physical or economic constraint are almost completely absent from the social system as Parsons theorizes it. Value-patterns, norms, roles, and institutions are constructed by social actors engaging in binary-pair interactions over time in which the behavior of

each participant provides sanctions (gratifications and deprivations) for the other(s). At face value, this is a completely egalitarian model of the construction of society, similar to the kind of macroeconomic theory that would be developed from a microeconomics in which all players had the same wealth and same resources. At no point *anywhere* in the text does Parsons explicitly discuss what happens when some actors have more power to hand out rewards or punishments than other players. There is no discussion of a political economy. The most explicit statements Parsons makes about political and economic power are in the book's final chapter, in which he defines the relative scope of various disciplines that investigate social action. Among those fields that look at social systems, sociology is chief and economics and political science play subsidiary roles (1951: 547).

Economics as a *social* science is concerned with the phenomena of rational decision-making and the consequences of these decisions within an institutionalized system of exchange relationships. This is, within the theory of action, such a highly distinctive complex that the claim of economic theory to autonomy with respect to it seems quite justified. (1951: 550)

Similarly, politics is given its own niche as a synthetic science, concerned mainly with 'government'. The role that either economic or political power may play in shaping social values is not extensively considered. Parsons does discuss many situations that involve power differentials, but when doing so he does not consider the dynamics of power qua power that are at play in the situation. He does not include power as an element of interaction in the basic mechanics of his action theory.

In terms of action theory mechanics, this is a telling absence: if I have greater power of sanction than you do, I have greater power to shape the value-system and normative expectations that both of us must live by. At the macro scale, structures of political economy ought to tell us much about how the 'functional imperatives' of societies come to be defined. Questions of power therefore ought to tell us a great deal about the dynamics of institutionalization and change. At the very least, power should provide a investigative heuristic at least as useful as 'structure' and 'functionality'; Parsons' silence about it is the most compelling argument for the ideological nature of his structural-functionalist assumptions. In the Parsonian system, change happens when

people's values change, but with coercion at a minimum, this change seems to happen only through some great process of mutual consultation. People aren't compelled, they change their minds. From an ideological perspective, Parsons' silence on power reads as an attempt to naturalize its workings, and to leave it out of the realm of the social. From an analytical perspective, is a gaping hole; in discussing social action, Parsons has left out half the picture.

This flaw is not irremediable, however. Conceivably one could marry action theory to some account of political economy or another theory of power and produce a framework that gives us the whole picture. This synthesis would be particularly powerful if Parsons had succeeded in establishing a link between macro and micro levels of sociological analysis. This brings me to the second, and more serious, flaw in the Parsonian model. Despite his best efforts Parsons has not succeeded in forging the macro-micro link. Between the local interactions of individual actors and the large-scale structures and institutions of society there still exists an unbridgeable gap of complexity that allows us to treat societies as emergent phenomena. Social systems continue to be strange attractors. This is not immediately apparent because this emergence does not exist when we consider a society in stasis, frozen at some arbitrary moment in time. The picture assembled by Parsonian methods of interlacing allows us to trace an analytical continuity from any micro interaction to any macro structure and back down again. The problems begin when un-pause the tape and consider societies in motion.

Parsons has no theory of change. In fact, he has no theory at all, as he freely admits, only a template for theory. This would not be a problem, except that this template is very limited. It describes a particular kind of system: closed, boundary-maintaining, integrated, self-sufficient, and homeostatic. It has the terminology to describe the expected effects of a change with respect to the existing system; it enables us to tell when a system is under strain, to distinguish between forces that threaten system disintegration and forces that strengthen integration. It can tell a revolutionary how to disrupt a system, and a conservative how to consolidate it - and, as Parsons observes wryly, a successful revolutionary tends immediately to become an orthodox conservative. It does not, however, include a language for describing the cascading and interrelated effects of multiple

change processes interacting simultaneously through systems. The entire Parsonian terminology is oriented around a conception of stasis as the analytic norm, even though stasis is never real.

Imagine that I am a budding revolutionary wanting to do away with some particular system completely and institute a new one - or else that I am a reformer who aims to institute a minor change of state in the system without disrupting its fundamental principles. In either case, my question is, if I engage in this or that act of politically motivated 'deviance', if I disrupt the system in this or that place and way, to what new equilibrium will the system move? Will my agitations lead to the egalitarian revolution, or to fascism? Will I push the system to new thresholds, or prompt a reactionary backlash? Parsonian frameworks cannot provide answers to these questions, only a research agenda: watch a similar system undergoing similar changes and see what happens; acquire cumulative knowledge based on observation. These are the methods for investigating an emergent phenomenon. The macro-micro link dissolves in history's endless flow.

In my final assessment, Parsons has explained how systems reproduce themselves, but not *why*. If we assume the necessity of organizing social life into closed, boundary-maintaining, integrated, self-sufficient, and homeostatic systems, then his explanations of the mechanisms of reproduction are convincing. But why should social life continue to assume this particular form? Why can systems not mutate into open-ended entities with amorphous boundaries and interpenetrating relations of interdependency? Why should the boundaries of culture, society, and nation-state coincide? I can imagine a solution to this, that the bounded system is not a *strange attractor* at all but an *event horizon*.⁴² The gravitational force of homeostasis, of the mutual

⁴² A strange attractor can be loosely described as a pattern indicating emergent order, or order that could not be expected given a knowledge of the elementary units of analysis. The term comes from the study of fluid dynamics, where it was found that strange attractors could appear as patterns in the turbulence of an actual system, or in the data generated by mathematical models of the same systems. Represented graphically, strange attractors exhibit seemingly bizarre shaped, indefinite boundaries, and potentially infinite complexity of form.

An event horizon, on the other hand, has the extremely simple shape of a perfect sphere. An event horizon is the boundary of space around a 'black hole' where the gravitational forces generated by supercompressed matter become so strong that even light cannot escape. The boundary of a strange attractor is generated by several interacting dynamic process, while the boundary of an event horizon is generated by a single process that has been carried past a certain point. (For a more detailed explanation of strange attractors, see Gleick, 1987: 121-153).

contingency dilemma, overcomes any social energy that would escape into an unbounded form. But contemporary experience seems to dictate against that: the world is enmeshed in globalized relations of capital, of force, of political agency, of personal identity. Economy, politics, and culture are all going transterritorial as social theory struggles to keep up by using catch-phrases like 'globalization'. We are entering a future that Parsons did not seem to imagine.

Chapter 3: Karl Marx's Applied System Theory

Introduction

This chapter, like the previous one, is divided into two broad parts: an exposition, and an analysis. The first part consists of a detailed expository discussion, in two sections, of the first two volumes of Karl Marx's *Capital*. The purpose of this exposition is to describe a *systemic model of capitalism* which Marx develops throughout the course of his text. *Capital* is a massive work, directed at once towards many purposes, and generates many diverging lines of potential theoretical inquiry. My intention here is to read the text from the perspective of system theory, and with regard to how he answers the question of 'how do social systems reproduce themselves?'. Marx begins *Capital* by defining a handful of relatively simple concepts, such as 'the commodity', 'value', and 'exchange'. He uses these basic concepts to develop more complicated ideas, such as capital accumulation and the exploitation of labour-power. Finally, he uses his developed conceptual toolbox to construct a model of the process by which capitalism reproduces itself over time and on a continually expanding scale. Marx's project in *Capital* can therefore be interpreted as a project of *applied system theory*, and it is this interpretation that concerns me here.

My exposition isolates those elements that contribute to a Marxian system theory and provide an abstract model of the workings of capitalism. It therefore divided into two main sections. These two sections are concerned with "The Basic Elements Of Capitalism" and "Capitalism As A Whole System". The first of these examines the various concepts that Marx uses to build his system-model. He begins with foundational definitions of the commodity and of the three forms of value it possesses: use-value, exchange-value, and value. The last of these, 'value', is defined as the quantity of socially necessary labour time required to produce a commodity. Using this concept of value, Marx is able to analyze the general processes of production and exchange within the capitalist system in terms of quantified labour-power. His concern is to show how labour is organized, and how its products are disposed of, under conditions of capitalism.

Having defined the commodity and the concept of value, he proceeds to show how money emerges as a unique form of commodity that is used as a means of exchange for all other commodities.

Marx then describes the circulation of commodities, and the general formula for capital. In simple commodity exchange, a person sells one commodity in order to obtain the money to purchase another commodity; that is, they sell in order to buy. In capitalist exchange, a person buys low and sells high, in order to realize surplus-value through the exchange process. For the system as a whole, however, surplus-value cannot originate from exchange, but must be generated by productive labour. Marx describes how labour-power itself is sold as a commodity, and how the working day is divided between necessary labour and surplus labour. Necessary labour reproduces the cost of labour-power, and surplus labour produces surplus-value which the capitalist appropriates as profit. Marx then describes the production process as a whole. This involves two forms of capital inputs: constant capital, or means of production, and variable capital, or labour-power. The value generated by production that exceeds the value of capital inputs is the surplus-value. The ratio of surplus value to the value of variable capital inputs determines the rate of exploitation. Marx then discusses some specific dynamics concerning how absolute and relative surplus-value can vary. I conclude the first part of my exposition by examining Marx's comment on capitalism as a form of the governance of social labour. Because capitalists have absolutist control over the productive enterprises they own, Marx finds that capitalism is an essentially despotic form of the organization of production.

The second part of my exposition focuses on Marx's systemic model of capitalism. This model describes how capitalism reproduces itself on a continually expanding scale. Marx begins by illustrating the concept of 'circuits of capital'. Taking capital in any one of its three forms (money, commodity, or productive) as a starting point, Marx shows how it follows a circuit in which it passes through each of its two other forms before returning to its original starting point. With each iteration of the circuit, the total value of the capital involved increases by the amount of surplus-value generated in the production process. Marx then shows how the 'circuit' of capital actually forms part of a continuous sequence of exchanges and production processes. The capital

circuits of individual capitalists always involve exchanges, and through these exchanges they intersect with the capital circuits belonging to other capitalists. In this manner, the entire capitalist system consists of a vast web of interconnected capital circuits. Marx then turns to the reproduction process of the system as a whole. To do this, he greatly simplifies his model, aggregating the total capital in the system and dividing this total into two departments: the manufacture of means of production, and the manufacture of consumer items. To illustrate the dynamics of system reproduction, Marx considers the imaginary case of a system reproducing itself at a constant scale. In such a case, the entire annual surplus-value produced by the system is converted into consumer goods and directly consumed by the capitalist class. Having developed his concepts thoroughly, Marx then proceeds to show how a part of the annual surplus-value product is reconverted into constant and variable capital so that the productive capacity of the system expands continually. Marx's final model operates in an equilibrium state: value enters it through production and disappears through consumption, all of which is balanced in such a way that the system expands continually in an exponential manner. Finally, I discuss Marx's conception of the 'absolute general law of capitalist accumulation', which states that the expansion of capitalist production entails an expansion of poverty among the working class.

In the final section of the chapter, I summarize the exposition and then proceed to critique the Marxian system-model. To begin with, I discuss three major accomplishments of the model. First, it demonstrates that a systemic account of capitalism is possible. Second, it performs a 'defetishizing' function. That is, it provides a rational account of the social dynamics behind phenomena that could otherwise be attributed, fatalistically, to 'the human condition'. Third, it provides a specifically labour-centered account of capitalism. This has the effect of locating capitalism as a social phenomenon, and of opening it up to specific kinds of critique that are not otherwise possible. To close this chapter, I discuss some problems and limitations found in the Marxian system-model. Value, the model's foundational concept, is deeply problematic. Marx asserts that a commodity's price is an expression of its value, but in the final analysis it is unclear whether this assertion is empirical or normative. The Marxian model is also quite narrow in scope:

it describes capitalism from a labour perspective, but does not address the social or political dimensions of power that make capitalism possible. It also does not address how forms of discrimination and exploitation not based on class can operate within capitalist production, or how capitalism's interaction with non-capitalist economic systems can affect its internal dynamics. Finally, the Marxian system-model does not provide us with a systemic alternative to capitalism. This undermines projects of critique and of social change; providing such an alternative remains a major unfulfilled goal for system theory.

Before beginning my exposition, I must emphasize one point. Marx's lifetime body of work is considerable, and the various traditions of Marxist politics and social theory are even more so. The purpose of my analysis here is not to engage with Marxism generally; that objective is quite beyond the scope of this work. My intention, as with Parsons, is to extract a specific and technical model of a social system from a specific textual source: in this case, the first two volumes of *Capital*. Where Parsons' objective was to discuss system theory in general and to make comments about the nature of systems as such, Marx's objective is to examine capitalism in particular, in a systemic fashion. Although Marx himself does not use the word 'system' very frequently, *Capital* can be read as a work of applied system theory. The uses and limitation of that theory are what concern me here. I now turn to my exposition of Marx's system-model.

I. The Basic Elements of Capitalism

And he causeth all, both small and great, rich and poor, free and bond, to receive a mark in their right hand, or in their foreheads;

And that no man might buy or sell, save that he had the mark ...

- Revelations 13: 16-17

The Commodity: Use-Value, Exchange-Value, and Value

Use-value is the property¹ possessed by an object of being able to satisfy some need or want of human beings, i.e. of being useful in some way (1867: 125).² This attribute cannot be quantified or compared; a thing either has use-value, or it does not, and different use-values are incommensurable. The usefulness of an object can apply to any aspect of human life: to the needs of the stomach, or to those of the imagination. A poem has just as much use-value as a hoe. A thing can have use-value if it fulfills some want directly (e.g. bread), or if it provides the means for producing other things which have use-value (e.g. the oven used to bake the bread; or the masonry used to construct the oven; etc.). Use-values are not inherent to objects, but are decided upon by the people who use them. A thing can therefore have more than one use-value (an expensive button can serve both as fastener and as a symbol of status), and these use-values are endlessly subject to modification. An object can acquire use-value if some function is discovered or invented for it (as uranium, for example, goes from being useless to useful with the discovery of nuclear technology), and can lose use-value due to disrepair, obsolescence or abandonment (e.g. a rusted-out old car, a 1978 personal computer, or last year's haute couture fashions). The attribute of use-value therefore contains an element of subjectivity, since it is always defined relative to some

¹ Marx slips back and forth between value as a property or attribute (e.g. an object *has* use-value if ...) and as a category or class of things (e.g. an object *is* a use-value if ...). He starts out using the categorical form consistently, but invokes concepts which depend on the attribute form, especially when discussing exchange-value and value. I am unclear whether this is a simple slippage on Marx's part, or a problem of translation from the German; to avoid confusion, I eschew the categorical form completely and stick with the attribute form.

² In this chapter, all citation references indicate works by Marx, unless otherwise specified.

human desire. If for some reason humans no longer wanted to travel by car, or to watch television, cars and TV sets would lose their use-value. The realization of use-value occurs through actual use or consumption, so that if a thing becomes unusable it also loses its use-value. Objects which have use-value “constitute the material content of wealth” (1867: 126), and their realization through use or consumption is therefore the ultimate end-point of all wealth. The production of objects with use-value is a universal attribute of human existence (1867: 131).³

Exchange-value is the quantitative relationship between an object and some other type of object for which it can be traded or exchanged (1867: 126). The emergence of exchange-value in any given society or group represents the emergence of a new form of relationship to productive processes. Where formerly individual households may have directly produced every use-value-bearing object required to satisfy their own needs, with the emergence of exchange they begin to satisfy some of their needs through trade. For example, I might have a bumper crop of apples and decide to trade them for a portion of your bumper crop of oranges, or I might produce objects specifically for the purposes of trading them for something else. Either way, the objects traded acquire exchange-value through the act of exchange. This is expressed as a ratio, as ‘x amount of commodity A can be exchanged for y amount of commodity B’, or (in its simplest form):

$$x(A) = y(B)$$

Exchange-value is dependent on use-value, i.e. an object with no use-value can have no exchange-value. Otherwise, however, the exchange-value of a thing is totally unrelated to its use-value. Through the process of exchange, objects with use-values that cannot be equated or compared are given a form of equality and comparability. Exchange-values themselves, however, are entirely relative and specific to the actual situation of exchange. The exchange-value of a specific object

... changes constantly with time and place. Hence exchange-value appears to be something accidental and purely relative, and consequently an intrinsic value, i.e. an exchange-value that is inseparably connected with the commodity, inherent in it, seems a contradiction in terms. (1867: 126)

³ As I will discuss below, any object can have use-value, but exchange-value is the distinguishing characteristic of commodities.

Objects therefore have no 'essential' or inherent exchange-value; the exchange-value of a thing is defined as whatever I am willing to exchange it for at the actual moment and in the actual circumstances of the exchange. Despite this variability, exchange-value can be reduced to another form of value, however, which we might call 'labour-value', but which Marx simply calls 'value'.

Value is defined as the quantity of labour that is required to produce an object (1867: 127).⁴ Value is measured by duration, i.e. as time spent engaging in labour. All objects produced by human energy represent lumps of congealed labour-time. However, it would not be useful to define value such that the products of a slow or inefficient worker bear more value than those of a fast, efficient worker. The value of an object is therefore defined as the quantity of socially necessary labour-time required to produce it, under the conditions of productivity normal to a given society⁵ at a given point in its history. This can be determined statistically, i.e. as an average. Value therefore varies inversely with productive efficiency: as efficiency rises (e.g. through the introduction of new techniques or new technology), the value of a commodity falls, and vice-versa. Furthermore, to calculate the value of an object one must take into account the *kind* of labour that went into its making. Marx distinguishes between 'simple average labour' and 'complex labour'. Simple average labour is that "possessed in his (sic) bodily organism by every ordinary man⁶, on the average, without being developed in any special way" (1857: 135).⁷

⁴ In defining the value of an object wholly as the product of the labour used to create it, I am leaving aside the question of the value of machinery, raw materials, etc. used in the production process. I will return to this question further on in my exposition.

⁵ Or any other unit of macroeconomic analysis. Marx tended to use nation-states as units for all of his analyses, but in principle one could define other units, ranging from the entire network of global capitalism to the extremely local economies of, say, Peruvian mountain-dwelling peasants.

⁶ Marx consistently speaks as if workers are men. This is a mistake, for two reasons: his theory does not distinguish between men's and women's capacities for labour, and his own empirical observations show that women can be incorporated into capitalist productive operations as easily as men. With regard to his theory, Marx's discussion of labour implies that it is a general *human* capacity and not one that is specifically male or masculine, and his theory of capitalism describes how working persons are incorporated into the system as labour-power, without regard to other characteristics of theirs. With regard to empirical observation, Chapter 18 ("The Working Day") of Volume I of *Capital* vividly describes how women (and children) throughout 19th-century Europe performed agricultural and industrial wage-labour for hours nearly or equally as long as the hours worked by men, under conditions equally fatiguing and equally dangerous to their health, and were exploited more in the process by receiving lower wages. The use of gender-biased language is therefore a fundamental error on Marx's part, and a somewhat conspicuous one given his willingness to take issue with other

Complex labour, whether performed by tailors, architects, or research scientists, exists as some calculable multiple of simple labour, such that we could make the statement, 'one hour of labour performed an architect is equal to x hours of simple average labour'. For the sake of convenience, Marx chooses to speak as if this calculation had already been performed, and deals only with simple average labour throughout *Capital*.

Value, as Marx has defined it, is considered to be objectively present in all commodities, and is objectively calculable. All commodities appear from this perspective as the material incarnations of various quantities of labour. This objectivity, however, does not come from the essential or existential nature of objects themselves, but from the particular social practices which are entailed by commodity exchange. This is an important point.

Men do not therefore bring the products of their labour into relation with each other as values because they see these objects merely as the material integuments of homogeneous human labour. The reverse is true: by equating their different products to each other in exchange as values, they equate their different kinds of labour to human labour. (1867: 166)

By arguing this way, Marx indicates that his real interest is not value as such, and it is especially not price; he is concerned with the fate of labour-power under capitalism: how it is organized, to what ends it is directed, and what is done with its products. Without the presence of commodity exchange, the different kinds of labour that are 'contained' in objects with different use-values are as different and incommensurable as the use-values themselves. Commodity exchange, in effect,

'conventional usages' of his day. For a discussion of Marxist approaches to the analysis of women's work both in the labour market and in the home, see for example Michèle Barrett (1988), especially pp. 152-186.

⁷ For Marx, the term 'unskilled' would be unsatisfactory for a number of reasons. One is that it is obviously a negative term which devalues and demeans the basic labour capacity of an ordinary person. Another is that it is misleading. Even the simplest forms of manual labour have a skill component. Although it may take very little time to learn how to perform an assembly-line job, it is only with experience that one learns to perform it with perfect reliability, without thinking, and under intensified or speeded-up conditions of production. The fact that these skills can be acquired by the vast majority of the population does not mean that the job contains no skill content whatsoever; a truly 'unskilled' job could be performed by untrained animals. For Marx, who is concerned with the valuation of workers as human beings, this would surely be an important point. Relevant to this is Gramsci's assertion that the 'mechanized' worker does not become the 'trained gorilla' that Taylorism expects her to be, but in fact exercises a specific and demanding skill: that of ignoring the content of one's labour and focusing only on its process (Gramsci 1971: 308).

creates the attribute of 'universal human labour' and renders it present, in varying but determinable quantities, in all objects which have exchange-value.

A *commodity* is therefore an object⁸ which possesses use-value, exchange-value, and value. (In fact, one could safely say that it is any object with the first two of these attributes, since value is necessarily implied by the presence of exchange-value.) Many objects have use-values but are not commodities. Among these are "air, virgin soil, natural meadows, unplanted forests, etc." (1867: 131), whose usefulness is not the product of labour. Also in this category are objects which are produced by labour but which do not pass through the medium of exchange. This applies to the products of subsistence labour, consumed in common by the household or community that produces them. It also applies to objects given to feudal barons and priests by working peasants via medieval rents and tithes, because in these cases the goods in question are not exchanged, but directly expropriated. "In order to become a commodity, the product must be transferred to the other person, for whom it serves as a use-value, through the medium of exchange" (1867: 131). As a social form, commodity exchange presents us with the appearance of emergence, without entailing any actual emergence. Marx argues that commodities obscure their own origins; the productive labour performed by people becomes incarnated in and concealed behind the material shape of the things produced (1867: 165). In commodity exchange, social relations between persons are transformed into material relations between persons and into social relations between things. This makes it seem as if qualitatively new forms of sociality have

⁸ Marx says a commodity is "first of all, an external object, a thing ..." (1867: 125). This raises the question of whether *information* constitutes a commodity. Is a piece of information a 'thing' with use-value? A bit of scientific knowledge, for example, or a software program? If I sell you a piece of software, which is the commodity: the program physically present as encoded bit-patterns on a magnetic or optical storage medium? Or the program, as it exists abstractly, i.e., as information that is independent of its specific medium? The former, perhaps, since we could never actually 'know' the contents of the software application; we can never carry them in our minds, so their use is dependent on their physical presence. But if, in exchange for a purse of gold, I whisper in your ear the location of enemy troops planning an ambush, which is the commodity - my whisper, or the knowledge it carries? These are interesting questions, but ones which I must bracket off as tangential to my own investigations.

Marx's 'first of all' may be literal, since later in *Capital* he asserts that labour has been made into a commodity by capitalism, and labour is not precisely an 'external object', but is a physical process involving bodies and energy in time.

emerged, when these forms can still be analytically reduced to their origins in the simple exchange relationship. The most common example of this is the money form of exchange.

Money

The roots of the money form of exchange lie in the simplest form of commodity trade; that is, the value embodied in money is not essentially different from the value embodied in barter exchanges. To demonstrate this, Marx traces how barter exchange can develop into the money-form. It is not clear whether this is supposed to represent an actual historical process, but it does provide the conceptual link between money and its antecedents. First of all, consider the following expression of exchange-value:

$$x(A) = y(B)$$

where A and B are commodities and x and y are the quantities in which they are exchanged. For example,

$$2 \text{ (coats)} = 4 \text{ (boxes of nails)}.$$

Marx labels this the *simple, isolated, or accidental* form of value (1867: 139). In it, the exchange-value of commodity A is measured in terms of commodity B . In this expression, the left side of the equation is in the relative form and the right is in the equivalent form, i.e. the value of A is known only relative to one equivalent, B . If we knew the value of B relative to some other commodity C , we would be able to deduce the relation between A and B . In addition to representing exchange-value, however, this equation also represents a value relationship, i.e. the relationship between the total labour time required to produce each respective commodity. Therefore the equation $2(A) = 4(B)$ tells us that it takes twice as much simple average labour-time to produce one coat as it does to produce one box of nails.

In any well-developed commodity economy, two coats could be traded not only for four boxes of nails, but also for a varying quantity of several other goods. To express this multiple relationship, Marx invokes the *total, or expanded* form of value (1867: 154). This is represented as follows:

$$\begin{aligned}
 x(A) &= y(B) \\
 &= z(C) \\
 &= w(D) \\
 &= v(E) \\
 &\text{etc.}
 \end{aligned}$$

In the expanded form of value, we can determine the proportional value of commodity A in relation to a variety of commodities, to every commodity for which it can potentially be exchanged. This expanded form is nothing more than the sum of a series of expressions indicating the simple or isolated form of value, i.e. it is the aggregate of $\{x(A)=y(B), x(A)=y(C), \dots \text{etc.}\}$ or $\{1 \text{ coat} = 2 \text{ boxes of nails}, 1 \text{ coat} = 30 \text{ bushels of apples}, \dots \text{etc.}\}$. Marx claims that this expanded relationship reveals more clearly the essential nature of value in determining exchange-value. The more items we add to the list of equivalencies for $x(A)$, the more apparent it becomes that an essential form of value underlies all exchanges.

The accidental relation between two individual commodity-owners disappears. It becomes plain that it is not the exchange of commodities which regulates the magnitude of their values, but rather the reverse, the magnitude of the value of commodities which regulates the proportion in which they are exchanged. (1867: 156).

This form of value is still limited, nevertheless, because however exhaustive our list becomes, we still only know the value of A.

If we reverse the terms of the series, however, so that $\{y(B)=x(A), z(C)=x(A), \dots \text{etc.}\}$, then we can find a new form of value: the *general* form. With the general form of value, we can relate the individual values of a whole series of commodities to that of a single commodity which serves as a universal equivalent (1867: 157). This is expressed as follows:

$$\left. \begin{array}{l} 20 \text{ lbs of tea} \\ 40 \text{ lbs of coffee} \\ 2 \text{ ounces of gold} \\ 1/2 \text{ ton of iron} \\ x \text{ commodity A} \\ \text{etc.} \end{array} \right\} = 1 \text{ coat}$$

From here it is a short step to the *money* form (1867: 162). In the general form, the commodity that serves as equivalent does not have to be anything in particular; we could just as easily substitute tea or iron for the coat as universal equivalent. At the same time, the particular

commodity that serves as equivalent is excluded from the relative form (the left-hand side of the equation). The money form arises when we designate one particular commodity to serve as the universal equivalent, or the money commodity, and which therefore never needs to enter the equivalent form. In European society, of course, this was primarily gold. Before it was money, gold functioned as a normal commodity; it slowly acquired the status of money as it gradually achieved a monopoly over the function of universal equivalent (1867: 163). By becoming money, gold acquired a unique use-value: to serve as the standard against which all values are measured. For any type of money, the function of serving as symbol of value becomes separated over time from the material form of that money as an actual commodity that is produced by labour. In the European case, this meant that gold coins progressively became less of an actual weight of gold and more of a symbol for gold stored elsewhere (1867: 222). The functional separation of the symbolic use of money from its material form made the move to paper money an inevitable step. Paper money became a commodity whose only use-value is that of symbolizing value. As a result, the currency of paper money must be enforced by the state, because it can only retain its use-value if it is given "objective social validity", i.e. if its symbol-function is guaranteed and if it cannot be duplicated (1867: 226). This sequence describes the emergence of the contemporary form of money value, represented below:

$$\left. \begin{array}{l} 1 \text{ coat} \\ 40 \text{ lbs of coffee} \\ 2 \text{ ounces of gold} \\ 1/2 \text{ ton of iron} \\ x \text{ commodity A} \\ \text{etc.} \end{array} \right\} = \$600$$

All of which is, of course, made possible by the 'first step' - by the emergence of commodities and of simple exchange.⁹

Money is therefore a special kind of commodity, with a unique formal use-value. It does not appear this way, however, because money, like all commodities, obscures its own origins.

⁹ Other more 'virtual' forms of money, from cheques to credit to electronic banking, are obvious extensions of the symbolic nature of the money commodity. For Marx's observation of how little 'real' money is required for ...

Marx argues that money becomes the direct incarnation of human labour. As a result, person-to-person relationships become person-to-money relationships. Social relations become atomized as money inserts itself between people (1867: 187). The movement from the simple exchange form to the general form and on to the money form is obscured, and it appears as if all things relate to x because x is money, when the truth is the opposite: that x is money because all things relate to it - because they have been made to relate to it. As a social construct, then, money gives rise to a condition that resembles emergence: complex forms emerge from simple ones and do not appear reducible to them. Marx believes that this is an illusion, however, and that reduction remains possible, even when we discuss still more elaborate forms - such as money capital.

Leaving aside for a moment the potential use of money as capital, I now turn to Marx's discussion of what distinguishes capitalist exchange from other forms of exchange.

The Circulation of Commodities and the General Formula For Capital

So far, my discussion of Marx has outlined the basics of a money-based commodity economy, but this is still not a capitalist economy. In a simple commodity economy, money serves as a means or a medium for the exchange and circulation of commodities. For example, producer Jane Doe sells her commodities in order to buy other ones; she exchanges an object with one use-value in order to get the money to buy another object. This other commodity will necessarily have a different use-value but the same value as the commodity she initially sold. To her, it is as if a fixed quantity of value has transformed itself twice: from the form of a commodity, into the form of money, and back into the form of a new commodity. This is represented as follows (for an explanation of symbols used throughout this chapter, see Appendix B at the end of this thesis):

$$C_1 \rightarrow M \rightarrow C_2 \quad \text{or} \quad C \rightarrow M \rightarrow C$$

If we treat money as a medium only, then the content of this circuit is effectively $C \rightarrow C$. Marx labels this commodity-for-commodity exchange, the "metabolic interaction of social labour" (1867:

ordinary commercial operations, see 1867: 238.

200). Taking the medium of money into account, Marx describes this process as the “metamorphosis of the commodity”, in which the commodity is ‘transformed’ from one object into another. This metamorphosis has two stages: the sale, or $C \rightarrow M$, and the purchase, or $M \rightarrow C$. At each stage, another participant to the exchange is involved, and that person is engaged in the opposite process; my sale ($C \rightarrow M$) is your purchase ($M \rightarrow C$) and vice-versa. I could represent this graphically:

Let us take the case of a complete C-M-C series, i.e. the entire process in which I sell one commodity in order to get the money to buy another commodity. If we map out this entire process, for all parties involved, we can see that it has three participants and two exchange-pairs involving four movements of money and commodities; we can also get a sense of how money moves through an economy:

For participant #1, the net result of her pair of exchanges is that she trades commodity C_1 for C_2 . For participant #2, we have only observed the tail end of a similar pair of exchanges, in which #2 realizes a purchase of commodity C_1 . Likewise, for participant #3, we have only observed the opening exchange, a sale of C_2 for money, which he will use to buy some other commodity (C_3), from still another person. This simple chain of associations could be extended indefinitely, i.e. we could add #3's association with a fourth trader:

And so on ...

... ad infinitum.

In a money economy geared around simple commodity exchange, money moves through an endless chain of exchange-pairs. Given a finite population, the circuit would eventually loop back to its point of origin. That is, the same sum of money would eventually arrive at the first participant again, and set out on a completely new path - possibly to follow a different route, or else (if trading patterns are stable) to pass through the same hands via repetition of the same exchanges. In this way, values circulate through an economy and the movement of money leaves behind a trail of relocated commodities (1867: 208). Comparing this with trade under a non-money or barter economy, we can see that money has an interesting effect. In the simplest practices of exchange, where (for example) I trade my eggs for your apples, both parties consume the purchased goods locally; that is, exchange does not involve any extensive trading networks. In more elaborate commodity exchange economies, some goods (e.g. silk, tea, works of art, etc.) will pass through many hands, and may travel great distances, before reaching a resting place. Even food goods, such as salt, can travel over great distances and for long periods of time, passing through many sets of agents, before ending their motion as realized use-values. With the emergence of money, however, extensive trading networks and local consumption can simultaneously take place. In the examples above, no commodity moved very far at all, but each simply switched from one set of hands to another - except for one: the money commodity. Money therefore can link multiple actors engaged in disparate exchanges more easily than can the trade of non-money (barter) commodities. This has an important consequence: money can greatly extend the degree of interdependency among actors in an economy, and undermine the productive self-sufficiency of formerly autonomous households. This interdependence is already fostered by any commodity exchange, but money has the capacity to increase its extent. With increasing interdependency, social actors have less power to choose whether or not to participate in certain

economic relationships, and are in a definite sense less free than they would be in a situation where each household could satisfy its own needs. And, at the same time, money sets the stage for an entirely new form of economic practice: capitalism.

With the existence of a money commodity, i.e. a commodity which serves as the measure of value and the means of circulation, the formation of 'hoards', or the concentration in the hands of individuals of large pools of reserve wealth, takes on a special significance.¹⁰ With such hoards or stockpiles, individuals can make purchases for purposes other than the satisfaction of their own material needs. They can buy goods for the express purpose of trading them at a profit, and hence of increasing their personal store of wealth. Instead of selling in order to buy ($C-M-C$), the capitalist buys in order to sell (1867: 248):

$$M \rightarrow C \rightarrow M$$

Both transaction circuits have two elements: the sale ($C-M$) and the purchase ($M-C$), but now their order is reversed. In $C-M-C$, money is 'spent' and serves as the medium for the circulation of commodities, whereas in $M-C-M$, the money is only advanced, and the commodity is itself the medium for the displacement of money which will return to its point of origin. In $C-M-C$, therefore, money 'functions as money', but in $M-C-M$ it functions as capital. Where the purpose of the first exchange circuit was to exchange one kind of thing for another, and its end result was consumption, the purpose and end result of the second is the expansion of the individual's money hoard.

The expression $M-C-M$ describes an exchange process in which all values remain constant. However, the purpose of capitalist exchange is to achieve an increase in value, realized as monetary profit (1867: 251). The more accurate expression for capitalist exchange is therefore:

$$\begin{array}{l} M \rightarrow C \rightarrow M' \\ \text{or, } M \rightarrow C \rightarrow (M + \Delta M) \end{array}$$

¹⁰ Marx does not discuss the role of money hoards in feudal economies, or precisely what made the difference between such hoarding and the emergence of money capital *per se*. The point under discussion here is merely the specific way that the hoarding or stockpiling of money forms a necessary element of capitalism.

After buying and selling some commodity, the capitalist receives money equal to the value of her initial investment, M , plus an additional amount, ΔM . This additional amount is called *surplus-value*. The purpose of capitalist exchange is therefore the generation and accumulation of surplus-value, out of which his profits are taken. This process demands indefinite expansion or growth of the capitalists' personal money-hoards or capital funds. To accrue surplus-value, the capitalist must cast her money into circulation by making an investment in some commodities, and then withdraw it again through sale. The success of this activity is measured by the increase in the capitalist's personal money stockpile.

In capitalist exchange, therefore, the circulation of money as capital is the 'alpha and omega' of economic activity. According to Marx, all persons who profit by such exchange are individually motivated to ensure that it proceeds unhindered, that all social and political boundaries to it are removed, and that every imaginable technique or device is employed in the furtherance of profitable exchange. This aspect of capitalist exchange is so regular, so determined by the nature of the system itself, that it fades from view; the capitalists themselves as social actors disappear, and value takes on a kind of life of its own. Value itself becomes a social actor, the sole agent in a limitless process through which it appreciates itself via the medium of commodities.

In an economy where only a few actors operate as capitalists, and on a limited scale, networks of commodity distribution are partially interpenetrated by networks of capital accumulation; in a full-blown capitalist economy, however, they are one and the same. Where capitalist exchange has encompassed the entire economy of a society, a contradiction emerges: where does profit come from? How can all capitalists in a capitalist economy simultaneously withdraw more money from the total economy than they put into it? To put this question more properly, where does surplus-value come from (1867: 258)? Within an economy of a fixed size, a certain amount of money exists and, according to the assumptions that have so far prevailed in Marx's examples, a fixed amount of value exists. Exchange only relocates values without transforming them: it cannot produce generate additional value out of thin air. Individually, I could make a profit simply by buying low and selling high, but the total amount of value in an economy

cannot expand through such wheeling and dealing. Surplus-value therefore cannot arise within a closed network of economic circulation: it must enter the network of circulation from some outside point (1867: 265). That outside point is the site of *production*.

The Value of Labour-Power; Necessary and Surplus Labour

In order for new value to enter a system of circulation, it must be created through labour. In the paragraphs below I shall explain Marx's conception of how this takes place. To begin with, all use-values originate in the action of human labour upon natural materials. Labour, then, or more precisely 'labour-power', can be considered an object with a unique use-value: that of creating other use-values. Marx defines labour-power (or labour-capacity) as:

... the aggregate of those mental and physical capabilities existing in the physical form, the living personality, of a human being, capabilities which he sets in motion whenever he produces use-values of any kind. (1867: 270)

Since Marx asserts that the value of all commodities is measured in the labour-time necessary to produce them, then measuring the 'value of labour' would seem to present a circular problem. However, a day's labour-power turns out to have a definite production cost. The daily sustenance that labourers require to keep themselves alive and fit for labour involves a more or less definite basket of material goods. The various objects (food, clothing, etc.) in this basket are themselves commodities. They therefore possess a definite value. As a result, the value of an individual's labour-power can be calculated as the value of the commodities which that individual needs to reproduce herself, in a condition fit for further labour. Some of these commodities, such as food, or heat, are consumed daily, while others, such as clothes, or housing, are purchased at shorter or longer intervals and require varying degrees of upkeep. If we were to take the total value of all the commodities required by an individual labourer in the course of one year, and divide this by 365, we would have a reasonable estimate of the daily cost of an individual's labour. There is nothing absolute about this number; it is dependent on the conditions that are 'normal' to a worker in a given society. The value of a day's labour therefore depends on whether workers are expected to

support only themselves or to provide subsistence for an immediate or extended family,¹¹ and on whether labourers are required to incur additional work-related or socially expected costs.¹² Still, at a given point in time and for a given society, the value of labour-power can be defined as the value of a particular basket of goods which can be demonstrated to be the cost of subsistence which that worker must meet.¹³

The value of a day's expenditure of labour-power is therefore equal to the value of the cost of a day's subsistence for a labourer. This can be measured in money, or in the labour-time required to produce this value. Knowing the value (i.e. labour-time) contained in the 'basket of necessities' required for a worker's subsistence provides the single most important piece of empirical information to a Marxist analysis of capitalism. For example, assume that we know that price, under normal circumstances, of the daily means of subsistence for a worker, is \$30. If we also know that the quantity of labour-time required to produce those means is 6 hours, then two important analytical consequences follow. The first is that we can now establish an equivalency between value and monetary price. By knowing the monetary price of a worker's daily subsistence, we have an easy shorthand for calculating the value of all other commodities exchanged in the economy, including labour-power itself. If six hours of labour is required to produce means of subsistence of a value of \$30, then 1 hour produces a value of \$5. If we assume that, under normal circumstance, all commodities are sold at their value, then we can say that \$5

¹¹ In Marx's day, women (including married women) and increasingly young children frequently put in full duty as wage-labourers, driving down the value of an individual's labour-power. It is possible that Marx expected this trend to continue indefinitely, although he himself reported on the English Factory Acts which, themselves a response to working-class agitation, placed stricter limits on working hours for children and for women than for adult men (1867: 389-411).

¹² This includes, for example, the costs of tools, of transportation, of socially decreed minimum hygiene and health, and so on. All of these factors vary from one society to the next and over the course of any one society's historical development.

¹³ Marx proposes this concept (the value of labour-power) as an analytical tool, without providing guidance as to how it can be operationalized. In a public debate, workers and capitalists would undoubtedly have a great deal of disagreement over what constituted a 'subsistence wage', including over what constituted an acceptable standard of nourishment and physical health. Marx's arguments also require some modification if they are to apply to societies in which many working persons performing simple average labour receive an above-subsistence wage.

reliably represents a value of one hour of labour-time. To find the value of any commodity, we can then divide its price by \$5. A good costing \$50 therefore has a value of 10 hours of labour.

One hour's labour produces a monetary value of \$5. On the other hand, the value of a day's expenditure of labour-power is defined as the cost of its reproduction (6 hours in my example), regardless of how many hours of labour the worker actually performs. This means that a worker can create more value in a day's labour than the day's labour is itself worth. Therefore, the second major consequence of knowing the quantity of labour time required to produce a day's worth of subsistence is that we can divide up a working day into two components: *necessary labour* and *surplus labour* (1867: 325). Necessary labour is the amount of time in a given working day that would be required to produce the workers' means of subsistence for that day. Surplus labour is the amount of time the worker spends on labour in excess of the period of necessary labour. If, therefore, necessary labour is equal to six hours, and the worker is induced or compelled to work a day of 12 hours, then the surplus labour is also equal to six hours. As I shall show below, surplus labour is necessary for the creation of surplus-value, and under capitalism it gives rise to the phenomenon of *exploitation*.

Production: Constant and Variable Capital, Surplus-Value, and the Rate of Exploitation

Above, Marx defined the value of a commodity as being the quantity of socially necessary, simple average labour time required to produce it under normal conditions of production. This requires a bit of elaboration, however. Any given productive process typically involves not just labour-power, but also raw material inputs and productive machinery (1867: 295). For example, if I wish to produce yarn, I must buy cotton thread as a raw material input, and I must use a steel spindle for spinning the thread into yarn. The value of the raw material inputs is carried over into the value of the yarn produced; the cotton thread itself disappears, but the labourer has converted it into yarn and therefore has translated its value into the yarn. At the same time, the steel spindle has undergone a certain amount of wear-and-tear or depreciation. Imagine that the steel spindle costs

\$1000, and must be replaced after I spin 500 kg of yarn. The depreciation of the spindle if I spin 20 kg of yarn is therefore $1/25$ th of its total value, or \$40. Reproducing my above example in which \$5 represent a value of one hour's labour, then the value of this depreciation is therefore equal to 8 hours of labour-time. Assume that the raw material inputs (20 lb. of cotton thread) cost \$200, or 40 hours of labour, and that one worker must labour 12 hours on the thread to convert it into 20 lb. of yarn. The value of this 12 hours of labour is equal to \$60 in money (1867: 330).¹⁴

The total value of the cotton is therefore:

	<u>Money Cost</u>	<u>Value</u>
Raw Materials (cotton thread)	\$200	40 h
Depreciation (of spindle)	40	8 h
Labour	60	12 h
Total	\$300	60 h

The cotton contains 60 hours of labour-time, although only 12 are added during its production: 40 hours are already present in the raw materials and 8 hours are 'transferred' from the worn-down steel spindle to the cotton product. If the labourer was allowed to spend two 6-hour days making the cotton, and was paid a value equal to the value of her labour-power, then the capitalist would have spent exactly \$300 to produce \$300 worth of cotton. The point of capitalist production, however, is to make a profit: to engage not just in *M-C-M* but in *M-C-M'*. The capitalist must therefore save a little money somewhere, must spend less than \$300 in the production of \$300 worth of value. To explain how this is done, Marx introduces the three-part distinction among constant capital, variable capital, and surplus value.

Constant capital consists of the means of production, i.e. material inputs to the productive process: the raw materials¹⁵ and the instruments of labour (tools or machinery) to which human

¹⁴ For the sake of clarity, I have converted Marx's original price figures from shillings to dollars and multiplied them by ten to make them approximate contemporary prices somewhat more realistically.

¹⁵ Marx also distinguishes 'auxiliary materials' from raw materials proper. Auxiliary materials are used up in the production process but do not form part of the material elements of the finished product - e.g., coal to fuel the machines, dye to bleach fabric, grease to lubricate machine-wheels, etc., while raw materials are those inputs that are physically present in the finished product (186: 288, 317). For the purposes of my argument I can skip over this distinction and lump both categories together as 'raw materials'.

labour-power will be applied. The symbol c can be used to represent the value of the constant capital invested in a productive process. *Variable capital* consists of the human labour-power which is applied to the productive process (1867: 317). The value of the variable capital can be represented by the symbol v . Both constant and variable capital are made up of commodities, since labour itself is sold as a commodity. Both are purchased out of the original money capital, which the capitalist had stored up for this very purpose. *Surplus value*, as I have noted above, is the value of commodity-product which is produced in excess of the value of the capital inputs. It can be represented by the symbol s . Recalling that the symbol C can represent a given value of commodities, and M a given value of money, then the basic form of the capitalist production process can be displayed as a formula.¹⁶ The total exchange process for the capitalist appears therefore not as $M-C-M'$, but as:

$$\begin{array}{l} M \rightarrow C \rightarrow (C + \Delta C) \rightarrow (M + \Delta M) \\ \text{or.} \quad M \rightarrow C \rightarrow C' \rightarrow M' \end{array}$$

where it is the case that:

$$\begin{array}{l} M = C = c + v \\ \text{and} \quad M' = C' = (c + v) + s \end{array}$$

It therefore follows that

$$\Delta M = \Delta C = s$$

This once again leaves us with the question, where does s , or surplus-value, come from?

It comes from surplus labour. In my example above, I proposed a test case in which the necessary labour of an average worker was equal to 6 hours; i.e. 6 hours of labour was required to produce a value equal to the value of the worker's necessary means of subsistence. Assuming the price of the daily means of subsistence is \$30, then value produced by one hour's expenditure of labour-power is \$5. However, although a worker needs to work only 6 hours to reproduce herself, she is capable of working much longer than that. For example, when discussing the spinning of cotton above, I mentioned that if the worker worked two 6-hour days, then the value

¹⁶ If necessary, please refer to [Appendix B: Glossary of Symbols](#), located at the end of this thesis.

of the cotton produced would equal the value of all of its capital components. If, however, the worker could be induced to work for 12 hours in a single day, while still being paid the subsistence wage equal in value to 6 hours of labour, then the capitalist would receive 6 hours' worth of value literally for free. (In fact, a 12-hour working day was a common minimum in England of the mid-19th century.¹⁷) This additional six hours beyond the necessary labour time constitutes surplus labour.

Under the conditions of a free market it is relatively easy for capitalists to induce workers to provide that surplus labour for free. The simplest method is to pay a daily wage equal to the value of subsistence, and then stipulate a 12-hour day as part of the terms of employment. Another method would be to provide an hourly wage of \$2.50, which would require workers to put in a 12-hour day in order to cover their \$30 personal subsistence costs. Any of these and other methods are legitimate under capitalist rules governing the purchase and sale of labour-power; in fact, they have to be, because the *only* source of surplus-value, and hence of profit, in a capitalist system is the appropriation of the value produced by unpaid labour. If one could purchase machinery or raw materials at less than their value, then things would be otherwise, but this is not possible on a systematic level. Under the normal operations of the system, this does not even appear as unpaid labour, since the worker does receive a wage, and the product of the worker's labour belongs without any question to the capitalist. It is only by constructing a system-model centred around an analysis of labour that Marx is able to make this assertion.

To recapitulate, here is the previous table for the production of cotton, with c , v , and s , indicated:

¹⁷ Marx observed that, especially in industries where hours of work were not regulated by law or were poorly regulated, actual working days were often longer (1867: 353). Marx noted that the only absolute limit to any given working day is 24 hours (1867: 419), and he provides many examples in Volume I, Chapter 10 where workers were induced to come astonishingly close to that limit for sustained periods of time.

		<u>Money Cost</u>	<u>Value</u>
<i>c</i>	Raw Materials + Depreciation	\$240	48 h
<i>v</i>	Necessary Labour	30	6 h
<i>s</i>	Surplus Labour	30	6 h
<i>c+v+s</i>	Total	\$300	60 h

From this chart, we can see that the capitalist who employs a labourer for a single 12-hour day spends \$270 on constant and variable capital ($c+v$) but generates a commodity product worth \$300 ($c+v+s$). The end result of this is a ΔM , or profit, of \$30. This profit belongs to the capitalist because, under the rules of capitalist production, the labourer owns nothing of the product she creates. By using the 'legitimate' means at his disposal to compel workers to work beyond the period of necessary labour, the capitalist is therefore able to expropriate any surplus-value that the worker so generates. For Marx, value is created solely through the expenditure of the worker's labour-power, and the capitalist contributes nothing in the way of direct energy expended. The extraction of surplus-value by capitalists is therefore nothing less than direct extortion, an extortion carried on systematically by the entire capitalist class against the entire labouring class. All profit-generating labour performed in a capitalist economy, therefore, involves some necessary degree of exploitation.

Exploitation can be directly measured as the ratio of value created during surplus labour-time to the value created during necessary labour-time. The value of necessary labour is paid for out of, and constitutes the whole of, the variable capital fund. The rate of exploitation is equal to the ratio of surplus value to variable capital. This is expressed mathematically as

$$\frac{s}{v} = \text{the rate of surplus value} = \text{the rate of exploitation (1867: 326)}.$$

The absolute amount of surplus-value is equal to the absolute amount of profit.¹⁸ The ratio of profit and the ratio of surplus value, however, are different. The rate of profit is defined as the ratio of surplus-value to total capital costs, or:

¹⁸ Unless the capitalist has to pay taxes to the state, interest on a loan, rent to another capitalist for land, ...

$$\frac{s}{c+v} = \text{the rate of profit (1867: 327).}$$

In the above example, the rate of profit is 300:270 or just over 10%, while the rate of exploitation is 30:30 or 100%. As a capitalist, I extort for my own profit a value equal to that which I provide to the worker for her subsistence.¹⁹ This leads Marx to assert that “capital ... is essentially the command over unpaid labour. ... The secret of the self-valorization of capital resolves itself into the fact that it has at its disposal a definite quantity of the unpaid labour of other people” (1867: 627).

Relative and Absolute Surplus-Value; How to Increase Each

The centrality of exploitation to capitalist production produces two major consequences for capitalism as a system, one economic and the other sociopolitical. The economic consequence is this: in the face of competitive market pressures, individual capitalists are motivated to continually improve the efficiency of the productive technologies that they employ (1867: 436). This has the net effect of increasing productivity for the system as a whole, and of driving down the value of labour-power. To illustrate this, I shall first clarify the difference between absolute and relative surplus-value, and the techniques for increasing both. So far, I have used the symbol v to represent variable capital and s to represent surplus-value. Now, for the sake of this particular example let v represent the variable capital expended on an average individual worker, and s represent the surplus-value produced by the same individual. In addition, let V represent the total

machinery, etc. In the case of taxes, interest, or rent, the surplus value appropriated by the capitalist is then divided up among several parties; the part that the capitalist has left over constitutes his own profit.

¹⁹ The ‘petit-bourgeoisie’ or self-exploiting capitalist, who himself provides the labour that valorizes his capital, does not appear in Marx’s analysis, either here or elsewhere in *Capital*. This is an interesting omission, and there are three possible reasons for it: 1) that Marx wished to agitate the working class against the depredations of a bourgeoisie that lived at their expense, and the self-employed independent businessman did not make such a good target; 2) that Marx considered the activities of this intermediate class to be economically insignificant, or else expected that they would become so as capitalism developed; or 3) that as long as the sale of labour-power on the market provided the major source of productive labour for capitalism, the exploitative relationship between the worker and the capitalist would remain an essential characteristic of the system which a few self-sufficient capitalist farmers or businessmen would not really mitigate. I suspect that the real reason is some combination of (3) and (1).

variable capital expended at a particular plant or firm; let S represent the total absolute surplus-value generated by the firm.²⁰ Finally, let $\frac{a'}{a}$ stand for the ratio of surplus to necessary labour, let P represent the value for one day of average labour, and let n represent the number of labourers in the firm. It is therefore the case that:

$$S = \frac{s}{v}(V) = \frac{a'}{a}(nP)$$

(1867: 418). In other words, the total absolute surplus-value generated by a firm is equal to the rate of exploitation, multiplied by the total expenditure on variable capital. It is also equal to the average productive capacity in the firm multiplied by the number of workers in the firm, multiplied by the ratio of surplus to necessary labour. These equations give us a vocabulary for describing the ways of increasing surplus-value.²¹

Absolute surplus-value is equal to S , or simply the total value produced by a firm that is in excess of its constant and variable capital costs. If the rate of exploitation is fixed, then the only way to increase absolute surplus-value is to increase the number of workers employed. If n workers produce a total surplus value of S , then $2n$ workers will produce a surplus value of $2S$. The other way to improve absolute surplus-value is to keep the number of workers constant, and make improvements in the rate of surplus-value per worker. *Relative* surplus-value is equal to the ratio of $S:V$, which in turn is equal to the ratio of average s to average v , and hence to the average rate of exploitation in a firm. To increase the rate of surplus value, and hence (assuming a fixed cost for constant capital) to increase the rate of profit, a capitalist must therefore either increase the

²⁰ Marx employs this usage of s and S , v and V , to designate average and total quantities respectively, only during this particular discussion about absolute and relative surplus-value. I have reproduced his usage for this particular section, but everywhere else in my exposition the symbols v and s represent the total values of variable capital and surplus-value associated with a particular production process, not the average values.

²¹ They appear redundant, since $\frac{s}{v}$ is necessarily equal to $\frac{a'}{a}$, and P is merely an expression for the average v , so that nP is necessarily equal to V . However, these two different forms of the equation express different dimensions of the exploitation of labour. The expression $\frac{s}{v}(V)$ represents the mass of variable capital advanced multiplied by the rate of surplus value; the expression $\frac{a'}{a}(nP)$ symbolizes the mass of labour-power expended, multiplied by the rate of exploitation. The difference is subtle but significant, and the equivalency between the

amount of surplus-value extracted, or decrease the amount of variable capital expended per worker. The former can be accomplished by simply lengthening the working day, requiring the worker to spend more time every day on surplus labour (1867: 655, 662). The only absolute limit to this is the 24 hours in the day, although as the working day lengthens the worker loses first her leisure, then her psychological well-being, then her physical health. Hence in a system not regulated by law or other means, the tendencies of individual capitalists to increase their own profits will motivate them to increase the working day to an injurious degree. Another way to increase surplus-value is to increase the intensity of labour, for example by an increase in the speed of an assembly line, so that workers produce more value per hour (1867: 660). The time spent on necessary labour will therefore decrease, leading to a corresponding increase in the time spent on surplus-labour. The final way to increase relative surplus-value is to improve the productivity of individual workers (1867: 656). This can take place in the technological improvement of the machinery which the workers use in production, which causes the value produced per hour by each worker to rise, exactly as if the intensity of labour had been increased. It can also take place as a result of technological improvements elsewhere which decrease the value of the workers' necessary means of subsistence (1867: 432). In either case, v declines absolutely, so that $s:v$ increases. Given that the length of the working day and the intensity of labour have more or less absolute limits, capitalism has an innate tendency to increase the productivity of its capital and reduce the value of labour-power, especially through technological innovation (1867: 437).

Co-Ordination of Social Labour Under Capitalism

The second implication of exploitation has to do with the form of governance it exercises over co-operative labour. Marx defines co-operation, roughly, as the condition in which numerous workers labour together in the joint creation of value²² (1867: 443). Co-operation makes it possible for qualitatively new kinds of productive activity to be undertaken. Marx argues that, just

two forms indicates the relationship between the concepts, and practices, symbolized by them.

as the offensive or defensive capability of one large military unit is qualitatively different from that of many small units, so the productive possibilities open to a large group of co-operating workers are qualitatively different from those open to many isolated small groups. The small group or the isolated individual either simply could not duplicate the results of the large group, or could only do so with a disproportionate expenditure of time and energy. The possibility of constructing skyscrapers, therefore, or highways, or commodities in the millions, is the product of *collective* productive power. Capitalism, of all historically occurring systems of political economy, has demonstrated the greatest capacity to organize this co-operative labour extensively and systematically (1867: 453). This is partly because capital has been able to concentrate the material means of production to an unprecedented degree through technological development and industrial organization. More fundamentally, capitalism has a built-in means of ensuring the organization, superintendence, and strategic planning of co-operative projects: the self-interest of capitalists, whose continued profit depends on the successful execution of these functions:²²

All directly social or communal labour on a large scale requires, to a greater or lesser degree, a directing authority, in order to secure the harmonious co-operation of the activities of individuals A single violin player is his own conductor: an orchestra requires a separate one. The work of directing, superintending, and adjusting becomes one of the functions of capital, from the moment that the labour under capital's control becomes co-operative. (1867: 448)

However, the control thus exercised by capitalists is exercised with the aim of realizing a particular overriding goal: the increase of profit, through the increase of surplus-value. The directing function performed by capitalists is therefore inescapably conditioned by the "unavoidable antagonism between the exploiter and the raw material of his exploitation" (1867: 449). The productive processes directed by capitalists are *social*, such that the fates of every member of society are bound up in them, but the form of their ownership is *individual*. Actual individual

²² This co-operation does not by any means need to be *voluntary*, as I shall discuss below.

²³ This is probably the closest Marx comes in *Capital* to explicitly employing the concept of 'function' in the Parsonian sense, i.e. of a social institution being adaptively integrated to serve the functional needs of the whole system.

capitalists may be driven by noble ideals as much as by self-interest, but as a form of governance regulating the production of a society's use-values, capitalism is inherently despotic.

Marx's characterization of capitalism as a despotic form of the social organization of labour provides an example of how he uses his analytical concepts to comment upon and critique the social effects of capitalism. When a particular effect, such as the despotic control of labour, is shown to be an intrinsic part of capitalism, then critiquing that effect critiques the system itself. Marx's desire to articulate a radical critique of capitalism is one of the reasons he develops his systematic theory. I will have more to say about this critical project later in this chapter, and especially in my concluding analysis. In the meantime, however, my discussion must return to an examination of the concepts that Marx uses to build his model of the capitalist system.

The Circuits of Money, Commodity, and Productive Capital

In Marx's model, capitalism is a social form whose complex structures are the result of fairly simple rules. For individual capitalists, value in the form of accumulated capital passes through the circuit $M-C-C'-M'$. At the outset of Volume II, however, Marx indicates that this scheme requires some further elaboration. Between C and C' , as I have shown, lies an additional process: the production process, in which labour combines with raw materials and with tools or machines to produce value outputs equal to, or greater than, the values inputted, i.e. than the combined values of the labour-power, machines, and raw materials themselves. This can be represented as follows:

$$M \rightarrow C \dots P \dots C' \rightarrow M'$$

This is called the *circuit of money capital* (1885: 109). Within this circuit, capital exists in three fundamental forms: as money capital (M), as commodity capital (C), and as productive capital engaged in the productive process (P). It also has three components:

- 1) the initial $M-C$, in which some quantity of money capital is exchanged for an equal value of commodity capital;
- 2) the process of production P , in which commodities purchased as production inputs are transformed into commodities to be sold on the market for profit; and

- 3) the final $C'-M'$, in which the newly manufactured commodities are reconverted into an (enlarged) quantity of money capital.

Once the circuit is completed, M' becomes the new M and things start all over again. Each of these three phases of the cycle involves the conversion of capital from one form into another: in $M-C$ and $C'-M'$, this happens through the medium of exchange, while in P it happens via the productive process. Only in P does new value enter into the circuit; at all other stages the actual value possessed by the capitalist remains constant.

In the initial stage, $M-C$, an amount of money capital is converted into potentially productive commodity capital. This capital expenditure is divided, as I have discussed above, into its constant and variable capital components. Constant capital, in its material form, consists of raw materials, machinery, buildings, and other non-labour commodities necessary for the production process. Marx labels these materials the *means of production*, abbreviated as mp . The material component of variable capital consists of the actual labour-power that workers sell to capitalists in exchange for their wages. This is abbreviated as L . From the capitalist's side of the equation, therefore, the complete $M-C$ process looks more like this:²⁴

$$M \rightarrow C \begin{bmatrix} L \\ mp \end{bmatrix} \quad \text{or} \quad \begin{matrix} \text{\%} M \rightarrow L \\ \text{\%} M \rightarrow mp \end{matrix}$$

The capitalist therefore makes two²⁵ separate purchases: one of labour (variable capital) and one of means of production (constant capital). As an aside, Marx notes that L and mp must exist in a certain proportion to each other, determined by the technical nature of the specific production process under consideration: there must be enough labourers to operate all of the means of production, and there must be enough means of production to keep all of the labourers busy (1885: 111).

²⁴ The ratio of L to mp costs in this example are taken from the above discussion of cotton (see p.95).

²⁵ Actually, there are more than two transactions: the capitalist hires many individual labourers, and buys means of production from several sources (machinery from one, electricity from another, chemical inputs from still another, and so on). They can be represented figuratively, however, as two *types* of transaction, which are similar, but involve different kinds of capital and different participants to the exchange.

In Marx's analysis, every exchange by one actor involves an equal and opposite exchange by another actor. Therefore each of these purchases is also a sale by some other party. In the case of $M-L$, the other party is a labourer who sells the only commodity she has to sell, her own labour-power, in exchange for money: $C-M$ (1885: 113). Her intention in this exchange is to use the money to buy the food, shelter, etc. necessary to reproduce her own life and her labour-power ($M-C$). Being paid a wage which she will consume entirely²⁶, she cannot be considered a capitalist, so she is engaged in simple commodity exchange ($C-M-C$) in which she sells her labour-power to one capitalist, in order to buy means of sustenance from other capitalists. In the case of the purchase of means of production, this exchange is also simultaneously a sale, this time for some other capitalist who is in the business of producing raw materials or machinery. The $M-C$ for our first capitalist is therefore the realization of $C'-M'$ for the second capitalist. These two more or less concurrent transactions can be represented as follows:

In this chart, the symbols M , C , etc., represent fixed quantities of value in a particular form; arrows represent exchanges; solid boxes surround the $M-C$ process for capitalist #1, and dotted boxes surround the process in which value in the hands of any one actor changes its form. This illustration shows how any one component of the money circuit of capital which involves a sale or exchange is simultaneously a component of the exchange circuit of someone else.

The second stage of the money circuit of capital, P , involves the now-familiar combination of labour-power and means of production to recreate the value of the original inputs, plus an additional surplus-value, in the form of saleable commodities. Its most interesting feature as an element of a circuit of capital is that it represents an interruption of circulation (1885: 118). Once tied up in the productive process, value cannot circulate and must remain where it is until a finished

²⁶ Especially if it is a subsistence wage, as Marx assumed it would be.

product appears. It is in the process P that value is added to the total circuit: its input is equal to $c+v$, and its output is equal to $c+v+s$. We can therefore represent the circuit as follows:

$$\begin{array}{ccccccc} \text{Money} & \rightarrow & \text{Commodities} & \dots P \dots & \text{Commodities} & \rightarrow & \text{Money} \\ \hline = c+v & & \bullet mp = c & & = c+v+s & & = c+v+s \\ & & \bullet L = v & & & & \end{array}$$

or, using numbers from an earlier example,

$$\begin{array}{ccccccc} \text{Money} & \rightarrow & \text{Commodities} & \dots P \dots & \text{Commodities} & \rightarrow & \text{Money} \\ \hline = \$270 & & \bullet mp = \$240 & & = \$240+30+30 & & = \$300 \\ & & \bullet L = \$30 & & = \$300 & & \end{array}$$

The final $C'-M'$ exchange is the exact reverse of the initial $M-C$ exchange: a value-amount of commodities is converted by exchange into an equal value-amount of money, which will serve as capital for the next round of the circuit. The only difference in this case is that the commodities, instead of being productive inputs L and mp , consist of items to be sold on the market. They may actually themselves be items (e.g. seed grain, auto parts, etc.) that provide means of production for another capitalist, but for this capitalist they represent only a saleable product. During the final $C'-M'$ exchange, the capitalist is able to realize the profit on his investment, and hence to take more money out of the market than he originally put into it (1885: 125). He is able to do this, however, not because of exchange processes, but because of the intervening process of production in which additional (surplus) value was created through labour.

So much for the circuit of money capital. By choosing a different starting-point for analysis, this same series of transformations can be represented in two additional forms. The first of these is the *circuit of productive capital* (1885: 144):

$$P \dots C' \rightarrow M' \rightarrow C \dots P$$

In the circuit of money capital, the production processes appeared as an interruption of the cycle of exchange ($M-C-C'-M'$) in which value was temporarily 'locked up' at the site of production. In the circuit of productive capital, however, the exchange cycle $C'-M'-C$ itself appears as an interruption of the production process, in which value is removed from production so that it can pass through circulation. This reveals that both production and exchange are processes through which value is transformed from one form into another. The exchange circuit transforms saleable

commodities into constant and variable capital, using money as a medium, while the production processes transforms productive capital into saleable commodities.

Analyzing the circuit of productive capital directs our attention to the difference between *simple* and *expanded* reproduction of capital. In the first case, simple reproduction, the quantity of productive capital remains constant. The entire surplus-value produced by the capitalist is consumed, and none of it is reinvested, so that instead of M' forming the new quantity of money capital, only the original M amount is returned to the circuit; in expanded reproduction, some or all of the surplus value produced is reinvested. Simple reproduction can be illustrated as follows:

$$P \dots \begin{pmatrix} C \\ + \\ \Delta C \end{pmatrix} \rightarrow \begin{pmatrix} M \\ + \\ \Delta M \end{pmatrix} \rightarrow C \dots P$$

$$ \phantom{\begin{pmatrix} C \\ + \\ \Delta C \end{pmatrix}} \rightarrow \phantom{\begin{pmatrix} M \\ + \\ \Delta M \end{pmatrix}} \rightarrow C_2$$

Here, the total output of the productive process is separated into C and ΔC . C is a quantity of saleable commodities whose value is equal to the value of the original productive capital. ΔC represents the commodities produced in excess of that original value; the value of ΔC is (by definition) equal to the surplus-value in this case. In this example, the commodities C are sold (exchanged) for money capital M , equal to the value of the money capital originally advanced. This new money capital is then used to buy new constant and variable capital (C), which is entered into a new production process (P). The commodities ΔC are sold for money ΔM , which is then used to purchase consumer goods (C_2) that are directly consumed. According to Marx, this surplus product is consumed entirely by capitalists, since the labourers only receive wages equal to their personal subsistence costs (1885: 149). If, by some arrangement, workers actually receive part of this surplus-product, it does not change the fact that the value of P remains constant and so the circuit as a whole does not expand; the value produced in each cycle remains the same. If, on the other hand, part of the surplus-product is reinvested, then the circuit $P \dots P$ is transformed into $P \dots P'$, or

$$P \dots \begin{pmatrix} C \\ + \\ \Delta C \end{pmatrix} \rightarrow \begin{pmatrix} M \\ + \\ \Delta M \end{pmatrix} \rightarrow C \dots P$$

$$C_2 \rightarrow \frac{\Delta P}{C_3}$$

This ΔP could be simply added to the total of the original P , (e.g. the original factory plant could be expanded), or, if large enough, it could be used to launch a new capitalist enterprise entirely.

The final form in which this sequence of exchange and production processes can be represented is the *circuit of commodity capital* (1885: 167):

$$C' \rightarrow M' \rightarrow C \begin{pmatrix} L \\ mp \end{pmatrix} \dots P \dots C'$$

From a system perspective, the circuit of commodity capital bears a few distinguishing features. Whereas the circuit of money capital presented the increase of money capital as the end-point of the overall process, in the circuit of commodity capital it is the expansion of the stock of commodities that has the greatest prominence. This leads Marx to note the importance of the *kind* of commodities produced. Reproduction on an expanding scale, or the expansion of P into P' , can only take place if at least some of the commodities produced as part of C' take the form of productive capital (1885: 179). This expanded productive capital may include the means of subsistence for an expanded pool of labour, but it will most often contain means of production, especially new productive machinery; the L component of the productive capital tends to shrink relative to the mp component, even if it does not necessarily shrink absolutely (1885: 162). This consideration emphasizes the importance that the kind of use-values contained in the C' product has in determining the possibilities for production open to the next stage of the cycle. Or rather, since an individual capitalist does not buy her own product but sells it to others, the commodity circuit of capital emphasizes the relationship between the use-values produced and consumed by different capitalists involved in different production processes. Of all the three circuits, $C'-C'$ points most directly to the broader processes in which individual circuits are enmeshed.

The Three Circuits Taken Together

In a sense, choosing any one circuit for analysis represents the more-or-less arbitrary imposition of a limiting frame on what is really an unbroken continuous process. I can illustrate this whole process graphically, choosing M as an arbitrary starting-point:

$$\rightarrow M_1 \rightarrow C_1(\overset{L}{mp}) \dots P_1 \dots C_2 \rightarrow M_2 \rightarrow C_2(\overset{L}{mp}) \dots P_2 \dots C_3 \rightarrow M_3 \rightarrow C_3(\overset{L}{mp}) \dots P_3 \dots$$

Into this endless unbroken process the analyst can insert their own starting- and ending-marks in order to elucidate specific aspects of the whole:

$$\begin{array}{c} \overbrace{\rightarrow M_1 \rightarrow C_1(\overset{L}{mp}) \dots P_1 \dots C_2 \rightarrow M_2}^{\text{Circuit of Money Capital}} \quad \overbrace{\rightarrow C_2(\overset{L}{mp}) \dots P_2 \dots C_3 \rightarrow M_3 \rightarrow C_3(\overset{L}{mp}) \dots P_3 \dots}^{\text{Circuit of Productive Capital}} \\ \underbrace{\hspace{10em}}_{\text{Circuit of Commodity Capital}} \end{array}$$

If we take money, commodities, and production as three forms of capital, then each circuit is nothing less than the process of reproduction for one of these forms. As processes of reproduction, the three circuits are continuously executed along-side one another: money, commodity, and productive capital, in the hands of any one capitalist, are always simultaneously being reproduced, although at any one moment each is in a different phase of its own reproductive process.

As a whole, then, the capital is simultaneously present, and spatially coexistent, in its various phases. But each part is constantly passing from one phase or functional form into another, and thus functions in all of them in turn. The forms are therefore fluid forms, and their simultaneity is mediated by their succession. (1885: 184)

Moreover, the *total social capital*, the aggregate of all capital in a given society, possesses this same continuity. At any given moment, a certain amount of it exists in the form of money capital, stored in the savings accounts (for example) of various capitalists scattered throughout the land (as it were): a certain amount exists as commodity capital in storehouses or on the shelves ready for sale, and a certain amount is tied up in processes of production.

Furthermore, since any exchange by one actor involves an equal and opposite exchange by another actor, the circuit of capital for any one capitalist is intertwined with the circuits of others. If, for example, a capitalist is engaged in making bread, then the sale $C'-M'$ in her capital circuit is

simultaneously a purchase $M-C$ for a multitude of individual labourers buying their daily bread, and for a smaller number of capitalists who are using part of their accrued surplus-value for personal consumption. In the same fashion, her purchase of labour-power, $M-C[L]$, is a sale of labour ($C-M$) by many individual workers. Finally, her purchase of means of production $M-C[mp]$ is a sale of commodity product ($C'-M'$) by capitalists engaged in the business of manufacturing baking flour, yeast, bread ovens, and other means of production. The whole economy of a given society can therefore be viewed in two ways: as a vast web of endlessly intertwining individual capital circuits, and as an aggregate metabolic system through which the total productive capacity of a society simultaneously renews itself in each of its three capital forms. Marx has conceived of economic relationships as forms of *social* activity, and the framework he has constructed to do so links the specific instances of capitalist exchange with the overall dynamics of the system in a way that captures the complexity of both.

II. Capitalism As A Whole System

Imagine an alien, Fox once said, who's come here to identify the planet's dominant form of intelligence. The alien has a look, then chooses. What do you think he picks? I probably shrugged.

The zaibatsus, Fox said, the multinationals. The blood of a zaibatsu is information, not people. The structure is independent of the individual lives that comprise it. Corporation as life form.

- William Gibson

Simple Reproduction of the Total Social Capital

I now turn to Marx's analysis of capitalism as aggregate metabolic system; that is, to his analysis of the reproduction of total social capital. To describe this reproduction, Marx is concerned with two questions: 1) how is capital which is consumed during the productive process, replaced from the annual product; and 2) how is this replacement related to individual consumption? (1885: 469) Until now, Marx's analysis has treated consumption only tangentially - as the end-point of $C-M-C$ exchanges, which are sometimes intertwined with the $M-C-M'$ circuits of capitalist commodity-sellers. To provide a complete analysis of production, however, Marx

must account for consumption, because so many of the commodities which emerge from production find their end in personal consumption, and because it is only through consumption that the labour force reproduces its own daily existence. Moreover, consumption can make the difference between simple reproduction of social capital and reproduction on an expanding scale. Capitalists derive their entire wealth from appropriated surplus-value; they must therefore consume at least a portion of that wealth for their personal sustenance and luxury. If they consume the entire surplus-value product of the economy, then nothing is left over for reinvestment into expanded scales of production. If they consume only a part of it, however, then the remnant can be used to buy new machines, hire new workers, and so on, and the system as a whole can expand.

In order to explain how reproduction on an expanding scale takes place, Marx first provides a very detailed model of reproduction on a constant scale, or 'simple reproduction'. In simple reproduction, the capitalist class consumes the entire surplus-value produced by the system, so that the total value of productive capital in the system is forced to remain constant. Such a system is not really capitalist at all, because capitalism is predicated on constant expansion. However, Marx's discussion of system reproduction begins with a model of simple reproduction, in order to provide a stepping-stone towards understanding the more complex processes involved in system expansion. I will now outline the basic assumptions of this model, and then proceed to describe the model itself.

Marx makes two explicit assumptions (1885: 469). The first assumption is that products are exchanged at their value, meaning that exchange-value and value are effectively the same. The second assumption is that values remain stable. Neither assumption necessarily holds in the real world, where local prices fluctuate and where technological improvements continually alter the real value of commodities. However, Marx argues, the fluctuation of local prices does not significantly affect the aggregated whole with which his model is concerned; more importantly, changes in value brought on by technology or other means do not affect the *rules* of value. In order to illustrate these rules, Marx artificially holds all values stable, including the value of money. (Furthermore, labour-power cannot be sold *below* its value or, by definition, the workers could not survive.)

Two other unspoken assumptions are implicit in the way that Marx develops his model. One is that the impact of non-commodity production on society's demand for use-values can be taken as negligible. This is a dangerous assumption, and is untrue in many parts of the world. Marx's conceptual scheme, however, does not address non-commodity production. It might be feasible to make it do so, given his emphasis on labour as a determinant of value, but that project is beyond the scope of my present analysis. The other major unstated assumption Marx makes is that the capitalist systems under discussion operate at the nation-state level. This is evident in his discussion of how systems balance themselves out in cases of overproduction or underproduction via the mechanism of foreign trade (1885: 541). The system models specifically discussed in *Capital* are bounded but have somewhat porous boundaries; they maintain their internal equilibrium via exchanges of materials and energy with their neighbouring systems. This is something of a cop-out, since presumably the global system of capitalism (first mentioned at 1867: 222 and 240) must equilibrate itself without recourse to any external environment. An analysis of capitalism as global system is a short conceptual step away from the models that Marx constructs, but to take that step requires a considerable accumulation of empirical knowledge, and is again beyond the scope of this paper. These two sets of limitations therefore indicate interesting and potentially fruitful directions for further elaboration of the Marxian model, but are tangential to the discussion at hand.

Society's total product, according to Marx, can be divided into two categories of commodities (1885: 471):

- I. *Means of Production*, which are consumed in the generation of other commodities
- II. *Means of Consumption*, which are consumed 'unproductively' by individuals

The productive enterprises in a society can therefore be divided into two 'departments', depending on which category of commodity they produce. Within each department, capital has two components, as discussed above: constant and variable capital. Moreover, the constant capital can be divided into its *fixed* components (machines, buildings, tools, etc.) and its *circulating* components (raw and ancillary materials), although this distinction is less important to the analysis

at hand. The value of the capital in each department is equal to $c+v$; and the value of its output is equal to $c+v+s$. Most of the value of the $c+v$ inputs is consumed, either as means of sustenance for workers (variable capital costs) or as raw materials that are used up in the creation of new commodities (circulating capital costs). For any one enterprise, only a portion of the value of the fixed constant capital is lost to depreciation, and for the system as a whole only a fraction of enterprises need to engage in large fixed capital expenditures. The question of how large fixed capital investments happen within system equilibrium will be addressed further below.

In the meantime, an example will help indicate the basics of this model. Assume a society with a total social capital equal to 9,000 of some unit (e.g. millions of hours of simple average labour).²⁷ Assume also that Department I is twice as large as Department II, that the rate of exploitation ($s:v$) is 100%, and that the technologies of production are such that the ratio of constant capital to variable capital for the average productive enterprise is 4:1. This gives us the following configuration²⁸:

<i>I. Production of means of production:</i>				
Capital Inputs	$4,000_c + 1,000_v$		$= 5,000$	
Commodity Product:	$4,000_c + 1,000_v + 1,000_s$			$= 6,000$
<i>II. Production of means of consumption:</i>				
Capital Inputs	$2,000_c + 500_v$		$= 2,500$	
Commodity Product	$2,000_c + 500_v + 500_s$			$= 3,000$
<i>Total</i>				$= 9,000$

In simple reproduction, the whole of s is consumed. In each year, therefore, the quantities for capital and product will remain the same. Marx's task is therefore to show us how the total capital component of the system is reproduced out of the commodity product of the previous year.

The broad outlines of this process, leaving out money for the time being, are as follows:

The products of *I* consist entirely of goods that are destined to enter the constant capital of both

²⁷ From here on I use the terms "units" or "value-units" interchangeably to designate this imaginary (and unspecified) abstract macroeconomic unit of value. One could just as easily use money as a reference point, and discuss an economy of \$9,000 million dollars, but I would like to emphasize the distinction between value itself, and money as one of the many forms that value can take.

²⁸ This chart, especially the lines indicating annual commodity product, is key to the next several pages of ...

departments, and the products of *II* consist of goods that are to be consumed either by workers, for their own subsistence, or by capitalists, for both their subsistence and their luxury. The workers consume a value equal to variable capital costs, v , and the capitalists consume a value equal to the surplus value or s . The question is, therefore, how the needs for productive and consumer goods will be met for each department. First of all, the need of Department I for productive goods is equal to its constant capital costs, or 4,000 units of value,²⁹ while the constant capital for *II* is equal to 2,000 units, for a total constant capital cost, for the whole society, of 6,000 value-units. The entire value-product of *I* is therefore consumed: a value equal to its 4,000_c input is redirected back into *I*'s own production, and its entire value output of 2,000_{v+s} goes to furnish *II*'s constant capital needs. In exchange for the constant capital it needs, *II* provides *I* with the 2,000_{v+s} means of subsistence that *I* requires: 1,000_v for its labour costs, and 1,000_s as surplus-value which is consumed directly by the capitalists themselves. At the same time, *II* furnishes its own labour-force with 500 units of value in means of consumption, and its own capitalists consume the 500-unit surplus-value produced in that department. Nothing is left over.

In order to flesh out this picture a little, Marx divides the commodities produced by the second department into two sorts: necessities and luxuries (1885: 479). Capitalists and workers must both consume necessities, but if labour-power is purchased at value, i.e. for the cost of a worker's daily subsistence, then luxuries can only be consumed by capitalists. Now, let us take the exchange of $v+s$ within *II* only as a test case, and let us assume that the ratio of necessities to luxuries produced is 4:1. This gives us two sub-departments within Department II: *Ila*, those enterprises engaged in the production of necessities, and *I Ib*, those which produce luxuries. The total $v+s$ product of *II* is 1,000 units of value; 800 of these are therefore necessities (*Ila*) and 200 are luxuries (*I Ib*). Of the necessities, 500 value-units must be spent on variable capital, i.e. must go to the workers for their own subsistence. This leaves 300 units left over for the capitalists, plus

discussion.

²⁹ At any given moment, this value will exist partly in money form, partly in commodity form, and partly as productive capital.

the 200 units of luxuries. We can see therefore that the ratio of necessity to luxury products consumed by capitalists is 3:2. If we wish, we can apply the same ratios to the consumption practices of workers and capitalists who belong to Department I, with the implication that the 2000_c produced by Department II is also divided into 80% production of necessities and 20% production of commodities (1,600_c and 400_c in value respectively). The production of Department II is therefore as follows:

$$\begin{array}{lcl}
 \text{IIa:} & 1,600_c + 400_v + 400_s & = 2,400 \\
 \text{IIb:} & 400_c + 100_v + 100_s & = 600 \\
 \text{Total:} & 2,000_c + 500_v + 500_s & = 3,000
 \end{array}$$

all of which exists as means of consumption that disappear every year. Leaving aside the means of production produced by Department I, the consumption of necessity goods (*a*) and luxury goods (*b*) within the total system is as follows:

	Workers	Capitalists
Dep't I	1,000 <i>a</i>	600 <i>a</i> + 400 <i>b</i>
Dep't II	500 <i>a</i>	300 <i>a</i> + 200 <i>b</i>
Total	1,500 <i>a</i>	900 <i>a</i> + 600 <i>b</i>

which, as we can see, adds up to the exact value-product of Department II.³⁰

So far I have discussed the circulation of commodities in the system as if it were a barter economy. In order for commodities to change hands, however, they must be bought and sold for money. The system contains a fixed amount of money as a means of circulation. It is therefore necessary for any money exchanged in the system to return to its original possessor in order for the system to reproduce itself. Every time an exchange is performed, money travels from one set of hands to another; if, at the completion of a cycle, money does not return to its original location, then the system becomes unbalanced and the circulation of commodities is blocked. Why this is so will become more evident as my explanation unfolds.

³⁰ Marx has seems to have chosen his numbers for ease of example only, and not as reflective of any actual circumstances. If we take them literally, they describe a society in which capitalists consume 600 value-units of necessities compared with the 1,000 consumed by workers. Assuming that the necessities required by an individual capitalist are the same as those of an individual worker (anything beyond being a luxury), then this gives us a society where 37.5% of the population are capitalists living entirely off the labour of others, a figure that seems a little high.

Let us begin with the exchange of Department I's $v+s$ product for Department II's c product (1885: 491). As in the example so far, assume that *I* has its commodity product of $1,000v + 1,000s$, all of which exists as means of production that must be exchanged for means of consumption, and *II* has $2,000c$ of means of consumption that must be exchanged for means of production. Assume also that *I* has 1,000 value-units in money to start out with, and *II* has 500. To begin with, then, the capitalists in *I* pay their labour-force the $1,000v$ in money that they are owed as wages. These workers then buy their means of subsistence from *IIa*. This leaves the 1,000 of money with the capitalists in *II*. These capitalists in *II* then use that money to buy 1,000 of the 1,600 units of means of production they require from Department I. The capitalists in *I* now have their money stockpile intact for next year's variable capital costs. *II*'s capitalists then use their own 500 value-units of money (300 in *IIa* and 200 in *IIb*) to buy means of production from their counterparts in *I*, who turn around and use it to buy means of consumption back from them again. This process then repeats itself exactly, circulating the remaining 500 units of commodities on each side. In the end, *II* has acquired the entire 2,000 units of means of production it requires and has its 500 units of money intact, and *I* has paid its workers, acquired 1,000 units in surplus-value consumer goods for its capitalists, and kept its own 1,000 units of money intact. 1,500 units worth of money has therefore been used to circulate 4,000 units worth of commodities.³¹ This whole exchange is summarized graphically in Display 3-1, in Appendix A at the end of this thesis.

³¹ The attentive reader will notice that Marx's account here does not address the distinction between necessary and luxury means of consumption. This can be resolved in the following manner. Within the total 2,000 value-units of means of production that Department II needs to renew each year, 1,600 are devoted to the production of necessities and 400 to the production of luxuries. Of the equivalent product $2,000c$, half (1,000) of this is destined to be consumed by workers, and must consist entirely of necessities. The other half is consumed by capitalists; this consumption takes place in the form of 500 unit of necessities and 400 units of luxuries. Each sub-department within *II* must have money capital equal to its own variable capital costs, in order to be able to pay its labourers. As a result, *IIa* has 400 units of money and *IIb* has 100 units. Instead of two neat purchases of 500 units each, *II*'s purchase of the second required $1,000c$ proceeds in a series of six steps: First *IIa* makes two purchases of 300 units worth, each of which is reciprocated by *I*'s capitalists making an equal purchase of *IIa*'s commodity product, then *IIb* makes four consecutive 100-unit purchases of capital, each of which is followed by *I* purchasing 100 units of luxury goods. The outcome is the same as in the simpler example Marx outlines. All 500 units of money return to their original source.

The exchanges within Department II (1885: 481) follow a similar pattern. Within *II* there are two sub-departments, *IIa* which produces 800 units worth of necessities, and *IIb* which produces 200 units of luxuries. Half of the value of the products of both sub-departments must go to variable capital costs, but only the products of *IIa* actually go into the hands of the labourers. Assume that the capitalists in each department have enough money to cover their own variable capital costs: *IIa* has 400 value-units worth of money and *IIb* has 100. To begin with, then,³² each department's capitalists pay off their labour force. The workers in both departments therefore have a combined total of 500 value-units worth of money, which they must use to buy the necessary means of subsistence produced by *IIa*. They do so, leaving *IIa* with 300 units worth of commodities and 500 units of money, and *IIb* with its entire product, 200 units of goods, but without any money. At this point, the capitalists in *IIa* buy their own means of subsistence from each other. They spend an amount of money equal to $\frac{3}{5}$ of their total accumulated surplus-value, or 240 units, to do this.³³ They are left with the same total amount of money (500) and with 60 units of commodities to dispose of. Desiring luxuries, they spend 160 units worth of money on the goods of *IIb*, leaving the latter with 40 units of luxury goods and 160 units of money. The capitalists in *IIb* then turn around and buy the necessities of life, worth 60 units ($\frac{3}{5}$ of their own surplus value) from *IIa*. This returns 60 units of money to the capitalists of *IIa*, leaving them with what they started with - 400 units of money, but with all commodities disposed of. The capitalists in *IIb* use 40 units of their remaining 100 units worth of money to buy luxuries from each other, leaving them with all commodities disposed of and their original money capital of 100 value-units intact. This is shown graphically in Display 3-2 in Appendix A.

Marx believes that the 500 value-units worth of money that Department II possesses for the circulation just described can potentially be the same 500 units of money that it uses to buy means of production from Department I. In all, 1,500 units of money have been used to circulate 5,000

³² This 'to begin with' is only a rhetorical turn; in the actual operation of the system these exchanges take place in micro-amounts on a continuous basis throughout the year.

³³ To clarify: their surplus-value is in the form of 400 value-units worth of salable commodities, or exactly half ...

units of commodities (1885: 491). This remarkable fact is partly due to the structure of the economy: any money that capitalists spend on their workers' wages must necessarily pass back into the hands of capitalists who sell consumer goods. In addition, capitalists must also buy means of production and means of consumption from each other. As a result, capitalists can generally spend the same money twice - if not more often, depending on the rate at which money circulates through the economy. The question of how capitalists as an aggregate can withdraw more money from the economy than they initially invested in it becomes a non-question once Marx shows how money is only a medium for the circulation of commodities; money is never really 'withdrawn' since it must constantly be thrown back into the economy for the system to continue functioning. The question of how they withdraw more value than they initially invested comes down to the practice of appropriating surplus-value from the labourers who produce it.

One thing remains to complete Marx's model of capitalism operating under simple reproduction: an explanation of how large investments into fixed constant capital can take place without disrupting the equilibrium of the system. In the above discussion, I noted that Marx divides constant capital into two components. Its circulating component consists of raw materials (broadly defined) that are used up on an ongoing basis in the normal production process. The total annual circulating capital is therefore used up every year and must be both produced and sold anew every year. This process does not present any special problems for the model that Marx has constructed. Fixed capital, on the other hand, consists of large material investments such as machinery, buildings, etc. that are not consumed every year (1885: 498). The *value* of these fixed capital investments is reproduced annually as a part of the product of Department I, but not all of the actual buildings, machinery, etc. need to be renewed in any given year. Some of the loss of value which fixed capital investments suffer annually occurs only as depreciation. For example, if a given factory costs \$10 million dollars to produce and must be replaced after 10 years, either due to wear-and-tear or to obsolescence, then it suffers a \$1 million depreciation cost annually. The

(50%) of the total $v+s$ product, which is 800 units worth of goods. Three fifths of this 400 units is 260 units.

capitalist who owns the factory therefore needs to set aside \$1 million per year in order to offset the depreciation of the factory and to be in a position to replace it when its usefulness has expired.

Accumulating a depreciation fund withdraws money from the economy, money that the economy needs to facilitate the circulation of commodities. The existence of an advanced system of credit, in which the capitalist does not personally accumulate the money but borrows it from creditors, does not change the basic problem this situation creates: some individual or group of individuals must accumulate the money required for the large capital investments, thereby removing it from the system of circulation. Furthermore, periodic investment in fixed capital means that the very large quantities of commodities that make up these investments must be produced on a somewhat irregular basis. If I manufacture a product that my clients only need once every ten years, how do I support myself in the meantime? The need to periodically replace the material form of fixed capital therefore threatens to create blockages in the smooth system of circulation that Marx has so far outlined; certainly it cannot be resolved on an annual basis.

As far as the fixed capital within Department I is concerned, Marx considers this problem to be easily resolved. The commodity product of Department I is constant capital itself, including fixed capital. To renew their fixed capital in any given year, capitalists in Department I buy from other Department I capitalists (1885: 500). On this basis, Marx actually does not analyze the internal economy of I_c in any detail. He treats the renewal of fixed and circulating constant capital within Department I. as a kind of sub-system that can be bracketed off from the whole system and more or less safely ignored. Capitalists engaged in the production of the means of production buy from each other, in the same fashion that the surplus-value product of Department II circulates only among the same set of capitalists involved in producing it. It is not difficult to imagine the broad outlines of this circulation. In any given year, some capitalists are setting aside money to cover their depreciation costs, while others are spending large sums on fixed capital outlays. As long as the savings of one group and the spending of the other group balance out, then the system will remain in equilibrium over the long run.

Marx does not specifically discuss how this takes place, but for the sake of clarity I will offer a hypothetical example. Imagine five capitalists, each of whom must renew a \$5 million factory once every five years. Let us say that their investments are evenly spaced, so that in any given year one capitalist must renew their factory (on January 1st, for the sake of convenience) and the other four are saving \$1 million per year against the costs of depreciation. Furthermore, let us say that each capitalist is in the business of making factory parts, such that \$1 million worth of the product of all five is required to build one factory. On the first day of any given year, therefore, one capitalist has saved \$1 million, another has saved \$2 million, and so on, up to the fifth capitalist who has saved \$5 million but must renew her factory, like so:

A	B	C	D	E
\$1 million	\$2 million	\$3 million	\$4 million	\$5 million*

* must reinvest

She therefore spends the \$5 million on a new factory. \$1 million of this sum goes to each of the other four capitalists, and the remaining \$1 million is 'paid to herself'; she puts it away against the following year since she will receive no other income that year. The situation is now as follows:

A	B	C	D	E
\$2 million	\$3 million	\$4 million	\$5 million*	\$1 million

* must reinvest, in the following year

On the first day of the following year, Capitalist D will reinvest his \$5 million, continuing the cycle anew. In this example, only \$15 million in savings is required to facilitate the ongoing renewal of capital among five capitalists with combined holdings totaling \$25 million. Actually, only \$10 million is required if the capitalist who is doing the reinvesting does not need to 'pay herself'. In this case she only needs to spend \$4 million among the other four capitalists. (To get a picture of what this would look like, subtract \$1 million from the holdings of each of the five capitalists.)

The renewal of Department II's fixed capital presents a somewhat different problem, because here the capitalists who must purchase the means of production obtain the money to do so through the sale of a completely different product: the means of consumption. Moreover, to renew their constant capital, the capitalists in II sell an equivalent value of means of consumption to the

workers and capitalists in *I*. This process of capital renewal therefore involves a different order of complexity and a different kind of interdependence than is the case of renewal with Department I itself. Marx uses the renewal of *II*'s capital to argue that capitalism contains an inherent instability, and is prone to periodic crises of underproduction and overproduction, and that the cost of these crises will tend to be shifted away from the capitalists who occasion them and onto the working class. To explain Marx's case, I will first reproduce his analysis of the renewal of *II*'s fixed capital.

In any given year, the capitalists in *II* reproduce the value of their constant capital, fixed and variable, by purchasing means of production equal to 2,000 value-units from the capitalists in Department I. In a reciprocal process, the workers and capitalists in *I* each purchase 1,000 value-units worth of means of consumption from the capitalists in *II*. This total exchange of 4,000 units worth of commodities is, in the examples I have illustrated above, mediated by sums of money with a total value equal to 1,500 units. For the system to remain in equilibrium, this exchange must take place in each year, and the money used to facilitate it must return to the respective departments in which it originates. So far, Marx has assumed that the total value of *II*'s constant capital must be reproduced in kind each year, i.e. that it depreciates completely and must be renewed in its material form. However, *II*'s constant capital includes not only circulating elements, which are consumed each year, but fixed elements. The greater part of this fixed element is not physically renewed in any given year, but is carried over from the previous year and suffers depreciation. The capitalists in *II* must therefore set aside a reserve of money (or saleable commodities) equal to the value of this depreciation, in order to be able to materially renew their fixed capital when it expires. Now, let us assume that value of this depreciation is 250 value-units. If the capitalists in *II* simply sell the entire 2,000 units of consumer goods but only buy 1,750 units of productive goods, they can stockpile money equal to 250 units, but the exchange process is disrupted (1885: 530).³⁴ Department I has lost 250 units of money to Department II, and on top of

³⁴ I have changed Marx's actual figure from 200 to 250 to make it more consistent with the model as he has been it up to this point. Marx himself moves from discussing the final 500 units of the 2,000-unit exchange of *I*...

this has 250 units worth of unsaleable product. In the following year, *I* will only be able to purchase 1,750 units of consumer goods, and if *II* wants to add to its stockpile, it must hold back another 250 units of money. The net effect of *II*'s accumulation of a depreciation fund is to drain money out of *I*, which creates an immediate crisis of overproduction for *I* and threatens to disrupt the entire system (1885: 532).

This problem is resolved in a manner somewhat similar to the process that I suggested take place within *I_c*. Both Department II and Department I consist "of capitalists whose fixed capital is at different points in its reproduction" (1885: 534). Some of the capitalists in *II* can therefore accumulate money away from other capitalists in the same department. Instead of the five individual capitalists from the example above, let us imagine that there are two groups of capitalists in Department II: Section *IIa* which needs to renew only its circulating capital in that year, and Section *IIb*, which needs to renew both its circulating capital and its fixed capital. Assume that the first three steps from Display 1 have been taken: the capitalists in *I* have paid their labourers, the labourers from *I* have purchased 1,000 units worth of consumer goods from capitalists in *II*, and the capitalists in *II* have used that same money to purchase 1,000 units worth of circulating commodity capital. Now, instead of the capitalists in *II* advancing 500 units in money to buy means of production, let us assume that they advance 250 units in money, twice. That is, Sections *IIa* and *IIb* each advance 125 units in money, then purchase 125 units of circulating capital, and then repeat the process. Of the 2,000 value-units on each side, therefore, 1,500 have been accounted for. Department I is left with 500 units of means of production which must be sold, and Department II has 500 units of consumer goods and 500 units of money.

Sections *IIa* and *IIb* each have 125 units in money, which they use to facilitate the purchase of circulating commodities. On top of this, in my version of Marx's example,³⁵ Section *IIa* has

for *II_c*, to a final 400 units, for no apparent reason (1885: 531).

³⁵ Marx provides three different scenarios for the reproduction of fixed capital (1885: 536). Furthermore, he makes no effort to relate any of these examples back to the processes of exchange he has already described (see 1885: 478). His explanation of fixed capital renewal tends towards the obscure and confusing. For my example I have modified the third of his three scenarios, in the attempt to make it more consistent with the material already

already saved up an additional 250 units of money against depreciation costs, which it must now invest in fixed capital. Section *I Ib* is in the position of needing to put away 250 units of money of its own, against depreciation of its own fixed capital which it is experiencing in that year. What actually happens to resolve this situation is that a net transfer of money occurs from Section *I Ia*, through Department I, to Section *I Ib*. Section *I Ia* starts out by using the 250 units of money it has saved to purchase 250 units of fixed capital from *I*. It then sells its own 250 units of commodity product to capitalists in *I*, causing the money to flow back to it. *I Ia* then repeats itself, purchasing another 250 units of fixed capital. *I Ia* now has renewed 500 units of fixed capital, and has divested itself of its entire commodity product as well as of the investment capital it had stored up in money form. The capitalists in *I* now use the 250 in their hands to purchase consumer goods from *I Ib*. Those in *I Ib* now have the 250 in money that they need, and have sold their entire commodity product. They do not buy any actual fixed capital from *I*, which is fortunate, because *I* has sold its whole product regardless. In the following year, the process will be repeated in the opposite order. The whole system remains in balance, with a fixed capital investment of 500 units taking place in every year, and with a depreciation fund of 250 units in money transferring back and forth between the two Sections of Department II every year. This process is summarized in Display 3-3 in Appendix A.

Marx observes that this process only functions smoothly if the depreciation of the fixed capital in Section *I Ib* balances exactly with the purchase of fixed capital performed by *I Ia*. He formulates this as one of the laws of simple reproduction: that in any given year, depreciation and reinvestment must balance each other exactly. The results of the law demonstrate how sensitive the system's equilibrium is (1885: 540-541). Imagine that in a given year, as the result of greater-than-normal depreciation, Section *I Ia* must make a capital reinvestment of 520 units instead of 500. In other words, more individual capitalists find themselves needing to renew their fixed capital than normal, causing *I Ia*'s total necessary investment to be greater. In this case, there will be a

production shortfall. Department I does not have the extra 20 units to sell. If, somehow, Department I makes up the shortfall and produces the extra 20 units, then the money used to purchase it becomes locked in Department I. Section *IIb* has no commodity-product with which to buy that money back for its own depreciation fund. On the other hand, if depreciation is less than usual and Section *IIa* only requires to buy 480 units of fixed capital, then Department I has a surplus stock on its hands that it cannot sell, and part of the money that Section *IIb* needs for its depreciation fund is stuck in the hands of *IIa*.

Now, it is possible for a national economy to make up these differences by engaging in foreign trade, for example by purchasing extra fixed capital from a producer in another nation, or selling excess commodities to another nation. This only defers the problem from one arena to another, however, from the nation to the world. This solution is not available to the system as a whole, because by definition there is no external market outside capitalism to exchange with. If a global imbalance occurs, it will be impossible for individual nations to achieve balance via foreign trade. Marx argues that imbalances are bound to occur because the annual rate of depreciation of fixed capital fluctuates. Stated another way, the demand for fixed capital varies unpredictably. When imbalances occur in the system, individual capitalists find themselves accruing an unsaleable surplus product, forcing them to take a loss. In such circumstances, capitalists may downsize their operations until the market picks up. By laying off part of their labour force, capitalists transfer at least part of their losses to the working class. In extreme crises, large numbers of firms may be driven into bankruptcy as the system ‘crashes’ and resets itself. Perfect employment and perfect capital accumulation are therefore possible only with perfect system balance. Periodic economic crisis is the inevitable result of the system operating in the turbulence of the real world.

Reproduction on an Expanded Scale

A capitalist system operating according to the principle of simple reproduction does not undergo any net growth in its own productive capacities with each turn of the cycle. The value of the fixed and variable capital that is used to produce new commodities remains constant. This

happens because capitalists themselves consume commodities equivalent to the entire surplus-value generated by the system. In my discussion of this matter, I based each of my examples³⁶ on Marx's model of a hypothetical system with three characteristics: (i) two-thirds of the value produced annually in the system resides in commodities that serve as means of production, and one-third in commodities that serve as means of consumption; (ii) the ratio of constant to variable capital in the average production process is 4:1; and (iii) the rate of exploitation in the system is 100%, meaning that in each working day the average labourer spends half of the day reproducing the value of her own subsistence needs and half engaging in surplus labour, creating surplus-value. Marx decrees that the value of the total system output is represented by the arbitrary figure of 9,000, with units unspecified, giving us a system whose commodity product is divided as follows:

I. Means of Production:	$4,000c + 1,000v + 1,000s$	$= 6,000$
II. Means of Consumption:	$2,000c + 500v + 500s$	$= 3,000$
Total:	$6,000c + 1,500v + 1,500s$	$= 9,000$

In simple reproduction, the entire 1,500s produced in the system is consumed by capitalists. The relative amount of this surplus value that is consumed as luxuries or as necessities is irrelevant; the important point is that none is left over for reinvestment in processes of production.

In reproduction on an expanded scale, some of the surplus-value produced by the system is reinvested as productive capital. This means that the value of the $c+v$ entered into the system grows over time (1885: 565). This has two major consequences for the circulation of commodities within the system. Firstly, part of the money form of the system's surplus-value must be stored up as *potential money capital*, for future investment in means of production and labour costs (1885: 567). In simple reproduction, this money was spent on personal consumption by capitalists. Storing up potential money capital withdraws money from the economy without immediately adding to the total social wealth. In order for the circulation of commodities not to be interrupted, expanded reproduction therefore requires that more money be present in the system than is

³⁶ With the exception of my example of reproduction of the fixed capital within Department I, which is based on my own invented numbers.

necessary for simple reproduction (1885: 576). The expanding system also requires more money because, as it expands, an ever-greater quantity of commodities is exchanged, requiring an ever-greater pool of the means of circulation.³⁷

Secondly, expanded reproduction requires that part of surplus-value product of Department I must be redirected back into the constant capital within that department, instead of being sold to Department II for use as constant capital there (1885: 572). In other words, part of I_s must be redirected away from II_c and back into I_c . This can block the necessary circulation of commodities. In an economy that is configured around simple reproduction, if part of the product I_s were to be diverted to I_c instead of to II_c , then Department II would have a shortage of the constant capital it requires for its own reproduction; this situation is equivalent to the experience of an excessive degree of depreciation that I discussed above. In simple reproduction, the value of the means of consumption that is required by Department I's workers and capitalists combined must be equal to the value of the means of production required by Department II's capitalists (1885: 483). That is, the statement $I_{v+s} = II_c$ expresses a necessary condition for simple reproduction. If I_{v+s} is less than II_c , then Department II cannot obtain the capital it needs to reproduce its own annual product. If I_{v+s} is greater than II_c , then Department I cannot sell its whole product and acquires a stockpile of unsaleable goods. In expanded reproduction, however, I_{v+s} must be greater than II_c . If it is not, then the redirection of some of I_s back into I_c will cause the value of II_c to diminish, upsetting the system's reproduction (1885: 579, 590). Therefore, the statement $I_{v+s} > II_c$ expresses a necessary condition for expanded reproduction. Furthermore, the exact value of the means of production that are available for reinvestment on an expanded scale can be determined. This value is equal to $(I_{v+s} - II_c)$, or the amount by which Department I's variable capital costs and surplus-value product exceed Department II's constant capital costs. Finally, all of this means that reproduction on an expanding scale is its own precondition. It is not possible to for a system to move from a state of simple

³⁷ Alternatively, the quantity of money could remain constant while the value of the money increases, allowing less money to represent more value. Marx discusses the introduction of new money *material* into the economy (see 1885: 545), but he does not inquire deeply into the economics of money supply anywhere in the first two volumes of *Capital*.

reproduction to a state of expanding reproduction without undergoing major disturbances. Any model of expanded reproduction that is intended to display the system's ideal regular functioning will therefore show a different distribution of productive capital than a model of a non-expanding system.

The hypothetical model of simple reproduction that I have been using as a basis for analysis until now has the following characteristics: means of production and means of consumption account for 2/3 and 1/3 of the total value produced annually; the ratio of $c:v$ is 4:1; and the ratio of $s:v$ (the rate of exploitation) is 1:1. In this system, $I_{v+s} = II_c$. Therefore, if some portion of I_s is diverted back to I_c , then II_c is not reproduced. To illustrate reproduction on an expanding scale, Marx constructs an entirely new example model, according to the following assumptions: (i) that the means of production and means of consumption produced annually account for 2/3 and 1/3 of the total product respectively; (ii) that the ratio of $c:v$ is equal to 4:1 in Department I but is equal to 2:1 in Department II; and (iii) that the rate of exploitation is still 1:1 (1885: 586). Assuming a total product of 9,000 units therefore gives us the following system:

I. Means of Production:	4,000c + 1,000v + 1,000s	= 6,000
II. Means of Consumption:	1,500c + 750v + 750s	= 3,000
Total:	5,500c + 1,750v + 1,750s	= 9,000

This leaves the system with 500 value-units worth of means of production which can be recapitalized ($I_{v+s} - II_c = 2,000 - 1,500 = 500$).

Assume that Department I intends to recapitalize half of its surplus-value product, or the full 500 units available for recapitalization. This entire surplus-value product exists as means of production. In order to actually enter 500 value-units of capital into the productive process, however, some means of production must be exchanged for labour-power, because all means of production require a certain amount of labour-power to make use of them. Within Department I, the necessary ratio between constant and variable capital is 4:1. 400 units of surplus product can therefore be directly purchased within Department I to serve as constant capital, and 100 units must be sold to capitalists in Department II for use as constant capital by them, in exchange for money which is used to buy 100 units worth of labour-power. Department I has now accumulated 400

new units of constant capital and 100 new units of variable capital. Department II has accumulated 100 units of new constant capital; in order to render this capital productive, it must add 50 units of variable capital. Finally, to sustain themselves, the newly hired workers in both departments must spend their salaries on the products of Department II. The 150 units of commodities which this money purchases is taken from the surplus-value product of Department II. (In simple reproduction, this could not take place, because the entire surplus-value of Department II would be consumed by capitalists within that department.) At the end of this capitalization process, therefore, the distribution of goods with the whole system is as follows:

I. Means of Production:	$4,400c + 1,100v + 500s$	$= 6,000$
II. Means of Consumption:	$1,600c + 800v + 600s$	$= 3,000$
Total:	$6,000c + 1,900v + 1,100s$	$= 9,000$

The total value of commodities present in the system remains unchanged (no production has taken place yet), but the value of the productive capital has gone from 7,250 units to 7,900 units, approximately a 9% increase.

In the following year, the commodity output of the system (before recapitalization) is as follows:

I. Means of Production:	$4,400c + 1,100v + 1,100s$	$= 6,600$
II. Means of Consumption:	$1,600c + 800v + 800s$	$= 3,200$
Total:	$6,000c + 1,900v + 1,900s$	$= 9,800$

In this year, half of Department I's surplus-value product can again be recapitalized, leading to further expansion of the system. After five iterations of this process, the value-product of the system will look like this:

I. Means of Production:	$6,442c + 1,610v + 1,610s$	$= 9,662$
II. Means of Consumption:	$2,342c + 1,172v + 1,172s$	$= 4,686$
Total:	$8,784c + 2,782v + 2,782s$	$= 14,348$

The total value of capital in the system has increased by 60%, the total amount of surplus-value produced has increased by 59%, and the total amount of surplus-value consumed by capitalists (i.e. after recapitalization) has increased by 34%. This latter increase is the most significant.

Simple reproduction allows capitalists to consume the entire surplus-value produced by the system, while expanded reproduction requires them to 'sacrifice' some of this value towards

recapitalization. Of these two forms, however, it is the latter that is really in the long-term self-interest of the capitalists. Over a relatively short span of years, recapitalization of surplus-value yields positive returns by increasing the quantity of the means of consumption available to capitalists. On this basis, Marx observes that “the idea that accumulation is achieved at the expense of consumption ... is an illusion that contradicts the essence of capitalist production” (1885: 579). Moreover, he argues that it is *consumption*, and not accumulation, that constitutes the *driving force* of capitalist production.

The General Law of Capitalist Accumulation

At this point, Marx’s relatively detailed systemic model of capitalism is complete. Marx has described the broad mechanics of how capitalism, viewed as a system, operates continually to reproduce itself on an ever-expanding scale. As the scale of the system increases, so does the total quantity of value it produces. This increasing value applies to both departments, to the means of production and to the means of consumption; under expanding reproduction, the actual value consumed by persons expands exponentially. At the beginning of my exposition, I noted that all commodities bear not only value, the incarnation of labour, but use-value: the potential to satisfy some human desire. I also noted that Marx considers the ultimate material incarnation of wealth to reside in objects that have use-value, and the ultimate consummation of value to reside in the act of using or consuming the useful item. If we choose, perhaps arbitrarily, to regard personal consumption as the end-point or purpose of all production, then absolute social wealth can be proximately measured by the value of means of consumption that capitalism makes available to human beings.³⁸ From this perspective, capitalism generates wealth on a historically unprecedented and ever-expanding scale. Marx’s analysis shows clearly that, in a smoothly

³⁸ I doubt Marx would have accepted such a formulation, and there are problems with my construction of this (such as not including the type of use-values produced, which in Marx’s analysis are incommensurable and non-quantifiable); it is offered as one, popularly legible, way of defining the wealth of societies.

functioning capitalist system, the values consumed 'unproductively' by persons increase every year, and increase exponentially.

However, this same analysis concludes that the fruits of increasing commodity production are realized only by capitalists. Marx's model assumes that workers performing simple average labour are paid a simple reproductive wage, a subsistence wage. As the productive capacity of the system expands, capitalists are able to acquire ever-greater absolute returns on their capital investments. At the same time, however, the relative wages of workers actually decline as the value of their means of subsistence declines. The direct and inevitable effect of this system is that capitalism continually increases the relative level of inequality present in any society that operates by its principles. Democratic states, for example, may guarantee a formal, legal or political equality to their citizens, but these guarantees do not extend to the economic realm. Furthermore, as productive technologies make it easier to deliver a given minimum package of subsistence goods, the value of that package is progressively reduced. As the value of the means of subsistence for a labourer declines, so does the value of *labour-power itself* - both the value of simple average labour, and of complex labour. With seeming paradox, improvements in the productive efficiency of an economy only serve to widen the gap between those who own the productive forces and those who must sell their labour-power. The practical impact of capitalism, therefore, is that the relatively small class of capitalists will enjoy ever-greater absolute wealth, while the workers, who form the majority of the population, will remain forever mired at a more or less constant level of subsistence. The fruit of progress is the relative impoverishment of workers.

Within Marx's conception of capitalism, however, a number of factors mitigate against this dystopian projection. The first of these is that a subsistence wage reflects the value of *simple average labour*, or 'unskilled' labour. In an economy that increasingly employs more and more sophisticated productive technologies, simple average labour could form less and less of a component of the total labour used in productive enterprises. If the value of complex labour is some multiple of the value of simple labour, then a worker engaged in complex labour will (commodities being sold at their value) receive a wage that is some multiple of the subsistence

wage. As the skill-component or complexity of labour increases in an increasingly technological society, the wages of workers could rise in a manner that more or less keeps pace with the gains enjoyed by capitalists. Moreover, in such a case it is possible that the labour force itself would become greatly heterogeneous with respect to the degree of complexity associated with individual jobs. As a result, members of the working class would enjoy widely varying standards of living. Instead of sharing similar material conditions of existence, members of the working class would be divided up into many finely differentiated status levels. The sharply dichotomous inequality of simple capitalism would be replaced by a graduated scale of inequality, in which the wages of some workers could even equal or exceed the capital gains of lower-tier capitalists. Such a situation would make the source of social inequality less apparent. The perception of class would lose ground, and be supplanted by meritocratic explanations of inequality that legitimate capitalist class relations.³⁹

This diversification of the working class does nothing to affect the basic value of labour-power. As the value of simple average labour declines, the value of complex labour declines correspondingly; improvements in skill requirements do not guarantee workers a constant share in society's wealth. Marx observed that as workers unionize, however, they acquire bargaining clout that enables them to affect the price of their labour (1867: 1069). He also notes that the 'value' of labour-power itself has no fixed absolute standard. The 'minimum level of subsistence' that defines the value of simple average labour can vary from bare starvation, towards no real upward limit (1867: 1068). One potential implication of this malleability is that unions could affect not just the price but the value of their labour-power. One way that this could take place is for unions to demand that the value of their remuneration remain constant even while increases in productive efficiency lower the value of a labourer's personal subsistence; as a result, workers would receive the same real wage and buy more use-values with it. Through collective action within the market

³⁹ In point of fact, some social theorists have attempted to formalize the meritocratic explanation for social inequality in the scientific terminology of structural-functionalism. See, for example, the classic article by Kingsley Davis and Wilbert Moore outlining a functionalist theory of stratification (Davis and Moore, 1945).

system, workers could demand that capitalists pass on some of the benefits of improving productive efficiencies instead of hoarding them within the capitalist class. As new items are added to the 'subsistence package' provided for simple average labour, these items become normalized as subsistence items. In this fashion, items such as running water, electricity, heat, and so on become necessities instead of luxuries. The value of labour-power itself is defined by these necessities, so the effect of unionization would be to keep the value of labour-power constant instead of allowing it to decline in the face of technological progress.

Can unions negotiate an actual increase in the value of labour-power? It certainly seems they can sometimes negotiate substantial increases in its *price*. At unionized plants in Canada, labourers who perform assembly-line work, much of which could be considered 'simple average labour', can earn far more than the subsistence wage earned by non-unionized 'unskilled' workers. But how do particular and local changes in price translate into socially objective changes in value? Or, to approach the same question differently, how much latitude exists within capitalism for redefining the socially average value of labour-power? Marx acknowledges that there is no 'absolute' value of labour-power, only a 'socially objective' value that is historically or socially defined, and which varies both culturally and temporally. The impact of unionization on the value of labour-power reveals the extent to which that value is *negotiated* between contesting social actors, rather than simply defined unilaterally by an all-powerful capitalist class or system. This happens not only in the market itself between workers and capitalists as such, but also in and around the state between proponents and opponents of various state policies. Laws that regulate working hours, workplace health and safety, and minimum wages, all directly or indirectly affect the price and value of labour-power. So do the provisions of welfare states, whether these take the form of general 'poor relief' or of more specifically targeted measures such as assistance to disabled persons, universal day-care, or publicly funded shelters for battered women. At stake here is the extent to which capitalist progress, the growth of the system, translates into progress in the standard of living of the general population. On this count, Marx is very pessimistic.

To begin with, the system's own 'functional imperatives' set an absolute limit on the upward movement of the price of labour. This limit is determined by the relationship between production itself and the quantity of variable capital required for it. At a given level of productive efficiency, the ratio of constant to variable capital is fixed, so that an expansion in production requires a corresponding expansion in the quantity of labour-power consumed. Assuming that all else remains the same, then, the expansion of capitalism necessitates an expansion in employment. As the pool of available labourers is progressively absorbed into actual production, a relative shortage of workers ensues and the price of labour-power rises (1867: 763). This occasions a rise in the material wealth of the working population.⁴⁰ However, this rise in price is capped by the dependency of continued expansion on reinvestment into constant capital. If rising costs of labour cut into the capital available for reinvestment in material means of production, then reinvestment is curtailed and expansion cools off.

The rise of wages is therefore confined within limits that not only leave intact the foundations of the capitalist system, but also secure its reproduction on an increasing scale. The law of capitalist accumulation, mystified by the economists into a supposed law of nature, in fact expresses the situation that the very nature of accumulation excludes every diminution in the degree of exploitation of labour, and every rise in the price of labour, which could seriously imperil the continual reproduction, on an ever larger scale, of the capital-relation. It cannot be otherwise in a mode of production in which the worker exists to satisfy the need of the existing values for valorization, as opposed to the inverse situation, in which the objective wealth is there to satisfy the workers' own need for development. (1867: 771)

That is, workers cannot make themselves the masters of capitalism simply by demanding a higher standard of living within the confines of the system.

If we assume that the efficiency of available productive processes remains constant, then it is still likely that workers' absolute wealth would rise more or less in proportion to the expansion of the system, and that the 'myth of progress' would therefore be realized. In fact, however, the efficiency of the productive process improves continually (1867: 774). The effect of efficiency

⁴⁰ This effectively produces a rise in the standard of living. In the sections of his text to which I am referring, Marx only discusses wages themselves, not 'standard of living' more generally or the possibility of non-wage increases therein.

gains is to make it possible for less and less labour, or variable capital, to work the same amount of constant capital. The ratio of constant to variable capital in the socially average production process tends to grow, and consequently the relative share of total social wealth paid out to workers tends to shrink. This effect is produced not only by technological advancement, but by the tendency of capital towards centralization, which produces efficiencies of scale (1867: 777). Furthermore, this process takes place in an uneven manner that does not necessarily keep pace with the expanding scale of overall production. Efficiency gains at particular locations in the economy can throw large numbers of workers out of employment with relative suddenness. Such gains can result either from new technological improvements, or from sudden moves towards the centralization of production. More subtly, the same processes can make possible the expansion of capitalist production without corresponding expansions in employment. In this case, the economy grows but the unemployed remain unemployed. Processes of these sort, sometimes involving quite violent fluctuations and sometimes involving gradual change, produce a *surplus population* of labourers who are unemployable even though they are capable of working (1867: 782). This 'temporary' surplus population never vanishes entirely. As the scale of production expands, so does the scale of the forces that render workers superfluous.

This surplus population can never be eliminated because it forms an indispensable tool for facilitating the rapid investments in new production which competitive enterprise requires. At various moments in various sectors of the economy, Marx notes, new opportunities for productive investment on a large scale can suddenly appear.

In all such cases, there must be the possibility of suddenly throwing great masses of men into the decisive areas without doing any damage to the scale of production in other spheres. The surplus population supplies these masses. (1867: 785)

Furthermore, these patterns are cyclical, and ongoing. Capitalism is characterized by periodic slowdowns and speedups in its own expansion process, and not by the smooth transitions that might be suggested by the pure models I outlined above. Expansion of investment cannot be timed according to the very slow process of expansion of the population. Capitalism therefore requires a permanent surplus population to exist as a potential *industrial reserve army* (1867: 788).

In this manner, overwork and forced idleness can exist side by side within the population of workers in a capitalist system. Of those condemned to the forced idleness of the surplus population, Marx identifies three categories (1867: 794). The first of these, the 'floating' surplus population, consists of workers in sectors of industry where they enjoy more or less regular employment, but are periodically laid off as a result of production slowdowns. Another, the 'latent' surplus population, is made up of workers in industries that are permanently contracting, so that the workers face lifetime unemployment if they cannot find a new line of work.⁴¹ The third group, the 'stagnant' surplus population, consists of people who are almost permanently unemployed or underemployed, people who live in a more or less continuous state of destitution or pauperism. For Marx, this stagnant population includes three groups: persons able to work but chronically unable to find work; orphans and the children of paupers; and "the demoralized, the ragged, and those unable to work, chiefly people who succumb to their incapacity for adaptation, an incapacity which results from the division of labour" (1867: 797).

This last group, the indigent or paupers, is an unavoidable product of the production of a relative surplus population.⁴² As the scale of capitalist production expands, so too does the absolute scale of the population of surplus labour. Paupers and indigents necessarily form a component of this surplus population. Therefore the expansion of capitalist production brings with it an expansion in the ranks of the poorest of the poor. For Marx, this is a direct causal relation, an inevitable system-effect which leads him to a scathing conclusion:

The law which always holds the relative surplus population or industrial reserve army in equilibrium with the extent and energy of accumulation rivets the worker to capital more firmly than the wedges of Hephaestus held Prometheus to the rock. It

⁴¹ In Marx's day, these workers came predominantly from the agricultural sector, large parts of which were being restructured along the lines of capitalist efficiency and were therefore slowly but inexorably expelling workers. His definition of the 'latent' surplus population therefore refers to the condition of agricultural labourers poised on the brink of moving into urban industry. A more contemporary definition of this category would include workers in the same condition regardless of whatever sector they are moving from.

⁴² As an interesting aside, I would like to note Marx's observation that poorest of the poor generate a cost to society, part of the 'petty expenses' of capitalism. Capitalists themselves generally transfer this cost from themselves and onto the shoulders of the working and petty-bourgeois classes. This comment bears a rather striking applicability to what is taking place in Ontario under the Harris Tories, and worldwide under the contemporary enthusiasm for fiscal conservatism generally.

makes an accumulation of misery a necessary condition, corresponding to the accumulation of wealth. Accumulation of wealth at one pole is, therefore, the accumulation of misery, the torment of labour, slavery, ignorance, brutalization and moral degradation at the opposite pole, i.e. on the side of the class that produces its own product as capital. (1867: 799)

Marx designated this relationship between capitalist accumulation and increasing pauperism the *absolute general law of capitalist accumulation*.

It is on this note that it seems most appropriate to me to break off my exposition of Marx's theory, and turn to a more critical and interrogative analysis.

III. Summary and Analysis

Now, however, nature's shackles on the ego, sprung by the mind, have turned into an enchainment on the mind itself.

- Georg Simmel

Summary

Marx's work is many things to many people, but my own interest is in the way that he constructs a systemic account of capitalism. With this interest in mind, I have read him for the way in which he builds a model of capitalism as a social system, and in particular as a system that is complete (self-sufficient) and capable of reproducing itself. In *Capital*, Marx conducts a project of *applied* system analysis. He is not concerned with the abstract properties of systems as systems, but with the specific properties of capitalism in particular. Marx himself very rarely uses the word system in *Capital*, and he neither invokes any general principles of systems that inform his methodology, nor deduces any when his analysis is complete. This does not prevent us from reading him as a system theorist, however, because his treatment of capitalism very clearly identifies it as a system, rather than as, for example, a behavior-pattern, a normative framework⁴³, or a set of micro-level social forms. Capitalism exists as the whole system of material relations

⁴³ There is such a thing as 'capitalist ideology' in Marx's thought, but capitalism is itself not that ideology. Capitalism is a set of material relations among social actors, distinct from, and more real than, the set of beliefs ...

between persons that is brought into being by innumerable instances of certain, very particular, social acts - acts involving the production and exchange of material goods in certain historically specific manners. From the opening pages of Volume I to the closing pages of Volume II, Marx builds upwards from elemental components - the commodity, the various forms of value - through structured relationships such as capital investment and the exploitation of labour, to the circuits of capital that value flows through. From that point he leaps to the grand processes through which the whole system reproduces itself. Along the way, Marx generates the theoretical material for innumerable, diverging threads of analysis. I wish to follow only one of those threads: to assess *Capital* as a work of applied system theory. To make this thread more clear, I will now briefly recapitulate what I have so far outlined in my exposition.

Marx begins with the commodity and the three forms of its value. A commodity is a unique kind of object: it is produced for the purposes of being exchanged for something else. It possesses one or more use-values, depending on what kind of purpose it can fulfill. It also possesses an exchange-value, defined in relation to some other commodity it is traded for. Exchange-value is determined entirely at the particular moment of exchange; commodities therefore possess no true or essential exchange-value. They do possess an essential form of value, however. Marx defines this 'value' as the quantity of socially necessary labour-time required to produce the object. This value is inherent to the commodity, once produced, and is unaffected by further exchanges, although it is affected by changes in the production processes by which its duplicates come into being. In sophisticated economies, one commodity comes to stand for all others as a universal measure of exchange-value; this commodity, whatever its material form, is called money. The development of money greatly facilitates the collection of wealth into substantial hoards controlled by individuals or small groups. These hoards form the basis for capitalist exchange.

and values that serve to legitimate those relations.

Simple commodity exchange is dominated by the need for consumption; a person trades apples for oranges in order to consume the oranges, or else trades apples for money to buy oranges to eat. This is represented by the equation $C-M-C$; a constant value in the hands of one person changes form from one commodity, into money, and back into another commodity of equal value. Capitalist exchange, on the other hand, is driven by the desire for acquisition: someone spends a certain amount of money on a commodity, in order to sell and receive more money. This is represented by the form $M-C-M'$, in which M' represents an increased value stored up in money. Exchange alone cannot produce value consistently across an entire economy, however. The only real source of new, or surplus, value is productive labour. Productive labour generates new commodities for sale; the capitalist economy therefore converts labour into a commodity so that it may be purchased with money and its fruits sold for profit. Labour-power, like any commodity, has a value: the cost of its own reproduction. This can be measured in labour-time. If, therefore, the daily necessities of the labourer require six hours' of production time, then the capitalist must require the worker to labour for more than six hours, in order to receive a profit. In fact, the labourer must produce enough value to replicate not only her own subsistence needs, but also the costs of machinery depreciation and raw materials consumed in the production process. In any one production process, the value of the material means of production is referred to as the *constant capital*; the value of the labour-power is called the *variable capital*, and the value of the commodity product in excess of these two capital inputs is the *surplus-value*. This surplus-value is expropriated by the capitalist, although it is the labourer who produced it. This process of expropriation is called exploitation, and is inherent to capitalism as a system.

Any individual capitalist constantly possesses an ever-expanding hoard of value. This 'value-hoard' constitutes their capital. Through processes of exchange, this capital is transformed into a variety of successive forms. Starting out as a pool of money (M), it is transformed into productive commodity capital, both constant and variable (C). This productive capital then enters the production process (P), where it is used up and transformed into saleable commodities, re-emerging as commodity capital that has increased in value (C'). These commodities are then sold.

transforming their value back into a now-expanded pool of money (M'). This is the circuit of money capital; alternatively, one could start the analysis with either C' or P , to derive the circuits of commodity and productive capital, respectively. The circuit of capital for any one capitalist intersects at a number of points with similar circuits belonging to other capitalists. The capitalist economy as a whole is composed of the sum total of all interconnecting capital circuits. An empirical map of this set of circuits and their points of interconnection would generate a very high degree of complexity.

To analyze the reproduction of the system as a whole, Marx resorts to categorical analysis. Every productive enterprise in a capitalist economy can be classified into one of two departments, according to whether it manufactures means of production (Department I) or means of consumption (Department II). The exchanges among capitalists and workers in each of the two departments must balance out so that no value is either created or destroyed in the exchange process, and so that the material needs of each group involved for productive or consumer commodities is met with nothing left over. To accomplish these exchanges, money serves as a medium that is neither used up nor added to by exchange itself. The value of the money required to facilitate all exchanges in an economy is far less than the value of all commodities traded, which indicates something of the evanescence of money as an incarnation of value. The case of simple reproduction involves the imaginary situation of a system that is not expanding but whose total value produced remains constant over time. In simple reproduction, the capitalist class personally consumes commodities equivalent to the entire quantity of surplus-value produced by the system. In this case, the total means of production produced annually (the total product of Department I) is just enough to satisfy the productive needs of both departments. Such a scenario cannot represent actual capitalism, which is premised on its own continual expansion. In expanded reproduction, the product of Department I is greater than necessary for simple reproduction, and this surplus-product is reinvested so that in successive years the total constant capital of both departments expands. Finally, while productive efficiency remains constant, then variable capital investments expand along with constant capital investments. Over time, however, increases in productive

efficiency reduce both the value of labour-power itself (by reducing the cost of its daily reproduction), and the relative quantity of labour-power required to accompany mechanized power in productive processes.

Marx uses his systemic analysis of capitalism to make a number of general comments about the social effects of capitalism. One mainstay of all Marxist analysis is, of course, the argument that capitalism divides society approximately into two classes⁴⁴, those who own the means of production (capitalists) and employ the labour of others, and those who do not and hence must sell their labour-power to survive (labourers), and that the rational self-interest of each class is in conflict with that of the other. Within *Capital*, however Marx makes a number of observations that are more specifically rooted in his analysis of capitalism as a system. Of these, three general observations stand out in my reading. The first of these, already mentioned, is that exploitation forms an inherent and essential part of capitalism; the capitalist class, by definition, lives off the fruit of labour performed by others. A similar insight is that capitalism, as a means of governance for organizing social labour, is inherently despotic. Private ownership of the means of production brings with it a dictatorial control by the capitalist⁴⁵ of those means, so that the only means by which workers can exercise any control over their working life is by stepping outside the structure of the firm itself, and either organizing into a labour union or agitating for legal intervention by the state. Finally, Marx argues that the maintenance of a 'surplus population' of unemployed and underemployed workers is an essential feature of capitalism, and that as the system expands so does this 'industrial reserve army' - including the number of its poorest and most indigent members. That an increase in the wealth of capitalists correspondingly leads to an increase in the ranks of the absolutely destitute is therefore, in Marx's estimation, an absolute general law of capitalist accumulation.

⁴⁴ Coarsely speaking, and leaving aside the following: the class of capital-owners who perform their own labour; the possibility of subdivisions within the labouring class; and marginal groups whose membership in the working class is questionable (non-productive labourers, paupers, etc.).

⁴⁵ Or capitalists, in the case of a joint-stock company. Any democracy practiced among the shareholders of a firm do not extend to non-owners who happen to work for the firm (or purchase its products).

Analysis, Part 1: Marx's Accomplishments

Marx's contributions to social theory in general are many and diverse, and critiquing the entire Marxian legacy is far beyond the scope of my project in this thesis. From a system theory perspective, however, the first two volumes of *Capital* contain three major positive accomplishments. The first of these can be considered a response to the question: do social systems exist? Marx makes the important first step towards answering this question in the affirmative, by showing that it is at least possible to construct a theoretical model that describes capitalism in systemic terms. He proposes a set of concepts and their accompanying terminology for approaching his object in a unique way, and then assembles these concepts into a grand theoretical structure. Beginning with a few relatively simple foundational concepts such as the commodity, value, and exchange, Marx develops these concepts to show that they describe real-world phenomena such as money, capital accumulation, and the sale of labour-power. He uses his concepts to show that capitalist forms of production and exchange inevitably entail certain other formal relationships, such as exploitation and the reinvestment of surplus-value. He also argues that these forms produce inevitable system-effects, such as the development of an industrial reserve army and the increase in the number of destitute workers. Finally, he assembles these concepts into a formal model of the system as a whole and describes the processes through which that system reproduces itself over time. His model is logically coherent, and it encompasses the whole of its object. That is, there is no need to explain any part of capitalism in terms of phenomena originating from outside the model, or to posit that ordering principles of any higher level of generality intervene to maintain the model's equilibrium. With this accomplishment Marx shows that it is at least theoretically possible to describe a major social phenomenon - capitalism - in systemic terms.

Secondly, Marx uses his model to show how various phenomena experienced by social actors have their origins in a rationally comprehensible and historically specific set of interrelated social forms. For example, the fact that within modern society people frequently relate to each

other as objects, and that objects become social actors in themselves, is shown to be produced by the commodification of labour and the reification of commodities, which in turn are products of commodity exchange as a form of interaction. This kind of disclosure is what Marx means by 'defetishization': experiences that we otherwise chalk up to 'the human condition' in a general and semi-mystical way are rationally demonstrated to result from specific social practices. As a result, the existential and inalterable 'facts of life' are revealed as contingent and potentially changeable social facts. Whatever its political objective or ideological stripe, defetishization is one of system theory's most valuable potential contributions to social science. Social systems organize chains of causality at a higher level of generality than individual persons can directly experience. If we allow that systems themselves constitute a causal force in social life, then many of the effects produced by systems appear otherwise inscrutable because they do not result from the agency of any one individual or easily discernible group. For example, Marx points out that individual capitalists experience the laws of the system as a force external to themselves, as a set of inalterable exigencies that determine the success or failure of a business enterprise. If we accept capitalism as a given, inalterable component of social life, then it becomes very difficult to criticize socially harmful actions of capitalists; for example, Ford's decision to close or relocate an auto plant and render thousands of workers unemployed may be perfectly justified *within* the exigencies of a capitalist economy. System analysis 'defetishizes' these systemically produced exigencies and makes it possible to criticize systems themselves.

The third major accomplishment in *Capital* is that it provides a labour-centered account of capitalist economics, rather than an account exclusively centered around exchange or consumption. This has several advantages over neoclassical economics. Marx's labour-centered account shows how capitalism is more than an abstract system for ordering the movement of money and commodities: it is a social system for governing the lives of persons. In contemporary economics, harmful system effects such as overwork, dangerous or unhealthy working conditions, low pay, or destitution are defined as 'externalities', and the measures needed to correct them appear only as costs on accountants' balance sheets. Marx's system theory instead places these problems in the

foreground of analysis, and implies that the costs of not resolving them are also calculable. It implies that, as a form of governance of labour, and hence of persons, capitalism - or any economic system - is deeply political.

Private ownership, the commodification of labour, and the exploitation of surplus-value all involve power relationships. Because the resulting power structures belong to the 'economy' rather than to the state, they enjoy a general exemption from political critique. Marx's analysis enables us to observe how the political ideology of a society can conflict with the material actualities of social relations within its markets. For example, the despotic nature of power within a capitalist workplace is not fundamentally altered by any political guarantees of individual freedom and equality that liberal-democratic states may make. This kind of critique can also be turned against self-described 'Marxist' societies. For example, Stephen Resnick and Richard Wolff (1995) have used Marx's definition of exploitation to show that in the Soviet Union after 1917 and until its dissolution, the production, appropriation, and distribution of surplus-value remained essentially capitalist in character. That is, the capitalist practice of exploitation remained constant after the 1917 revolution even though the political structure and official ideology of Russia and its satellites underwent radical changes. Their analysis argues that the economy of the Soviet Union was better characterized as 'state capitalism' than as socialism (Resnick and Wolff 1995: 210). This kind of analysis is made possible by the precise, technical way that Marx constructs his model. This model therefore provides a unique and conceptually solid platform from which to critique actually existing social systems.

Analysis, Part II: Problems and Limitations

The Marxian model is open to three major lines of criticism, however. The first major weakness of the model is that it rests on shaky conceptual foundations. Marx's assertion that all commodities possess an essential, absolute, and socially objective value, defined as a function of the quantity of labour required to produce them, forms the basis of his entire subsequent analysis. However, the precise relationship between value and exchange-value, or price, is unclear: Marx

defines exchange-value as something that is logically independent of value, but at various points he seems to equate the two or suggest that value determines price. However, he does not describe the process by which this determination takes place. This leads to some confusion as to whether the labour theory of value is an empirical or a normative assertion. The second major weakness of this model is that, as a model of a *social* system, it describes only a very limited range of the phenomena that could potentially be considered 'social'. In particular, it does not describe the structures and processes of politics, including those of the state, that make capitalism possible, and it tells us very little about non-economic forms of power. The third major weakness of Marx's model is that it provides us with very little sense about the future of capitalism. At the end of Volume II, the reader is left with a picture of a system that is in perpetual equilibrium despite, or rather because of, its perpetual expansion. The model Marx outlines provides no basis for foreseeing the eventual demise and replacement of the capitalist system, and an unsatisfactory basis for assessing the limits to social change within the system. I will now discuss each of these three weaknesses in turn.

1. The Labour Theory of Value

Marx's entire model of capitalism rests on the concept of 'value'. Value is defined as the quantity of socially necessary labour time required to produce a commodity. The value of a commodity is 'socially objective', and is not affected when the commodity is traded or exchanged. On the other hand, the exchange-value of a commodity is defined as the quantity of some other commodity for which it is or can be exchanged. Marx states that exchange-value "changes constantly with time and place" and "appears to be something accidental and purely relative" (1867: 126). Marx's specific turn of phrase here begs the question, is this 'apparent' relativity real after all, or is it only an illusion? Is exchange-value reducible to value? Is price, as the monetary expression of exchange-value, determined by value? It is clear that no absolute determinate relationship exists between the two; value and exchange-value can fluctuate independently of each other to some degree (1867: 1068). Yet Marx frequently speaks of value as if it provided some

kind of average or norm around which exchange-values can vary only to a limited degree. For example, when defining the assumptions of his model of system reproduction in Volume II, he explicitly assumes that commodities are, on average, exchanged at their value (1885: 469⁴⁶). However, he does not identify the processes through which ‘socially objective’ value acts to constrain the variability of exchange-value. For me, the precise nature of value and of its relation to exchange-value remains deeply ambiguous, and constitutes the single most problematic component of Marx’s theory of capitalism.

I will now explain this ambiguity more clearly through a series of steps. First, I will show some of the contradictory claims that Marx makes about the nature of value. Next, I will ask whether Marx has ‘proved’ that value determines price. I will then explain some of the technical obstacles to actually calculating the values of commodities. After this, I will point out how a labour-price relationship is not actually necessary for value to be a workable concept. Finally, I will argue that Marx’s assertion that price is an expression of value contains an element of normativity that clouds the meaning of value as a concept.

To begin with, Marx’s discussion of value involves an apparent contradiction. At the opening of *Capital*, he uses the concept of exchange-value to derive the concept of value; subsequently, however, he treats exchange-value as a derivative of value. Marx argues that value exists by saying that the exchange of commodities necessarily implies the presence of a common element which renders these commodities somehow commensurate. Exchange-value itself cannot be this common element, because exchange-value is determined by the very act of exchange and appears as something purely relative. Searching for this common property, Marx somewhat unconvincingly claims that “if then we disregard the use-value of commodities, only one property remains, that of being products of labour” (1867: 128). At this stage his argument, Marx asserts

⁴⁶ See page 108 of my discussion above.

that it is the act of exchange which equates the labour contained in different commodities, and not the opposite; as I have previously quoted:⁴⁷

Men do not therefore bring the products of their labour into relation with each other as values because they see these objects merely as the material integuments of homogeneous human labour. The reverse is true: by equating their different products to each other in exchange as values, they equate their different kinds of labour to human labour. (1867: 166)

However, very shortly thereafter Marx begins to treat exchange-value as if it were formally derivative of value. When he discusses the origins of money (1867: 138-163) he consistently refers to the various forms of exchange-value⁴⁸ as forms of value, and declares that his intention is to 'track down' the value that 'lies hidden' within exchange-value (1867: 139). Finally, he identifies money as a form of the expression of value, stating: "Money as a measure of value is the necessary form of appearance of the measure of value which is immanent in commodities, namely labour-time" (1867: 188). This firmly identifies exchange-value as a derivative of value, because money exists as a commodity whose function is to serve as a means of exchange for all other commodities.

This apparent contradiction is resolved if we accept that Marx has used his observations about exchange-value to somehow demonstrate or 'prove' the existence of value. Value, after all, is an unobservable phenomenon, like gravity or electromagnetics. For example, one could begin a treatise on gravity by arguing that its existence is implied by some observable phenomenon, such as planetary motion, and then proceed to show how these phenomena can be deduced from a theory of gravity. In a similar fashion, Marx shows how the existence of value is implied by the process of exchange, and then proceeds to treat exchange-value as derivative of value. This is somewhat problematic, however, because Marx explicitly states in the above quotation that value is a social construct. That is, value is an effect of exchange. How can it then operate to determine exchange-value? It would seem nonsensical to assert that planetary motion is what creates gravitic fields, and then turn around and explain planetary motion as a product of gravity. Similarly, it

⁴⁷ See page 79 above.

seems problematic to treat exchange value as derivative of value after arguing that exchange brings 'value' into being. However, this is precisely what is interesting about Marx's argument.

Although value is a social construct, it acquires control over human action, because the equation of commodities as carriers of value takes place without people's awareness. People do not *consciously* equate different forms of labour when they exchange commodities; that equation is implicit in their act.

Value, therefore, does not have its description branded on its forehead; it rather transforms every product of labour into a social hieroglyphic. Later on, men try to decipher the hieroglyphic, to get behind the secret of their own social product: for the characteristic which objects of utility have of being values is as much men's social product as is their language. (1867: 167)

It is therefore possible for value to be produced by exchange but also to govern or determine exchange.

What Marx still must do, however, is to demonstrate that an actual relationship exists between value and exchange-value, or between value and price. Marx's assertion that the process of exchange renders the exchange-values of different commodities commensurable is valid. This can be demonstrated with a simple example. Assume that I can exchange two pounds of feta cheese for one Gideon Bible, and that two Gideon Bibles will buy me one silk shirt. If I could then exchange one silk shirt for five pounds of feta cheese, instead of four, I could amass a hoard of cheese, or bibles, or shirts, simply by making repeated exchanges of one for another. If exchange itself can affect price at all, then the operation of exchange markets will tend to make commensurate the ratios of exchange among various commodities, i.e. to bring their exchange-values in line with some common standard. Where money serves as a medium of exchange, this standardization is accomplished simply by assigning a price to everything - e.g., \$1/lb. for feta cheese, \$2 for a bible, and \$4 (or \$5) for a shirt. At the same time, all commodities do 'contain' a definite amount of congealed labour-time. Given Marx's definition of value, value exists as a socially objective property of commodities and as such can be objectively measured. So on the one

⁴⁸ That is, the simple form, the expanded form, etc.; see page 81 above.

hand, the exchange-values of commodities tend to be commensurate, and on the other, value can be treated as an objective property of commodities. However, there is no particular reason to conclude that there is any necessary relation between the two. Why should the labour contained in commodities bear a fixed relation to the ratios by which these same commodities can be exchanged for one another? To answer this question, Marx needs to do at least one of two things: either he needs to describe a process by which value systematically acts on prices, or he needs to show empirical evidence demonstrating a correlation between value and price. In the first two volumes of *Capital*, he fulfills neither of these objectives.

Perhaps this failure is partly a result of the formidable difficulty involved in actually operationalizing the concept of value as a quantitative empirical measurement. To calculate the value (labour) contained in a commodity, Marx must calculate the quantity of socially necessary labour time contained in its production. This assumes that he can distinguish between simple average labour and complex labour according to some objective criteria, and that he has a calculus for reducing the former to the latter, i.e. for deciding that the labour of an engineer is equivalent to, say, twice the same amount of labour by a pipe-welder, and six times that of an 'unskilled' ditch-digger. Successfully performing this operation, he must then determine the quantity of simple average labour that is required to produce the object under conditions of production that are average to that society at that time. This presents some difficulty if the object is to be sold in some faraway place, where different conditions of production apply: Marx must calculate the value the object would have at its destination, or else make some potentially arbitrary decisions about equivalency conversions. It also presents him with a more formidable problem. Nearly all commodities produced in contemporary society contain not only the value of their labour inputs, but also the value of capital and raw materials used up in their production. Marx must therefore determine the labour-value of these material inputs. This leads to an endless and potentially circular chain of value-added calculations. To know the value of any one thing, Marx must calculate the value of everything produced in the economy, not only at present but for some fairly considerable period of time in the past.

Marx provides a shortcut around by asserting that under normal circumstances, the price of commodities tends to correspond to their value. He can therefore determine the price of a worker's daily sustenance, or the average daily wage of simple labour (since they should be the same) and use this as a starting-point for his calculations. Some imposing calculations actually still remain, however. Knowing the price of the daily subsistence wage, Marx would also require the price of raw materials and capital depreciation that are socially average for a given commodity, along with the final sale-price of the total goods produced in an average day. Subtracting the first two numbers from the third would give him the price of surplus-value. Then, dividing up the time-span of the working day into components corresponding to the constant capital, variable capital, and surplus-value, as on page 95 in my exposition above, he would find the monetary value of one hour of labour. All of these 'averages' would be taken from industries involved in the production of necessity goods that are consumed by workers who are paid the subsistence wage. Although this process works, however, it entails a certain circularity. That is, it assumes what it should demonstrate - that the price of labour equals its value.

At face value, it is somewhat curious that Marx attempts to establish a relationship between value and exchange-value at all. He could just as easily assert that all objects contain a quantity of 'congealed' labour-time and then proceed with his analysis. It is certainly true that all commodities come into being at least partly through some definite expenditure of labour-power; value can be considered socially objective without any reference to exchange processes.⁴⁹ It is also the case that a determinate relationship between value and exchange-value, or between value and price, is not necessary to the logical integrity and explanatory power of Marx's model. One possible way of interpreting Marx is to consider that he not really proposing a 'labour theory of value' so much as he is pursuing a 'value theory of labour'. That is, he uses the concept of value as a way of quantifying labour so that he can investigate the ways in which labour is organized in capitalist

⁴⁹ This implies that the concept of value, as Marx has defined it, is not logically restricted to commodities (although Marx restricts it in this fashion), but can theoretically be applied to all objects that are produced through human labour.

society, and secondarily so that he can trace the movement of labour and its products through exchange networks. In this interpretation, Marx's opening discussion about value functions as a kind of discursive sleight-of-hand: Marx is appearing to locate himself within a 'classical' political economy tradition, but in fact his political economy is more radically labour-centered than any of its antecedents. In this reading, Marx's concern is almost more 'ecological' than it is 'economic'. The energies expended in labour are infinitely renewable, but only if humans receive the necessary means of their subsistence. Means of subsistence must be produced through labour. The reproduction of the species itself therefore depends on an ongoing cycle of production and consumption. Marx's analysis is concerned with how these processes are organized. Before the advent of industrialism, subsistence farming or subsistence foraging (hunting/gathering) were the norm for most humans.⁵⁰ The advent of industrialism represented a revolutionary transformation of both productive and consumptive life for the Europeans who initially experienced it, and the non-Europeans to whom it was shortly exported. Marx provides a language and a conceptual structure for analyzing those changes. In Marxian terms, productive labour is the process by which humans interact with their natural environment and refashion parts of it according to their needs. I read this as the description of a *metabolic* process in the biological sense: the process by which an organic body takes in and converts substances from its environment for its own ongoing regeneration.⁵¹ Marx's system-model of capitalism provides a rudimentary model of the collective human metabolism as it currently operates.

There is a further, perhaps incidental, useful aspect of Marx's labour theory of value imparts to his theory: a facility for sociological appropriation. Processes of production and consumption form a large part of the *way of life* for any group of people. Transformations in these processes are in and of themselves transformations in social life. Such transformation may also affect other phenomena that are external to the economic realm, phenomena belonging to the

⁵⁰ This applies to general population, not elites. Even within, for example, Roman civilization, most people were still farmers (or fishers, etc.) of some sort.

⁵¹ Marx actually describes the *C-M-C* exchange as the "metabolic interaction of social labour" (see 1867: 200).

cultural or social realm more generally. The history of capitalism that contemporary economics gives is mainly the history of an expanding system of value – a history of numbers. The history that Marxian political economy gives, on the other hand, chronicles social change in the diverse areas of class, status, and power; of daily lifestyle; of consumption practices; of the health of working persons; and so on. In short, Marxian economics provides a useful platform for more general sociological investigations.

It is therefore possible to make extensive and fruitful use of Marxian theory without positing a determinate relationship between value and exchange-value. Despite the attractions of this position, I cannot believe that Marx was unconcerned with the existence of such a relationship. For one thing, if value was shown to exercise a determining influence on prices, say in the form of a statistical mean around which prices deviate in a normal curve, then this would very greatly increase the descriptive power of Marx's system model of capitalism. Value could be used to make sense of the fluctuations of commodity prices. Another reason for the importance of the price-value relationship has to do with the value of labour-power. Recall that the value of labour-power is equal to the labour contained in the subsistence requirements for a worker. This value provides the basis for determining the rate of exploitation, and for defining the minimum standard of living for workers. On the one hand, if Marx can translate value into price then he can announce a dollar figure to the quantity of surplus-value expropriated by capitalists; this dollar figure could serve as a useful political tool for agitating the working class. On the other hand, the same translation makes it possible for workers to use value as a point of reference when engaging in collective bargaining over wages.

I believe that there is a subtle but pervasive normative element to Marx's assertion of a labour theory of value. This goes beyond the simple rhetorical turn involved in giving congealed labour-time the essentialist label of 'value', to posit labour as the most fundamental source of value. I suspect Marx is unable to resist asserting that labour *ought* to serve as the fundamental measure of commodity values. This leads him to employ the concept of value in an ambiguous and

sometimes contradictory fashion. For example, at one point in *Capital* Marx asserts that price 'must' be reducible to value:

Every price must be reducible to *value*, since the price is in itself nothing but the monetary expression of value and the fact that actual prices may stand above or below the price corresponding to their value does not alter the fact that they are a quantitatively incongruent expression of the value of the commodity - even if in the situation assumed they may be *quantitatively* too great or too small. (1867: 1072)

Virtually in the same breath, however, he acknowledges that it is possible for price to be irreducible to value:

Price which is not reducible to *value*, whether immediately or through a series of mediations, expresses a merely accidental exchange of something for money. In this way articles that are not *commodities* in themselves ... may be converted into commodities by being exchanged for money. Hence the connection between venality and corruption in the money relationship. (1867: 1073)

Marx seems to be saying that price must be reducible to value, except when it isn't. Alternatively, his 'must' is a normative 'must' - he is saying that price should be reducible to value - that the economy is more rational (and perhaps less venal) when prices are a reflection of values. Marx's slippage between the normative 'must' employed here and the determinate 'must' implied elsewhere (see page 143 above) is comparable to the slippage Parsons invokes when he asserts that systems 'must' satisfy their own functional requirements. Both acts of conflation indicate a fixed attachment by the theorist to a particular system model, in the face of incomplete empirical confirmation of that model. Whether Marx's confusion goes as deep as Parsons', I cannot say without more evidence concerning the empirical relation, or lack thereof, between price and value. However, some element of confusion is evident. The relationship between value and price remains uncomfortably ambiguous.

A demonstrated causal link between value and price is not necessary for value to serve as a useful analytic device; neither is such a link required for the theoretical integrity of Marx's model. Nevertheless, Marx seems to be asserting that such a link exists. He establishes a formal relationship between exchange-value and value, in which value is a social construct produced by the act of commodity exchange. Despite this formal relationship, however, I have argued that value and exchange-value appear in the social world as separate phenomena between which a

causal relationship may or may not exist. Marx provides neither a model of the process by which value constrains price, nor a body of empirical evidence demonstrating a correlation between them. In fact, value is ferociously difficult to actually calculate. Marx's assertion that labour is the root of all value has very clear normative overtones, but I suggest that it also involves an analytic slippage between normative and empirical claims. To conclude, I can only suggest that Marx's labour theory of value remains deeply ambiguous, and represents one of the most problematic elements of his system model.

2. Breadth of Analysis

Although, as I mentioned above, Marx's model of capitalism is constructed in a way that enables a sociologist to extrapolate from it into the effects of capitalism on social and cultural phenomena, the model itself is very narrow in its scope. It describes only phenomena pertaining to labour, production, and exchange, and these appear only in a capitalist setting. The narrowness of the Marxian model makes it quite poor if considered either as a model of a *social* system in the complete Parsonian sense. For example, he does not discuss the means by which deviance, or the attempts of non-capitalists to circumvent or contravene the rules of the system, is controlled. Marx may have considered the control of deviance to be incidental, worked out in varying ways once the *principle* of capitalism is established. *Capital* provides insights into the ways that the system of capitalism affects the whole of human social life. But because of its exclusive economic focus, a sociology that is too heavily based on *Capital* would tend towards a mechanistic economic determinism. The social scientist seeking a fuller account of human social life, even within capitalism, needs a set of concepts more extensive and broadly focused than the ones Marx provides here.

More importantly, given that *Capital* is "a critique of political economy", it proves inadequate as a model of power, even within the capitalist system. Marx's purpose in writing this text is an avowedly political one - to critique capitalism - and if we place *Capital* in the context of his other work, it is clear that his overall program is to advocate for the revolutionary

transformation of capitalist social relations. Marx describes only one specific form of power, however: the power of the capitalist over the worker in an already-established capitalist system. He provides no accompanying theory of politics to explain how capitalism is possible.⁵² The social forms that make up the capitalist system, including key power relationships such as private ownership of the means of production and legal sanction of the exploitation of surplus labour, seem to materialize out of thin air. Marx makes very little reference to the state, or to any political process by which the regulation of economic practices are socially negotiated. Instead, capitalism appears as a given. This raises the possibility that some of the specific system-effects of capitalism that Marx expects are products not of capitalism itself but of the way that it is governed. For example, Marx's 'absolute general law of capitalism' is that the system tends to increase the ranks of the paupers and destitute even while it generates wealth for the elite. With the advent of the welfare state, however, it seems at least possible that wealth could be sufficiently redistributed to put a floor under the working class and prevent extreme poverty within capitalist states. The continuing presence of homelessness in the wealthiest industrial nations indicates that this has never really been accomplished. Is this failure an inevitable product of the capitalist system, or does it show only a failure of political will? Marx argues the former, but his arguments (presented in Chapter 25 of Volume I) are based on his own interpretation of his system-model, and not on the logical structure of that model itself. Because the Marxian model does not include the dynamics of state governance, deductions about politics based on that model are interpretive and intuitive rather than strictly determinate. I will return to this question in the third section of my critique, below.

Marx's model does not describe forms of exploitation that do not originate from the capitalist market. For example, it is silent on the systematic use of unpaid women's labour that is

⁵² I am referring only to the first two volumes of *Capital* itself, and not to Marx's work generally.

built in to the patriarchal family structure.⁵³ It also does not describe discrimination within the market based on principles other than commodification, such as discrimination by gender or race. The need for employment equity activists to demand 'equal pay for work of equal value' is not foreshadowed anywhere in *Capital*. On a slightly different note, the Marxian model does not take into consideration the interaction between capitalist and non-capitalist economies, interactions which may have considerable significance for internal dynamics of capitalist labour markets. For example, even within a 'wholly' capitalist economy, nuclear families can function as a non-capitalist, collective economic unit. This is what makes it possible for capitalists to pay women a less than subsistence wage, and to hire children for far less than a subsistence wage, in contexts where subsistence pay is the standard for simple average labour performed by men. Individuals are capable of surviving on less-than-subsistence incomes if they are able to pool resources with other individual who receive higher wages. This dynamic becomes even more important when capitalist economies come into contact with non-capitalist forms of production. In many parts of the developing world, individual households can survive by a mixture of subsistence farming, sale of produce for money in markets, and sale of labour-power to capitalists. In these situations, it is possible for workers to survive on less than a subsistence wage because monetary income provides only a component of their household's material needs. For the individuals who live in this fashion, the material conditions of their existence involve a mixture of capitalist and non-capitalist forms of production: local economies where these practices are common are therefore neither capitalist or non-capitalist, but both. Such economies represent a kind of boundary or border condition of the world-system of capitalism. These boundaries may be receding in the face of capitalist expansion, or they may be relatively stable. In the latter case, the continued presence of non-capitalist forms of material subsistence remains an important phenomenon, whether one's intention is to describe the dynamics of the capitalist system itself, or to describe the conditions of

⁵³ Engels did attempt to use Marxian theory to address precisely this question, along with the question of the state (Engels 1884). My concern is only to point out the limitations of *Capital* itself as a piece of applied system theory.

life for the people in question. The model that Marx has presented in *Capital* does not account for these circumstances.

The mechanics of that model, however, have enough flexibility that the model can be adopted and expanded to account for these and other interface phenomena. One exciting feature of Marx's system-model is therefore the way that it can potentially be used as a modular component of a more expanded theory. To describe the *entire* human metabolism, such expansion needs to be carried out: the Marxian legacy becomes more useful if it is incorporated into ever-larger systemic or multisystemic models. One example of this that I find particularly interesting is the use of the Marxian model as a basis for an ecological approach to human production.

As capitalism expands, the quantity of constant capital expands both in relative terms and in absolute terms. If we assume an unvarying ratio of fixed to circulating capital, then it is obvious that capitalism will continually require greater and greater quantities of raw materials for its reproduction. To this basic problem we can add ancillary resource costs such as pollution, the defertilization of land, etc., which may also increase in proportion to the amount of productive activity. Given such a situation, eventual ecological disaster is inevitable. Local ecological disasters produced by capitalism are already routine; global disaster is a logical consequence predicted by Marx's system-model combined with rudimentary ecological understanding.⁵⁴

The only way to avert such a disaster is for technological innovation to cause the requirement for circulating raw material inputs to continually decline relative to the scale of production, and to do this for as long as capitalism persists. Even this solution is questionable, however, because it assumes that present resource consumption levels are infinitely sustainable; some ecological thinkers have argued that they are not. Of course, technology can also shift the

⁵⁴ This is a product not only of capitalism in particular but of industrial production in general: capitalism worsens the problem, however, because of its relentless tendency to continually expand production. Interestingly, Marx himself makes periodic references to ecological problems, at least in the form of soil depletion, especially during his discussion of the effect of machinery and large-scale industry. For example: "Capitalist production, therefore, only develops the techniques and the degree of combination of the social process of production by simultaneously undermining the original sources of all wealth - the soil and the worker." (1867: 638) Marxian ecology offers the exciting prospect of potentially fusing economic system theory with theories of ecological system theory to situation human life in its biospheric context.

resource demands of production from one resource to another. In some cases this could have revolutionary effects. For example, the development of effective solar electricity would end the need for a great many resource-extraction activities and their ancillary pollution problems. The substitution of hemp for wood as the basis for paper would dramatically increase the long-term supply of paper materials, and is already technologically feasible. However, there is no guarantee that such a solution will be found for every major ecological problem created by industrialization. Technological innovation is unpredictable by its very nature. Furthermore, the vast bulk of technological innovation is conducted in profit-oriented settings, and a vast amount of the research money spent by state governments is worse than wasted in military applications. Even existing technologies that could prevent disaster must overcome formidable obstacles posed by the market economy, and sometimes (as in the case of hemp) by sheer social inertia. The most likely scenario is that capitalism *by itself*, i.e. uncorrected, will drive steadily towards global ecological catastrophe.

This represents one possible prognosis for capitalism that we can make using the Marxian system-model. Others may be possible, however. On my inspection, Marx's model as it has been developed in Volume II provides an uncertain basis for making predictions, because of its limited scope and because of what it leaves out. These concerns provide the basis for my final criticism.

3. Alternatives to Capitalism

The Communist Manifesto, perhaps the most 'popular' Marxist work, contains the famous assertion that the capitalism's internal class contradictions will inevitably destroy it (Marx and Engels: 1848). *Capital*, written much later and in part published after Marx's death, contains no such firm prediction. Instead, it provides a detailed analysis of the systemic workings of capitalism. By the end of Volume II, Marx has described a system that is capable of reproducing itself on an expanding scale, seemingly forever. He identifies many internal contradictions inherent to the capitalist system, and many undesirable system-effects. But many unanswered questions remain, regarding how these contradictions are likely to affect the system itself in the

long term. Marx's model is dynamic in the sense that it describes a system in perpetual flux, wherein individual capitalists and workers experience constantly shifting fortunes against a background of overall system expansion. It is static, however, in that the basic elements of the model are presented as fixed, and the conflicts it generates between (and among) workers and capitalists have no resolution. One of the major purposes of a well-developed system theory is to enable social theorists to make prognoses about the long-term dynamics of the system under consideration. As I mentioned at the close of the previous chapter, an ideal system theory would serve as a road-map to the future, enabling social actors to make rational choices by informing them what the consequences of those choices would be. A critical system theory should provide us with a basis for critiquing existing system and a guide to taking actions that will change them. The best possible basis for doing so would make use of an *alternative system model*. That is, Marx could have furthered the critique of capitalism by using the concepts and the model of system logic he has already developed to describe an alternative economic system. Marx's language could potentially be used to explain the possible workings of a hypothetical system in which, among other things, exploitation does not exist: in which workers own the product of their own surplus labour. Marx does not attempt to construct such an alternative model. In this, final, section of my analysis of his work, I will explain the need for such a model.

From the perspective of prognosis (critical or otherwise), Marx's work thus far leaves us with two unanswered questions: 1) what are the limits to change within the capitalist system? and 2) what is the long-term fate of the system? Marx answers these questions to some extent in Volume III of *Capital* (1894).⁵⁵ However, at the end of Volume II, the theoretical construction of his system model is complete enough for me to explore some tentative answers to them. Take, for

⁵⁵ Marx's comments on tendential laws and the ultimate fate of capitalism in Volume III would have provided interesting material for analysis, given my concern with the problem of emergence in system theory. However, to the best of my determination, these comments go beyond the technical elaboration of Marx's system model, and represent an elaboration and application by him of ideas laid down in the first two volumes. To include a consideration of Volume III in this thesis would have necessitated a more compressed treatment of the system-model described in Volume II, and hence would have detracted from the pursuit of the main thesis question, namely, 'how do social systems reproduce themselves?'.

example, Marx's 'absolute general law of capitalist accumulation': that increasing capitalist accumulation of wealth must simultaneously entail an increase in the destitute, the poorest of the poor. The advent of the welfare state has opened up the possibility that capitalist societies can use state instruments to put a floor beneath the downward movement of the poor, and to guarantee a certain minimum standard of living to all persons. Marx's model tells us that such a minimum standard must raise the value of labour-power, because workers must be provided some incentive to sell their productive energies. If the capitalist class could have its way, then no minimum standard of living would be provided, and hunger itself would provide the whip that impels workers into the factories. However, the spread of universal suffrage makes it at least theoretically possible for working-class people to use the state as a forum for contesting the will of the capitalist class. This raises the possibility that, given sufficient political will, the welfare state could be used to reappropriate some of capitalism's surplus-value for the purposes of eliminating extreme poverty. This in turn implies a more general question: to what extent are the negative system-effects of capitalism a problem of political governance rather than of the economic system itself?

Marx's reply is that the system itself sets certain limits on change. The minimum standard of living in a capitalist society must be low enough that people will still be motivated to engage in demeaning and unpleasant forms of labour, and to do so in return for wages that are low enough to enable capitalists to extract surplus-value and hence turn a profit. Furthermore, the surplus-value appropriated by a welfare state must necessarily take away from the potential reinvestment fund of the system as a whole. The portion of surplus-value that the state redistributes must be small enough, in the long term, to allow the capitalist class to engage in personal consumption while simultaneously accumulating funds for reinvestment in expanded production. These limits are rather broad, however, and are not precisely defined. What Marx succeeds in doing is showing how the use of the state for redistribution creates certain tensions within the system. He does not provide a calculus for determining how those tensions will be resolved at any given historical moment. To be fair, this may be asking too much of Marx, who notes that the system in general is manifested through various specific and local historical forms. Nevertheless, this marks a

limitation of the analytical and prognostic utility of Marx's system-model. To understand how local political struggles within capitalism are waged, and to make predictions about what the long-term resolution of these struggles may be, we need a system theory more comprehensive than Marx's.

The second question, what is the long-term fate of capitalism, is left open at the end of the second volume of *Capital*. This begs the question of critique, and of what critical uses Marx's project can be put to. It is not enough that Marx identifies various internal tensions and undesirable system-effects that capitalism inevitably entails. A system-theorist arguing in favour of the status quo can reply that these effects, regrettable as they are, are inevitable, functional necessities of the system and must be tolerated.⁵⁶ A sustained project of critique must therefore refer to a conception of what alternative systems are possible, if it is to aim for more than just tweaking or fine-tuning the system. For example, no matter what advances are made by the welfare state in socially progressive redistribution projects, exploitation must still remain a central feature of capitalism. The sole source of capitalist profit is in the expropriation by private capital-owners of the surplus-value generated by the working class. If this arrangement were to be altered, then the resulting system would no longer be capitalist. This begs the question, how can exploitation be done away with? Or rather, how can an economy function without exploitation? The necessities and luxuries of life must be produced and distributed *somehow*. Systems cannot just be done away with; they must be replaced. In particular, any system that replaces capitalism must meet the needs of modern societies, which have become specialized around certain conditions such as industrial production, urban concentration of population, dependency on high technology, and so on. The necessary and surplus labour of workers need to be organized into a system capable of meeting the needs of its members. What would a system that did not involve exploitation look like? What would its mechanics be? How would it operate?

⁵⁶ Even if the grounds for the eventual demise of capitalism could be identified, this in itself would not provide a program of action. All systems, after all, must presumably come to an end at some point. Discerning the basis for system mortality is not, in itself, a necessarily critical act.

It is with respect to this question that Marx is weakest. This weakness has fundamental implications for the utility of Marxian theory. Consider, for example, Resnick and Wolff's argument that the 1917 revolution in Russia failed to produce a system that deviated from capitalist principles with regard to the expropriation of surplus-value (Resnick and Wolff 1995). The failure of this 'Marxist' revolution may be partly attributable to Marx's own failure to describe a systemic alternative to capitalism. It is possible that capitalism will continue to expand unchecked, indefinitely, until such an alternative is constructed. A more alarming possibility exists: that capitalism, independent of the will of any of its participants, is creating the conditions for a global disaster of some kind. Such a disaster take the form of widespread ecological catastrophe, of the final outbreak of a nuclear war, of the breakdown of democratic freedoms and the triumph of global fascism, and so on. Marx's analysis of capitalism describes a system that is, in a fundamental sense, out of control. It is a system that must expand to survive, and for which the principle of expansion is more fundamental than any principle of human well-being, of justice, of sustainability. As capitalism expands, the fate of an unprecedented proportion of humanity becomes tied to the dynamics of one single system. Marx tells us that, in creating particular social relations, capitalists and workers alike have become bound by them; we are chained to a machine of our own making. His success has been to demonstrate how otherwise discrete and unconnected phenomena can be assembled into a system, and to give us a language and a model for talking about that system. His vision does not extend beyond the present, however. In terms of system theory as a map, Marx indicates where we are located, and to some extent where we are headed. We can guess that hidden dangers may lay in wait. But he does not show us a preferable destination, much less how to reach it. The task of formulating alternative visions, of modeling the systems that must one day replace capitalism, remains to be completed.

Chapter 4: **Recapitulation and Conclusions**

I. Recapitulation

As, with astronomy, the difficulty of recognizing the motion of the earth lay in renouncing the immediate sensation of a stationary earth and moving planets, so in history the difficulty of recognizing the subjection of the individual to the laws of space, time, and cause, lies in renouncing the spontaneous feeling of independence of one's own personality. But as in astronomy the new view said: "It is true that we do not feel the motion of the earth, but by admitting its motion (which we do not feel) we arrive at laws," so in history the new view says: "It is true that we do not feel our dependence, but by admitting our free will we arrive at an absurdity, while by admitting our dependence on the external world, on time, on cause, we arrive at laws."

In the first case it was necessary to renounce the consciousness of an unreal immobility in space and to recognize a motion we did not feel; in the present case it is similarly necessary to renounce a freedom that does not exist, and to recognize a dependence of which we are not conscious.

- Leo Tolstoy

In each of the two main chapters of this thesis, I have examined the question, 'how do social systems reproduce themselves', looking at key works by two very different theorists: the American structural-functionalist Talcott Parsons, and the radical critic of capitalism Karl Marx. The works examined are correspondingly different in character: Parsons' *The Social System* is a work of general system theory that attempts to define the essential properties and dynamics that belong to social systems as such, independently of their specific historical circumstance; Marx's *Capital* is effectively a work of applied system theory that theorizes how a particular set of historically specific social forms, relating to the production, exchange, and ownership of material goods, have become ordered into a self-sustaining and ever-expanding capitalist system. As a result of the differences between these texts, my own process of exposition and analysis has taken on a very different character in each chapter. One important example of this is that I focused a great deal on the question of 'macro-micro linkage' and the problem of emergence when discussing Parsons, but made little mention of this problem when discussing Marx. That imbalance will be remedied in a short discussion that will appear towards the end of this chapter. Before proceeding

to my concluding, comparative analysis, I will recapitulate the highlights from my analysis of each author's work.

The Parsonian System-Model

In Chapter 2, my reading of Parsons was conducted so as to isolate certain essential components of his theory and assemble them into a model. This 'Parsonian model' of an abstract social system can be viewed either as a kind of template which can serve as a general guide for theoretical projects focused on specific, actual systems, or it can be viewed as a grand theory that attempts to describe the universal dynamic of social systems *qua* systems. Whether we view it as template or as grand theory, the Parsonian model possesses a number of very interesting features that constitute outstanding contributions to the overall project of system-theory. The most fundamental of these is its very attempt to portray human social life in systemic terms. Parsons' *attempt* to construct a systemic account of social life, including his attempt to resolve the macro-micro link, asserts that such a project is worthwhile. Despite the specific failures of Parsons' attempt, I remain convinced of the value of that goal. One particular strength of Parsons' approach, as opposed to Marx's, is the breadth of phenomena that it attempts to describe. In theory at least, the Parsonian conception of a social system incorporates human social life or 'action' generally, rather than the few specific dimensions of action centred around labour and exchange. His model includes values, roles, and institutions belonging to all facets of social life: politics, religion, family, the workplace, and so on.¹ Parsons' model of social systems is, at least potentially, the basis for theorizing about social life in its entirety.

Another interesting feature of the model is Parsons' attempt to determine the inherent dynamics of social systems as systems. Concepts like the mutual contingency problem and the assumption of a tendency toward homeostasis apply to all social systems regardless of their

¹ This breadth is marred by his conspicuous neglect of structures of power; Parsons does not consider the ways that political and economic power structures shape social values instead of simply reflecting them. However, the essential concepts of his model - the foundational elements of 'action theory' - do not exclude a potential consideration of such dynamics in principle.

historical particularities. All systems also generate their own set of functional needs, as a product of the unique integration of structures and values that they achieve. The need to integrate values, roles, and institutions emerges as a general functional need pertaining to all systems.² What the functional imperative of integration and the universal tendency to homeostasis imply is that all systems are subject to universal, agentless exigent forces that affect how change and stasis occur within them. Social life is not purely contingent. Social actions proliferate, swirl about, and coalesce into systems in the currents of subtle, universal forces that function like 'natural' laws. In the vast array of human societies that exist and that have existed, some patterns form repeatedly, while other imaginable patterns never form at all. It is difficult to isolate the specific elements of Parsons' model that point convincingly to agentless, inherent system dynamics, because so often Parsons seems to confuse the properties of specific social systems, or of a specific conception of systems, with those of systems *qua* systems. The idea that such dynamics exist informs his project deeply, however. This is a provocative thought.

Finally, a conceptual strength of the Parsonian model is that it is premised on an essentially dynamic theory of action. The basic unit of analysis in his model is human action, and this action is defined as being locally produced and continually subject to situational contingencies. Systems may bring powerful energies to bear on individuals, but they cannot determine action in the final instance. Parsons' whole preoccupation with order is, in part, based on a concern to show how order is possible at all. The result of this foundation in dynamics is that, even though Parsons does not present us with any theory of change, his model generates interesting insights about the kinds of forces that encourage and discourage change. To survive, systems must achieve a balance of the various energies that their component values, roles, and institutions produce; this balance produces the functional imperatives that make social change difficult. Any stable system is maintained not only by centralized power structures but also by the general dispersion of values favourable to that system, and by its own capacity to satisfy those values. The ordering principle

² Unfortunately, Parsons does not provide a satisfying definition of 'integration', much less a way of operationalizing it as an empirical descriptor.

of systems operates at least as much at decentralized, capillary levels as it does in centres of authority. Concerted attempts at system change must take these decentralized sources of re-equilibrating tendency into account. Similarly, the degree of integration or dis-integration of a society can tell us much about whether it is genuinely stable or ripe for revolution. The dynamism of Parsons' action theory draws our attention to how systems are not only rooted in static structures but are reproduced on a constant basis by the ongoing actions of their participants.

His model also suffers from a number of flaws, however. The most glaring of these is its complete lack of consideration of questions of power. Parsons presents a model in which individuals interact to produce consensually agreed-upon values, but he consistently speaks as if all individuals were on a level playing field. The Parsonian model does not incorporate considerations of how power can shape values, how individuals or groups operating at different locations in a system may have greater or lesser power to shape the values of that system. Parsons does not explore the notion that 'functional imperatives' may be consciously determined by self-interested elites rather than by the agentless forces of system logic. His 'action theory' tends towards radical individualism and reductionism, as if all members contribute to system reproduction on equal terms. The only major conflicts within the Parsonian model are conflicts over values. Politics and economy are treated as offshoots of the social system, not as the source of forces that could shape that system. In theory at least, however, this is a correctable flaw. It is possible to isolate the basic dynamic at the heart of systems - the recurring resolution of mutual contingency dilemmas - and ask the question, 'how do effects of power shape this process'? From there, one could develop a set of modifications to be grafted onto the main structure of the Parsonian model. The lack of consideration of power, however, is a serious flaw in Parsonian theory taken on its own terms.

Parsons' theory also contains several problems with respect to normativity. This is a somewhat curious thing, since the Parsonian model is concerned with the processes through which norms are socially constructed. However, Parsons makes no normative comment about social systems themselves. His framework is technically relativist: each system produces its own set of

values; no values are universal. This raises the whole spectrum of interesting philosophical questions regarding what happens to our ethics once we become aware of how they are socially produced. Unfortunately, Parsons doesn't go into these questions, and instead he loads his analysis of systems with a subtle normative bias. Parsons frequently equates systems, order, stability with the good, and positions deviance and change as an alarming prospect. He states that systems *need* to survive (rather than that they just *tend* to survive), that their needs constitute functional imperatives, that deviance is pathological. He makes no distinction within his concept of 'deviance' between destructive and constructive forms of deviance: between the human rights advocate and the serial killer. Given the Parsonian framework, what basis could we have for ever criticizing a system or deliberately wanting to change it?

Furthermore, he defines 'system' in a way that leads him to engage in slippage between normative and scientific claims. He conceives of social systems as stable, orderly entities: bounded, self-sufficient, and homeostatic. Any other condition of social relations is defined as a state of 'system breakdown'. In my discussion I proposed a hypothetical example in which an airplane wing moving through air is analyzed in systemic terms. I asked, What is the proper object of system theory in this example: the specific structures of wing and airflow, or the rules that govern them? If the wing shears away from the fuselage of the plane, has the system broken down or only initiated a change of state? When we apply this example to social systems, we see that an added confusion sets in, because social systems themselves produce rules that constrain human behavior. Social systems are sets of rules, and they may themselves be driven by sets of rules. Parsons does not distinguish clearly between the rules that systems generate and the broader rules that constrain systems themselves. He declares the object of his investigation to be the latter, the abstract exigencies that constrain social systems *qua* systems. In the end, however, he doesn't convince me that he isn't just speaking about the rules produced by a particular system, or at least a particular type of system. On the basis of his particular system analysis, Parsons declares he has discovered the basic rules by which all systems operate. In fact, he is making normative assertions about what systems ought to be.

Other fundamental confusions are also built into the Parsonian model. One of these is the distinction between social, psychological, and cultural systems within the overall action system. One of the overriding functional needs of any social system is that it must reach an adaptive integration with the other two systems. However, the basic unit of Parsons' scheme is the individual action. As far as I am able to determine, any given action belongs simultaneously to all three spheres: to society, to personality, and to culture. The systems are so deeply interpenetrated that it is not clear how they can really be 'separate'. Parsons achieves their separation by assigning different phenomena to each sphere: values to culture, roles to society, and motivations to the personality. It is still unclear, however, how the three spheres can be more or less 'integrated'. If any action is simultaneously a part of all three systems, how can the systems become dis-integrated? Again, this is where Parsons holds fast to a particular notion of what a social system is supposed to look like. Parsons defines dis-integration as the moment when the relationships between cultural, social, and personality systems within an overall action system operate to encourage change instead of stasis.

Finally, Parsons' theory is good at explaining stasis but poor at explaining change. Parsons resolves the macro-micro link for an ideal system in a state of perfect homeostasis, but the introduction of any change into that system correspondingly introduces an irreducible complexity into the system-model that breaks the macro-micro link. Parsons' theory assumes that deviance will perpetually exist within systems, but its capacity to account for the origins of deviance in a systemic way is limited. In particular, the model cannot predict or even describe the conditions under which disruptive or deviant forces move from being localized and controlled to being durably entrenched within the system, and it cannot address why sometimes systems are only modified by disruptive forces and why sometimes they experience fundamental changes of state. Parsons himself admits that he cannot provide a theory of change, and argues that such a theory is an unrealizable 'holy grail' of social theory. He believes that his theory can still stand on its merits as a partial description of social life because of its ability to account for forces of stasis and equilibrium. His theory does provide innovative and insightful ways of addressing questions of

stasis and change, but his failure to adequately theorize change is a more serious problem for his model than he admits. This is because the model itself is premised on fundamentally dynamic processes: on action theory and the recurring resolution of mutual contingency. Parsons offers the valuable insight that tendencies to equilibrium can spring from sources other than centralized structures of power or authority. Unless we can understand why and when those tendencies are *not* realized into stable systemic forms, however, we cannot fully understand why and when they are.

The Marxian System-Model

The Marxian model of capitalism makes three outstanding contributions to system theory. The first is that Marx shows, by demonstration, that it is possible to construct applied theoretical models that describe social phenomena in systemic terms. He begins by defining a number of foundational concepts. He then develops these to show how they describe phenomena with which we are already quite familiar, such as money, and phenomena which are partly revealed by his own analysis, such as surplus-value and exploitation. His concepts link the process of productive labour to the practice of capitalist commodity exchange, and in so doing, Marx redescribes exchange from the perspective of labour. He carries this through with convincing logic and consistency to describe the role of capital in productive processes in terms of a circuit that is followed by ever-expanding quantities of labour-generated value. Finally, he uses the same concept of labour-generated value to describe a working model of the reproduction of capitalism on an ever-expanding scale. In addition to outlining this model, Marx takes the necessary step of showing how the model and its constituent concepts can be used to make analytical statements about the social dynamics produced by the system in question.

The second major contribution of Marx's system-model is its explicit focus on 'defetishization'. Systems tend to produce social forms that are so general, so widely prevalent, that these forms take on the appearance of universal, naturally occurring phenomena. For example, within capitalism both commodities generally, and money in particular, have become

fetishized to the point that they appear as 'things' unto themselves, when they are really produced by agreements between social actors over the norms of production and exchange. The social origins of these forms become obscured because individual actors experience the forms as exigent and ubiquitous: they seem to come from nowhere. Even the most powerful classes within a system, such as the capitalist class within capitalism, experience the system as a force external to themselves and are bound by its rules. Fetishization means that systems become invisible, and their effects appear as laws of nature or as universal, existential 'facts of life'. Marx explicitly uses system theory to make systems visible and to show how their effects are local and particular, produced by co-ordinated social action and not by the hand of Fate. Marx's objective is to open the door to thinking and talking about systems, to passing judgments on systems, and to contemplating making deliberate changes to systems,

Finally, the fact that Marx's system-model is centered around labour, and not around exchange, makes it possible for him systemically to analyze capitalism from a social perspective. He shifts the emphasis of economic analysis from exchange, in which people appear either as investors or as consumers, to production, in which people appear as exploited or exploiters. This shift in focus emphasizes the ways in which capitalism does not consist only of free individuals making equal exchanges in a common marketplace, but also consists of definite and despotic power relations governing the process of production and the appropriation of the fruits of production. Capitalism is revealed as a power structure that is spread throughout the whole social body, one that is separate from the state and often excluded from political awareness. Marxian theory also places more emphasis on the deleterious social effects of capitalist production, such as overwork, dangerous work, or poverty, that appear only as tangential 'externalities' in neoclassical economics. And Marx's system model makes it possible to detect the presence of exploitation even where it is obscured by collectivist political reforms and 'socialist' ideological rhetoric.

I also identified three major problems with Marx's system-model of capitalism. The first of these is that it rests on a labour theory of value. Marx never convincingly argues a clear link between exchange-value and 'value' as he defines it. Despite his assertions of a formal link

between the two concepts, they remain separate phenomena that either are or are not causally related. It is possible that Marx does not demonstrate the link between them because of the inherent difficulties involved in operationalizing value as an empirical measurement. The existence of such a link is not necessary to the integrity of Marx's system model; his intention is systemically to analyze labour itself, and to use the concept of 'value' only as a means for articulating this. However, whether or not value determines price is a question that has considerable importance for the explanatory power of Marx's model. Marx seems to be confused as to whether price is necessarily an expression of value, or whether it merely ought to be. The precise relationship between value and price remains unresolved, making value one of the most problematic components of Marxian theory.

The second problem of Marx's model is its very specialization. Overspecialization produces two major flaws. The first of these is that Marx ignores other forms of power, including forms of discrimination and exploitation, that do not originate from within the capitalist system. Although *Capital* is 'a critique of political economy', there is very little attention given to politics within it. Marx's system-model of capitalism does not explicitly address how capitalism's relatively decentralized, ubiquitous power relations are connected to centralized power structures such as the nation-state. This is advantageous for the purpose of isolating capitalism as a system that crosses nation-state boundaries and operates within a variety of political contexts, but it places severe limits on the strength of the model as a general description of sociopolitical life.³ Furthermore, Marx's model does not address forms of power based in non-economic systems, such as power structured by gender, race, or sexuality. This is especially pertinent as a weakness where these non-market forms of power can have effects within capitalist structures, such as when women and minorities receive lesser wages for work of equal value. Finally, Marx's exclusive focus on capitalist relations neglects the porous boundaries of the capitalist system. In many parts of the world, non-capitalist subsistence production and capitalist exchange are intertwined, each

³ The temptation of making Marx's system-model into a model for the whole of social life may have contributed to the 'economic determinism' that has Marxian scholars have occasionally lapsed into.

affecting the dynamics of the other. These weaknesses can be corrected by interfacing Marxian analysis with other forms of analysis and constructing more elaborate system-models, but by itself the Marxian model is too narrowly focused to serve as a model of social or political life generally.

Finally, Marx's model describes capitalism so closely that it is unable to place capitalism in any broader sociopolitical context. As a result, the model tells us less about capitalism's likely future developments than it should. Marx makes certain definitive statements about the limits to change within the system; for example, the reappropriation of surplus-value by the working class through unionized bargaining or through state-based redistribution can never interfere with the expanding reproduction of the system. Within these broad limits, however, we need to turn to alternative theoretical sources in order to explain the specific historical forms that life under capitalism takes on at different times in different contexts. More fundamentally, Marx does not articulate a systemic alternative to capitalism. Without such an alternative, the task of critiquing capitalism is made more difficult, and the project of seeking to change it radically is deprived of clear objectives. Exactly how is the working class to go about abolishing exploitation? How would an industrial economy operate without the private control of appropriated surplus-value? What mechanisms would ensure the reproduction of such a system? What kinds of transitional states might facilitate the move to post-capitalist political economies? Marx leaves these crucial questions wholly unanswered.

This concludes my analytical summation of Parsons and Marx. I now turn to a comparative inquiry of their approaches to conceptualizing the reproduction of social systems.

II. Comparative Analysis

Although the necessity and superior might which history exerts upon individual personality may appear in the guise of freedom, since this history is of the human mind, in truth history - as something given, as a reality, a suprapersonal power - represents no less an oppression of the ego by an external agency. The temptation to regard as freedom what in reality is bondage through something alien is just more subtly at work here, since in this case what binds us is of the same essential substance as ourselves.

- Georg Simmel

This section will not be used to engage in a point-by-point comparison of Parsonian and Marxian system theory. The respective projects of these two authors are too different for such a direct comparison to provide much useful information. Each author defines a different object of study for themselves and poses very different theoretical questions; although they are both talking about systems, they address different specific problems. In terms of concrete system models, Parsons and Marx talk past each other to a considerable degree. Constructing a comparison between the two in terms of a debate would require going beyond their specific system-models and elaborating on the normative implications of their work, on the significance of their methodological practices, and on the general philosophy of history implicit in each work. This kind of comparison would be interesting in its own right, but would shed little light on my basic question of system reproduction. Instead, I will conduct a more specific, focused comparison, by examining and contrasting the ways that Parsons and Marx each resolves (or attempts to resolve) the macro-micro link in their explanations of system reproduction.

Before turning to this specific inquiry, however, some broad comparative points are worth mentioning. The works I have examined by Parsons and Marx share a number of fundamental premises and basic goals. Both authors are concerned to show how the forces directing human life originate in social arrangements, rather than from biological essentials or from some transcendent force. (Interestingly enough, however, both authors use biological concepts to describe key elements of their system models: homeostasis (Parsons) and metabolism (Marx).) Both would agree that social forms vary widely from one society to another and over time, and that the conditions of life in any one place and time can only be explained with reference to the particular

historical developments that led up to them. As I understand them, both Parsons and Marx are committed to providing systemic descriptions of social life. Both are driven by the notion that social life is more than a Brownian chamber of micro-level, local and contingent phenomena. Macro-level structures and processes exist, and they are subject to rational comprehension. Social dynamics that are outside the direct experience and beyond the direct control of any one individual can be described, catalogued, and even explained; their relation to the experiences of individuals can be demonstrated. Understanding the macro can illuminate the micro.

From such very basic premises, however, the two theorists proceed in very different directions. Parsons theorizes about the properties of social systems in general; Marx describes capitalism in particular. Parsons is concerned with the broad universe of social life: of values, roles, and institutions generally, while Marx focuses on labour and the specific relations surrounding it: exchange, production, ownership, and so on. Both share a concern with value, but Parsons investigates how values come to be defined while Marx explores the consequences of one particular definition. Parsons defines systems as bounded and boundary-maintaining; Marx's observation that capitalism expands implies the presence of some boundary, but suggests that that boundary is highly porous and impermanent. Although Marx conducts a project of applied system analysis, his system would not neatly fit into the Parsonian framework for doing such analysis: he does not discuss socialization, the genesis of deviance, or social control mechanisms in any detail, and describes the reproduction of capitalism without referring to Parsons' most fundamental mechanisms for system reproduction.

Finally, a case could be made for exploring the potentialities of a 'functionalist' reading of Marx, or a Marxian reading of Parsons. The latter is difficult, and beyond the scope of the present work, because Parsons so completely (even assiduously) ignores questions of political economy or of power that introducing them into his theory would constitute a major creative project unto itself. A reading of Marx that explores the concept of functionality would, on the other hand, be quite interesting. Exigency is everywhere in the Marxian model of capitalism, although the exigencies in question are particular to the capitalist system. What is interesting about functionality is that it

postulates the operation of forces that are beyond the control of any individual or even of any collective agency. A functionalist account of capitalism would argue that the system cannot be reductively described in terms of self-conscious class rule, at least not entirely. A functionalist interrogation of Marx opens up a wide variety of questions concerning the extent to which systems are maintained through the self-interested actions of powerful groups and the extent to which they 'maintain themselves'. However, functionality is too loaded a concept to address clearly the distinction between class agency and agentless system-effects. Exploitation can be an inherent functional imperative of capitalism and a consciously maintained power relation at the same time. Rather than simply contrasting Parsonian functionalism with the Marxian critique of capital, I prefer to explore a similar theme by comparing the way that each resolves the question of system reproduction and, in particular, resolves (or attempts to resolve) the macro-micro link.

* * *

In Chapter 2, I focused a great deal on the concept of a 'macro-micro link', or the idea that a theoretical model of a social system could explain dynamics at both 'macro' and 'micro' levels of generality without admitting problems of emergence between the two. I focused on this concern for two reasons. The first was that the 'macro-micro' question has been a recurring one for social theory and *The Social System* is considered one of the more noteworthy attempts at resolving it, and partly because the generally abstract character of Parsons' theorizing and his attempts to postulate absolute principles of system theory invited an interrogation based on a problem (emergence) that is universally faced by theorists of complex systems, social or otherwise. In Chapter 3, however, I centred my discussion around the mechanical details of his model. In general, I asked two questions of Marx. First, does this model work, that is, are its component parts well-constructed and do they come together in a logical and complementary fashion? Second, what does this model imply for social life generally under a capitalist system? These different interrogative approaches produced different kinds of analytical concerns at the conclusions of each chapter: metatheoretical ones for Parsons and more simply theoretical ones for Marx. Nevertheless, the question of how macro and micro levels of analysis are to be connected is as

applicable to Marx's system-model as to Parsons'. To understand how Marx answers this question, one needs to inquire as to how capitalism motivates people to participate in its mechanics, and how deviance, or failure to participate, is dealt with by the system.

Capitalism provides two different kinds of incentives towards conformity with its principles. Each set applies to a different group of people who stand in a different relation to the productive process: to workers, on the one hand, who have nothing to sell but their labour-power, and to capitalists on the other hand, who own the means of production, purchase labour-power from workers, and sell the commodities that emerge when the two are combined. Individual workers are compelled by necessity to sell their labour-power; this is the only means by which they can obtain the money necessary to buy the commodities they need for daily subsistence.⁴ For those who do not own capital, paid labour is the only way to avoid poverty. Individual capitalists are faced with a choice that may be more comfortable, but which is no less exigent: they must invest their capital in profit-making enterprise in order to obtain income. If they are able to do this on a large scale, then they reap considerable material rewards. If the enterprises they invest in fail to stay profitable, they stand to lose all their capital and are put into the less appetizing position of being workers. For each group, the rules of the capitalist system press upon them as an external, non-negotiable exigency. This exigency provides the basic motivation for continued active participation in the capitalist system.

The system controls the deviance of individuals quite handily. Workers who do not wish to work, or who for some reason cannot work, are simply left out of the labour market. They are 'free to starve', as the expression puts it. As long as workers operate only as individuals, they are in a position of relative disadvantage in their dealings with capitalists. If a capitalist cannot hire one particular worker, he can always hire another, especially for 'unskilled' jobs that are the lowest-paid and the least rewarding on the market. In a similar fashion, individual capitalists who do not wish to exploit their workers enough to make a profit, or who are incompetent business managers,

⁴ This leaves aside the possibility that non-capitalist forms of production may be available to them, or that the welfare state might make an acceptable minimum income universally available.

face the prospect of going out of business, in which case the means of production they own will pass into the hands of another capitalist, one more determined or more able. Workers, taken as individuals, face a magnified version of the Prisoner's Dilemma or, more appropriately, of the Tragedy of the Commons.⁵ The outcome of their individually rational decisions results in a collectively unfavourable subjugation to the forces of capital. In their own way, capitalists face the same dilemmas, except that the outcome of their individually rational decisions results in their collective enrichment and prestige.

At the level of the system as a whole, the same principles operate. If the processes of system reproduction and expansion described by Marx in Volume II are somehow interrupted, such as when too little or too much of the means of production are produced to meet the system's reproductive needs, then the system goes into crisis. Capitalists will be driven out of business for lack of markets or because material costs are too high; workers will be thrown out of work because their labour is unnecessary or because money capital is not available to purchase it. The total material wealth of the system will decline slightly as some of it is lost to waste. Once the productive forces are in equilibrium again, however, expansion will resume. The system itself is

⁵ The Prisoner's Dilemma is perhaps the most famous game theory situation. In it, two prisoners who have cooperated in a robbery are individually arrested and interrogated. Each is offered the same deal: if he confesses and his partner does not, he will receive a favourable plea-bargain and serve a six-month term for a misdemeanor offense. If his partner confesses but he does not, he will receive a five-year jail term. If both confess, they both serve a three-year term, but if neither confesses then they both go scot-free. The decision each faces is therefore whether to trust the other. The most favourable situation for both together is if both partners trust the other. Each individual faces a powerful incentive not to trust, however; therefore the most likely outcome, based on purely individual rational decision-making, is that neither will trust - which produces an unpleasant outcome for both. (In an alternative version of this dilemma, the outcome of both prisoners trusting is a six-month term for each, while if one betrays the other than the betrayer is released immediately.)

The Tragedy of the Commons operates on a similar principle. Ten farmers have common access to pasture that will support 100 head of cattle. By agreement, each places ten cattle on the land. Imagine that the profits on ten head of cattle is barely enough to support each farmer at a minimum standard of living. Each individual farmer is faced with the option of putting an extra head or two of cattle on the land and thereby increasing her own riches. One or two extra cattle on the land would not make much difference, but ten or twenty extra cattle would lead to the land being overgrazed and becoming unusable, thus resulting in a loss of all ten herds.

Both of these examples illustrate the conflict between 'individual' and 'collective' self-interest, or rather they illustrate the different options for self-interested gain available when people make decisions atomistically vs. as a group. When the group-decisionmaking option is not available, then each situation powerfully constrains each individual to act in particular ways.

unaffected by the fact that a few capitalists have been thrown into the working class and that a few more workers have been thrown into poverty. The economy expands and contracts, but its net growth is always positive in the long term. The mechanisms of system maintenance at a macro scale are therefore a simple aggregate of the mechanisms by which collaboration and deviance are governed at a micro scale. No emergent phenomena appear.

This is not the whole story, however. The system is also faced with problems that require more complicated solutions. For example, it may face a crisis that has the potential to destroy it completely or damage it severely - a Great Depression, for example. In such a situation the individual self-interest of capitalists is not enough to perpetuate the system. Moreover, the system may present a number of opportunities for growth that cannot be seized without some collective action on the part of capitalists: establishing a credit system, or outlawing private monopolies, may require conscious collaboration among capitalists. Such collective action may even entail a sacrifice of some immediate self-interest. For example, paying higher taxes to a welfare state is costly, but may result in a healthier and more productive workforce. This kind of conscious group collaboration is not simply the product of abstract system imperatives, but results when people understand something about the system and about their own role in it. It operates as a kind of metasystemic intervention of agency that is nonetheless directed toward systemically defined goals. In his writings prior to *Capital*, Marx provides a label for this kind of agency: class consciousness. For capitalists to exercise class consciousness is beneficial for capitalism, because the interests of capitalists as a group coincide with the functional imperatives of reproduction and expansion for capitalism as a system. In fact, it is not self-evident that there is any difference at all between the system's functional needs and the collective self-interest of capitalists.⁶

Does the class-interested, self-conscious maintenance of capitalism by capitalists represent an emergent phenomenon? It seems to. On the one hand, class interest is produced by systems, and individual members of any class are constrained by the system as a force external to

⁶ Collective self-interest, as opposed to aggregate self-interest. Individual capitalists may be driven out of business by measures necessary for the maintenance and reproduction of the system as a whole.

themselves. On the other hand, it is not deterministically certain that members of a class will act in their collective self-interest. The working class, in Marx's analysis, has yet to act in its own collective self-interest by overthrowing capitalism and seizing control of the means of production. Moreover, capitalists can also fail to act collectively, perhaps because the 'capitalist class' is not a unitary and homogeneous entity. The systemically defined self-interest of capitalists can vary widely as their relation to the system varies, so the interests of capitalists in one industry may be opposed to those elsewhere, or the interests of small-business capitalists may be opposed to those of shareholders in large corporations, or the interests of Latin American entrepreneurs may be opposed to investors in American multinationals, and so on. Even though certain broad categorizations can be made, the more we examine the boundaries of those categories the less clearly defined they become. The more we examine the system in detail, the more complexity it seems to generate. And yet, categorization is possible, most of the time and if we are willing to sacrifice some detail. The fractal topography generated by complex systems provides an appropriate metaphor for the internal structure of capitalism. This implies the presence of emergent phenomena, and of a break between macro- and the micro-level descriptions of the system.

The concept of class interest throws up another problem for system analysis, however, and one that brings Marx's theory into direct comparison with Parsons'. That problem is this: does class interest exist outside of, or prior to, systems themselves? Does the role that powerful groups play in self-consciously maintaining systems mean that system theory is only a tool for understanding collective agency? Where does the 'macro' in the 'micro-macro' continuum top out? What is the highest level of generality at which we can organize our understanding of human social life? In *The Social System*, Parsons attempts to describe systems as operating beyond agency, at least partly. He is concerned to show how systems, or perhaps how the rules that shape systems, create values and shape agency in ways that go beyond the self-conscious control of any social actor participating in the system. Is this a fundamentally misguided project? Is Parsons reifying the very system whose constructed-ness he is trying to explain? Is he himself a victim of fetishization? In certain respects he definitely is, because he confuses the rules of particular

systems with the rules of systems in general, and he excludes completely any consideration of how the agency of powerful actors can shape systems themselves. But does this apply to the general project of system theory that he proposes? Marx's purpose is to defetishize systems. To do so implies that systems exist. Moreover, Marx admits that systemically produced social forms do take on a life of their own - commodities become social actors. But at critical moments in history, the commodity form is consciously perpetuated by the self-interested actions of capitalists. Does class struggle, as a form of power politics, subsume the very systems through which it operates? Is system theory nothing more than a tool for describing and analyzing the details of essentially *political actions*⁷ that are themselves not governed by systems or explicable in terms of systems? In other words, or to take this thought to a logical extreme: is history purely contingent after all?

I believe the answer to this question is no. Parsons goes too far in providing a purely agentless description of system functionality, but his insight that agency is systemically shaped is valid. The question of 'structure vs. agency' cannot be neatly resolved into either pole. There is no all-powerful group which we can blame for the misery of the human situation; neither is history written by an inalterable Fate to which there is no appeal. Capitalism was historically produced by a particular group of persons operating in a broader cultural context, but it was not produced, nor is it maintained, by any group of conspirators holding all the reins and dancing the world like a puppet on a string. Despite the clear fact of class interest, no single group, unified and undivided in purpose, has direct control over capitalism. Since its humble beginnings in the trade of merchants and burghers, if not before then, the unique social form that Marx labels 'capitalist exchange' has taken on a life of its own - the mark of a robust (or pernicious) system. It exists as a structured set of contingencies. Human beings take advantage of those contingencies, with greater or lesser awareness of the broader context that produces them. Perhaps 'class consciousness' is better described as collective action driven by 'system consciousness', by system theory intuitively or deliberately arrived at by actors on the scene. Perhaps the binary

⁷ In a broad sense of the word political, meaning any action directed at producing effects of power.

opposition of the structure/agency distinction dissolves at the system level, where systems structure agency and agency reproduces - and alters - systems.

If the dynamics of political and social struggle within capitalism cannot be explained reductively in terms of dynamics proper to that system, then there are two possible reasons for this. The first is that such dynamics may point to the operation of systems other than capitalism, systems that either contain or intersect with capitalism. This is where the limitations of the Marxian model become confining and the broader explanatory project conceived of by Parsons becomes more appealing. The dynamics of class consciousness and class struggle are not determined only by capitalism itself, but are produced in the context of a social universe that Marx does not contemplate. That universe seethes with dynamic processes in which social artifacts such as motivations and values, shape and are shaped by social interactions in ways that we may still hope to comprehend rationally. Only some of these dynamics are proper to capitalism. Other systemic phenomena that intersect with capitalism include nation-state politics, patriarchy, racialized power, religions, science, and so on. Generating system-models to explain these phenomena is the unfinished project of system theorists - indeed, a project which can hardly be said to have begun. Parsons at least identifies this project, even though his contributions to it are problematic. With Marx and Parsons, system theory has only scratched the surface of its own potential.

The second reason for the inability of reductive logic to predict system change is emergence itself. It is possible to know absolutely the genetic rules governing a perfectly determined system, and yet still not be able to predict the long-term behavior of that system. The natural world abounds with examples of this: the turbulence of water flowing through rapids; the eccentricities of weather; the fluctuation of certain animal populations. Given that this is so, system theorists can perhaps be forgiven for not bridging the macro-micro link. To generate a determinist theory of social change would require being able to construct models that predict the future based on knowledge of the present. The butterfly effect tells us that that is impossible. It is not surprising, therefore, that the models both Marx and Parsons construct are only reflections of the present.

* * *

Where does this leave system theory? Where does it leave social theory in general? First and foremost, emergence gives us a sense of the inevitable limitations of system theory. No matter how well a theory identifies and describes certain key elements of a model, that model will never be able to predict all of the dynamics of the system it describes. If system modeling is used to peer into the future, to guess at history's next move, it has to resort to techniques that go beyond reductionist determinism. The usefulness of modeling for long-term forecasting may be improved by 'breakthroughs' in the scientific understanding of the relationship between order and chaos, between contingency and determinacy, but such breakthroughs themselves cannot be foreseen at this point. Parsons' lament that the articulation of a comprehensive theory of social change must await an ever-receding millennium for social science may be apt. In the meantime, social theorists, including system theorists, are thrown back on experiential learning: on looking for regular patterns in social dynamics, pushing the search for patterns to ever-greater levels of generality, and hoping that these patterns are consistent enough to form a basis for theory. Box's aphorism continues to apply: "the only way to know how a complex system will behave after you modify it is to modify it and see how it behaves" (Gregerson and Sailer 1993: 777).

Fortunately, the usefulness of system theory is not limited to its potential role in long-term forecasting or social prophecy. Marx's analysis demonstrates vividly how an articulation of social life in systemic terms can help us understand the present and can offer unique insights into previously ill-understood phenomena. System theory is fundamentally concerned with searching out connections between seemingly unconnected events, and assembling these connections in an ordered fashion. System models map out the present, even if they do not map out our futures. Marx and Parsons both provide us with terminologies for conceptualizing systemic activity. If we take the goal of system theory as explaining how and why change within and of systems takes place, then neither has succeeded. But both have made it possible for us to perceive the existence of systems, to investigate and analyze them, and even (in Marx's case) to pass judgment on them. They provide us with objects of analysis, so that we are at least in the position of being able to pose the question of change: of what it is that we might want to change, and how we might begin

to go about making that change. To engage in political or ethical arguments about what ought to be, necessarily involves some conception about what already is. System models provide an essential tool for telling us where we already are, so that we can better understand where we might want to go to.

Finally, system models could be used in a speculative manner to conceptualize possible, desirable futures. Like the 'little cities in glass globes' of Calvino's imagination, speculative system models could describe, in vivid and technical detail, alternative ways of ordering human existence. For example, Marxian concepts of system can potentially be used to construct models of systems that operate without exploitation, systems in which individuals have ownership over the fruits of their own labour. Such speculative models could help define and articulate political and social ideals. They could provide convincing argument that systemic change is both possible and desirable. They would serve the function of signposts or of navigational aids, of flares launched into the darkness of an unknowable future. If Box's aphorism is correct, then the only way to know our future may be to enter it boldly, to challenge the deadweight of history and the constraining hand of systems by actively, consciously participating in their modification. System theory can assist in defining the goals of such modification. In the inevitable struggle to define the future, the most fruitful uses of system theory may be speculative, creative, even fictional. The virtue of system theory might be found in its imaginative uses, where the very act of articulation could render the an impossible future, suddenly possible.

Appendix A:
Displays from Chapters 2 and 3

Display 2-1

Summary of Social Control Processes in the Parsonian System

1. The conformity-deviance functional problem is inherent to social systems.
2. Tendencies to deviance and mechanisms of social control extend over the life cycle.
3. Tendencies to deviance are structured, not random:
 - a) need-dispositions are the product of interactions since birth, and of roles
 - b) structured strains are ubiquitous and give rise to mechanisms of defense and adjustment.
4. Tendencies to deviance are structured by opportunities and loopholes in the system.
5. Obvious rewards and punishments are supplemented by unplanned mechanisms:
 - a) pre-emptive
 - b) insulating
 - c) re-equilibrating ("secondary defenses").
6. Non-resolved deviance is a principal source of social change.

(Taken from Parsons 1951: 320-321)

Display 2-2

Some Specific Examples of Social Change Processes

1. The Institutionalization of Rationality and 'Cultural Lag'

This involves the cultural changes introduced by scientific and technological advancement. Using the United States as an example, we can identify eight major channels of impact, divided into two groupings:

- i) Impacts on the Structure of the Economy of Instrumental Relations
 - a) restructuring of occupational roles
 - b) impacts on character of organizations
 - c) impacts on system of production and on power structures
 - d) impacts on non-instrumental structures (e.g. kinship and religious organization)
- ii) Impacts in the Cultural System
 - e) style of life symbolism
 - f) cultural outlets for dissatisfaction
 - g) changing relational rewards
 - h) changes to belief systems

2. The Ascendancy of Charismatic Revolutionary Movements

Using Nazi Germany as an example, we can identify four sets of conditions for a ripe revolutionary situation:

- i) the presence of intense, widespread alienation
- ii) the organization of a deviant sub-cultural movement
- iii) the development of an ideology claiming legitimacy
- iv) favourable conditions in the power system

3. The Adaptive Transformation of Revolutionary Movements

Using Soviet Russia as an example, we can identify four phases in the process of adaptation which successful revolutionary movements necessarily undergo:

- i) the clash between utopian ideology and the pragmatic realities of governing
- ii) the need to quell the discontent which served as a basis for the movement
- iii) the problem of discipline, i.e. enforcing the new ideology
- iv) the transformation from revolution to orthodoxy and the abandoning of utopian ideals

(Parsons 1951: 504-533)

Display 3-1: Exchange of I_{v+2} for II_s

Starting Conditions

	$I(W)$	$I(Ca)$	$II(Ca)$
<i>Has</i>	1,000 C_L	1,000 M 2,000 C_I	500 M 2,000 C_{II}
<i>Needs</i>	1,000 C_{II}	1,000 M 1,000 C_{II}	500 M 2,000 C_I

Step 1: Capitalists in I Pay Their Labour-Force

$I(W)$
1,000 $C_L \rightarrow 1,000 M$
1,000 $M \rightarrow 1,000 C_I$
$I(Ca)$

	$I(W)$	$I(Ca)$	$II(Ca)$
<i>Has</i>	1,000 M	2,000 C_I	500 M 2,000 C_{II}

Step 2: Workers Buy Means of Subsistence

$I(W)$
1,000 $M \rightarrow 1,000 C_{II}$
1,000 $C_{II} \rightarrow 1,000 M$
$II(Ca)$

	$I(W)$	$I(Ca)$	$II(Ca)$
<i>Has</i>	1,000 C_{II}	2,000 C_I	1,500 M 1,000 C_{II}

Step 3: First Purchase of Means of Production

$I(Ca)$
1,000 $C_I \rightarrow 1,000 M$
1,000 $M \rightarrow 1,000 C_I$
$II(Ca)$

	$I(W)$	$I(Ca)$	$II(Ca)$
<i>Has</i>	1,000 C_{II}	1,000 M 1,000 C_I	500 M 1,000 C_I 1,000 C_{II}

Step 4: Second Purchase of Means of Production

$I(Ca)$
500 $C_I \rightarrow 500 M$
500 $M \rightarrow 500 C_I$
$II(Ca)$

	$I(W)$	$I(Ca)$	$II(Ca)$
<i>Has</i>	1,000 C_{II}	1,500 M 500 C_I	1,500 C_I 1,000 C_{II}

Step 5: Capitalists in I Purchase Means of Consumption

$I(Ca)$
500 $M \rightarrow 500 C_{II}$
500 $C_{II} \rightarrow 500 M$
$II(Ca)$

	$I(W)$	$I(Ca)$	$II(Ca)$
<i>Has</i>	1,000 C_{II}	1,000 M 500 C_{II} 500 C_I	500 M 1,500 C_I 500 C_{II}

... continued on the next page.

Step 6: Third Purchase of Means of Production

$I(Ca)$
$500 C_I \rightarrow 500 M$
$500 M \rightarrow 500 C_I$
$II(Ca)$

	$I(W)$	$I(Ca)$	$II(Ca)$
Has	$1,000 C_{II}$	$1,500 M$ $500 C_{II}$	$2,000 C_I$ $500 C_{II}$

Step 7: Capitalists in I Purchase Means of Consumption Again

$I(Ca)$
$500 M \rightarrow 500 C_{II}$
$500 C_{II} \rightarrow 500 M$
$II(Ca)$

	$I(W)$	$I(Ca)$	$II(Ca)$
Has	$1,000 C_{II}$	$1,000 M$ $1,000 C_{II}$	$500 M$ $2,000 C_I$

Overall! Process

Note: The starting conditions for this graph assume that production has already taken place.

Key to Symbols:

I - Department I
 II - Department II

W - Workers
 Ca - Capitalists

M - Money
 C - Commodities
 L - Labour

Display 3-2**Exchanges of Necessities and Luxuries Within Department II****Starting Conditions**

	<i>IIa(Ca)</i>	<i>IIa(W)</i>	<i>IIb(Ca)</i>	<i>IIb(W)</i>
Has	800 <i>C</i> 400 <i>M</i>	400 <i>C_L</i>	200 <i>C</i> 100 <i>M</i>	100 <i>C_L</i>
Needs	240 <i>C_{IIa}</i> 160 <i>C_{IIb}</i> 400 <i>M</i>	400 <i>C_{IIa}</i>	60 <i>C_{IIa}</i> 40 <i>C_{IIb}</i> 100 <i>M</i>	100 <i>C_{IIa}</i>

Step 1: Capitalists in IIa Pay Their Labour-Force

<i>IIa(W)</i>
400 <i>C_L</i> → 400 <i>M</i>
400 <i>M</i> → 400 <i>C_L</i>
<i>IIa(Ca)</i>

	<i>IIa(Ca)</i>	<i>IIa(W)</i>	<i>IIb(Ca)</i>	<i>IIb(W)</i>
Has	800 <i>C_{IIa}</i>	400 <i>M</i>	200 <i>C_{IIb}</i>	

Step 2: Workers in IIa Buy Means of Subsistence

<i>IIa(W)</i>
400 <i>M</i> → 400 <i>C_{IIa}</i>
400 <i>C_{IIa}</i> → 400 <i>M</i>
<i>IIa(Ca)</i>

	<i>IIa(W)</i>	<i>IIa(W)</i>	<i>IIb(Ca)</i>	<i>IIb(W)</i>
Has	400 <i>C_{IIa}</i> 500 <i>M</i>	400 <i>C_{IIa}</i>	200 <i>C_{IIb}</i>	

Step 3: Capitalists in IIb Pay Their Labour-Force

<i>IIb(W)</i>
100 <i>C_L</i> → 100 <i>M</i>
100 <i>M</i> → 100 <i>C_L</i>
<i>IIb(Ca)</i>

	<i>IIa(Ca)</i>	<i>IIa(W)</i>	<i>IIb(Ca)</i>	<i>IIb(W)</i>
Has	400 <i>C_{IIa}</i>	400 <i>C_{IIa}</i>	200 <i>C_{IIb}</i>	100 <i>M</i>

Step 4: Workers in IIb Buy Means of Subsistence

<i>IIb(W)</i>
100 <i>M</i> → 100 <i>C_{IIa}</i>
100 <i>C_{IIa}</i> → 100 <i>M</i>
<i>IIa(Ca)</i>

	<i>IIa(W)</i>	<i>IIa(W)</i>	<i>IIb(Ca)</i>	<i>IIb(W)</i>
Has	300 <i>C_{IIa}</i> 500 <i>M</i>	400 <i>C_{IIa}</i>	200 <i>C_{IIb}</i>	100 <i>C_{IIa}</i>

... continued on the next page.

Step 5: Capitalists in IIa Buy Luxuries

<i>IIa(Ca)</i>		<i>IIa(Ca)</i>	<i>IIa(W)</i>	<i>IIb(Ca)</i>	<i>IIb(W)</i>
160 M → 160 C _{IIb}	Has	340 M	400 C _{IIa}	160 M	100 C _{IIa}
160 C _{IIb} → 160 M		300 C _{IIa}		40 C _{IIb}	
<i>IIb(Ca)</i>		160 C _{IIb}			

Step 6: Capitalists in IIb Buy Necessities

<i>IIa(Ca)</i>		<i>IIa(Ca)</i>	<i>IIa(W)</i>	<i>IIb(Ca)</i>	<i>IIb(W)</i>
60 C _{IIa} → 60 M	Has	400 M	400 C _{IIa}	100 M	100 C _{IIa}
60 M → 60 C _{IIa}		240 C _{IIa}		60 C _{IIa}	
<i>IIb(Ca)</i>		160 C _{IIb}		40 C _{IIb}	

Overall Process

Note: The starting conditions for this graph assume that production has already taken place.

Key to Symbols:

IIa - Department II, production of necessities
II - Department II, production of luxuries

W - Workers
Ca - Capitalists

M - Money
C - Commodities
L - Labour

Display 3-3**Renewal of the Material Component of Fixed Capital,
and Saving Against Depreciation, by Department II****Initial Conditions**

	I	IIa	IIb
Has	500 C	250 M 250 C	250 C
Needs	500 C _{II}	500 C _I	250 M

Step 1: IIa Buys First Half of Fixed Capital

IIa
250 M → 250 C _I
250 C _I → 250 M
I

	I	IIa	IIb
Has	250 M 250 C	250 C _I 250 C	250 C

Step 2: I Buys First Half of Consumer Goods

IIa
250 C _{II} → 250 M
250 M → 250 C _{II}
I

	I	IIa	IIb
Has	250 C _{II} 250 C	250 M 250 C _I	250 C

Step 3: IIa Buys Second Half of Fixed Capital

IIa
250 M → 250 C _I
250 C _I → 250 M
I

	I	IIa	IIb
Has	250 M 250 C _{II}	500 C _I	250 C

Step 4: I Buys Second Half of Consumer Goods

IIb
250 C _I → 250 M
250 M → 250 C _I
I

	I	IIa	IIb
Has	500 C _{II}	500 C _I	250 M

Overall Process

IIa	IIa		IIb
250 M → 250 C _I	250 C _{II} → 250 M	250 M → 250 C _I	250 C _I → 250 M
250 C _I → 250 M	250 M → 250 C _{II}	250 C _I → 250 M	250 M → 250 C _I
I	I		I

Appendix B: Glossary of Symbols Used in Chapter 3

- C - a given value worth of commodities, either for personal consumption or as capital in the commodity form
- C' - a quantity of commodities or commodity capital that has increased in value, relative to the original C
- ΔC - the difference between C' and the original C .

- M - a given value worth of money, either for personal use (consumer purchases) or as capital in the money form
- M' - a quantity of money that has increased in value, relative to the original M
- ΔM - the difference between M' and the original M .

- $C-M-C$ - simple commodity exchange, mediated by money; generally ends with the newly obtained commodity being used or consumed.
- $M-C-M'$ - capitalist exchange, in which more value is withdrawn from the economy than is put into it, so that a 'money hoard' or capital fund accumulates.

- c - the value of the constant capital employed in a production process
- v - the value of the variable capital employed in a production process
- s - the value of the surplus-value generated by a production process

- L - the labour component of the productive capital, purchased as a commodity
- mp - the means of production component of the productive capital, purchased as a commodity
- P - the production process, in which a given value of commodities in the form of productive capital ($L+mp$) is transformed into a greater value of saleable commodities (C')

References

- Alexander, Jeffrey, 1985.
Neofunctionalism. Beverly Hills: SAGE Publications.
- Alexander, Jeffrey and Bernard Giesen, 1987.
"From Reduction to Linkage: The Long View of the Micro-Macro Link", in Alexander, Giesen, Münch, and Smelser, eds., *The Micro-Macro Link*, Berkeley: University of California Press.
- Barrett, Michèle, 1988.
Women's Oppression Today: The Marxist-Feminist Encounter, Revised Edition, London: Verso.
- Chomsky, Noam and Edward S. Herman, 1988.
Manufacturing Consent: The Political Economy of the Mass Media, New York: Pantheon Books.
- Davis, Kingsley and Wilbert Moore, 1945.
"Some Principles of Stratification", in *American Sociological Review*, v.10 n.2 (April).
- Engels, Friedrich, 1884 (1972).
The Origin of the Family, Private Property, and the State, in Light of the Researches of Lewis H. Morgan, London: Lawrence and Wishart.
- Foucault, Michel, 1975 (1995).
Discipline and Punish: The Birth of the Prison, (Second Vintage Books Edition), Alan Sheridan, trans., New York: Vintage Books.
- , 1976 (1990).
The History of Sexuality, Volume I: An Introduction, Robert Hurley, trans., New York: Vintage Books.
- Gleick, James, 1987.
Chaos: Making a New Science, New York: Penguin Books.
- Gramsci, Antonio, 1971.
Selections From the Prison Notebooks, Quentin Hoare and Geoffrey Nowell Smith, eds. and trans., New York: International Publishers.
- Gregerson, Hal, and Lee Sailer, 1993.
"Chaos Theory and Its Implications for Social Science Research", *Human Relations*, v.46(7), pp. 777-802.
- Marx, Karl, 1867 (1990).
Capital: A Critique of Political Economy, Volume I, Ben Fowkes trans., Toronto: Penguin Books Canada Ltd.
- , 1885 (1992).
Capital: A Critique of Political Economy, Volume II, David Fernbach trans., Toronto: Penguin Books Canada Ltd.

- Marx, Karl, and Friedrich Engels, 1848 (1967).
The Communist Manifesto. Markham: Penguin Books Canada Ltd.
- Parsons, Talcott, 1949.
The Structure of Social Action (2nd Edition), New York: The Free Press of Glencoe.
- , 1951.
The Social System, London: Routledge & Kegan Paul Ltd.
- , 1966.
Societies: Evolutionary and Comparative Perspectives, Englewood Cliffs: Prentice-Hall, Inc.
- Parsons, Talcott and Neil J. Smelser, 1957.
Economy and Society: A Study in the Integration of Economic and Social Theory, London: Routledge and Kegan Paul Ltd.
- Resnick, Stephen and Richard Wolff, 1995.
 “Lessons from the USSR”, in *Wither Marxism? Global Crisis in International Perspective*, Bernd Magnus and Stephen Cullenberg, eds., New York: Routledge.
- Simpson, Richard L., 1963.
 “The Sociology of Talcott Parsons”, unpublished paper written at the University of North Carolina, obtained courtesy of Charles Gordon.
- Tolstoy, Leo, 1869 (1968).
War and Peace, Ann Dunnigan trans., Scarborough: New American Library.

The quotation from Italo Calvino is taken from *Invisible Cities*, William Weaver trans., Picador Edition, Pan Books, 1979, p.28. The quotation from William Gibson is taken from the story “New Rose Hotel”, in the collection *Burning Chrome*, New York: Ace Books, 1987, p.107. The quotations from Frank Herbert are taken from the Dune series. The quotation from Lao-Tzu is taken from Section 8 of the *Tao Te Ching*, Stephen Addiss and Stanley Lombardo trans., Hackett Publishing Company: Indianapolis, 1993. The quotations from Georg Simmel are taken from “How Is History Possible”, in *On Individuality and Social Forms*, Donald N. Levine ed., Chicago: University of Chicago Press, 1971, p.4. The italicized quotation from Leo Tolstoy is taken from page 1455 of *War and Peace*.

IMAGE EVALUATION TEST TARGET (QA-3)

APPLIED IMAGE, Inc.
1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989

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