SOCIOCULTURAL SYSTEMS

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Principles of Structure and Change

FRANK W. ELWELL

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For Patricia, who keeps me centred on family

But above all, the social scientist is trying to see the several major trends together—structurally, rather than as happening in a scatter of milieux, adding up to nothing new, in fact not adding up at all. This is the aim that lends to the study of trends its relevance to the understanding of a period, and which demands full and adroit use of the materials of history. — C. WRIGHT MILLS, 1959

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In addition, I am beholden to authors I have never met who helped me in the mutually stimulating thinking and writing process. Some of them are listed on the reference pages, but I would be remiss if I did not single out T. Robert Malthus, Herbert Spencer, Karl Marx, Émile Durkheim, and, especially, Max Weber. While more contemporary authors helped in the synthesis presented here, particularly Gerhard Lenski and Marvin Harris (although I must take full responsibility for any missteps), we are all standing on the shoulders of giants—a phrase, as Robert Merton taught us, that has a long history and much truth.

Preface

A preface generally tells the story of how a book came into being. This particular book is rooted in my previous work in macrosociology: notably, two earlier books in which I summarize the work of the big four in nineteenth-century sociology—Spencer, Marx, Durkheim, and Weber—and of contemporary theorists who write in the tradition of these founders. In writing these books, I not only learned much about macrosociological theory, but I also began to appreciate the common ground among theorists. In the final chapter of the second book, *Macrosociology: The Study of Sociocultural Systems*, I attempted to briefly sketch this common ground. This work represents a more systematic and fully developed synthesis.

I have always taught at small universities, where teachers and generalists are still valued, rather than empirical research and ever more detailed specialization, so the type of sociology I practice has largely fallen out of fashion. Consistent with other trends in the sociocultural system, the field of sociology has evolved into a broad collection of specialties with little common bond or shared vision. In graduate school, we learn a little about the founders (all of them macrosociologists, by the way) and a few broad theories (functionalism, conflict theory, exchange, symbolic interactionism—all seemingly contradicting each other), but we have little to do with macro theories throughout our subsequent careers, unless we specialize in social theory itself, in which case we often teach it as the history of the discipline rather than as its heart. What distinguishes a sociological study from other fields is the fact that almost all sociologists study some aspect of sociocultural systems and its impact on human behaviour. But in so doing, we usually do not root our studies in the broader sociocultural system or develop systematic connections to the other specialties within the disciplines. Sociologists who specialize in criminology, for example, do not often

read studies in medical sociology; even if they do, they will struggle to find common terminology, literature, or theory.

I believe it is imperative that sociologists return to our roots. Macro social theory is rooted in a shared world view. If you were originally drawn to sociology because you were interested in the origins of sociocultural systems, in how they maintain themselves through time and how and why they change, in what impact such systems have on human behaviour and beliefs, I believe you will find this book of value. As evolution does for biology, an explicit and shared world view offers an overall framework for understanding a discipline; it serves to define and organize a field, providing an initial guide to a new subject and informing us about what to look for, what is likely to be significant. Used as a program to guide social research, a paradigm can be systematically tested and developed, offering an agreed-upon and empirically based alternative vision to those offered by religion, ideology, or folk wisdom. Such a holistic world view or paradigm offers identity to its practitioners and order to its students; it could well be the most important gift we can give to our students.

Readers of this work will find that I have a passion for quotation, especially of the nineteenth-century founders of the discipline of sociology. The driving force behind these numerous quotations is my desire for accuracy. The extent to which textbook authors and practicing social scientists rely upon secondary sources characterizing the nineteenth-century social scientists is surprising; this reliance came home to me in my study of T. Robert Malthus's *An Essay on the Principle of Population* (1798). The secondary literature on Malthus and his theories is replete with fundamental misunderstandings. With rare exceptions, authors who have summarized and critiqued Malthus's theory have asserted that it was a theory of future population overshoot and collapse rather than a theory detailing the continuous checks on population growth and the consequences of those necessary checks for the entire sociocultural system.[1] Even a cursory reading of the first few chapters of Malthus's essay reveal that the standard interpretation is nonsense, yet it is rarely challenged and has yet to be corrected in much of the literature. I doubt that many

contemporary social scientists have read the original essay, or, if they have, the secondary literature has so completely biased their interpretations that they are reading into it what they expect to find. A similar situation exists with Marx, although it is compounded by the fact that almost fifty years of Cold War with the former Soviet Union has so biased the American mind toward Marx and his critique of capitalism that reading him at all is rather suspect. The labelling of people of the Left as "communists" or "Marxists" has a long history in the United States, peaking in the years after World Wars I and II. It appears the label is coming into fashion again: commentators and even some congressmen have recently used it on opponents.[2] Because serious errors have crept into the secondary literature, I think it imperative that we not simply allege that a theorist held one opinion or another (and then criticize the theorist for holding that opinion in the next paragraph) but rather root our allegations in actual quotations of that theorist's work.

In this book, I quote extensively from Marx's seminal work, volume 1 of *Capital: A Critique of Political Economy*. *Das Kapital* was originally published in German in 1867; the third German edition, published in 1883, was the source of the first English version (1887), translated by Samuel Moore and Edward Aveling and edited by Friedrich Engels. It is from this first English translation, now referred to as volume 1 of *Capital*, that I quote fairly often in this book. I use this translation for several reasons: (1) the primary translator, Samuel Moore, was, for many years, a friend of both Marx and Engels, and Dr. Aveling, the secondary translator who was responsible for several chapters, was Marx's son-in-law; (2) the translation was closely supervised and edited by Friedrich Engels, Marx's long-time friend and collaborator; (3) this edition is widely available both online and in a relatively inexpensive e-book format, a boon to readers who wish to explore the text further; and (4) the Moore-Aveling translation is in the public domain, so I do not have to seek or pay for the rights to use extensive quotes. Although a translation is by definition a secondary source, given the extensive involvement of intimates of Marx (who were assisted by Eleanor, Marx's youngest

daughter and Aveling's wife) in this translation, I consider it to be authoritative.

One of my goals in writing this book is that it will serve as an introduction to both classical sociological thought and its style of expression, thus making the classics less intimidating. For this reason, I often quote the passage I am referring to in the narrative. Unfortunately, much of Marx's prose can be overwhelming to the uninitiated, particularly in long and complex paragraphs (even in translation, he often seems to be writing in German). Therefore, for particularly complex passages, I put the quotation in an endnote rather than in the narrative. With quotations that are restricted for copyright reasons (and this includes translations of Durkheim and Weber, as well as work by contemporary social scientists), I characterize the authors' writing and provide citations for the original material.

But my passion for quoting the early social scientists goes beyond simply documenting my characterizations of their writings or giving the reader a sense of the "tang and feel" of their writing (to borrow a phrase from C. Wright Mills). It is also a result of my desire to highlight the sociological insight of these remarkable theorists. Writing in essentially agrarian societies, these sociologists identified the major forces of stability and change in sociocultural systems and were thus able to foresee the immediate future development of those systems with astonishing accuracy. I am in complete agreement with C. Wright Mills when he wrote, "I believe that what may be called classic social analysis is a definable and usable set of traditions; that its essential feature is the concern with historical social structures; and that its problems are of direct relevance to urgent public issues and insistent human troubles" (1959, 21). The quotations that I use in this book amply demonstrate this assertion. This is not to say that nineteenth-century writings in the social sciences should be accepted uncritically. One can appreciate Malthus's focus on population and its impact on other parts of the sociocultural system without accepting his attitudes toward birth control or the severe limitations he places on government action to alleviate the plight of the poor. One can accept the accuracy of Marx's analysis on the role of capital

in society without his predictions of a socialist revolution that will solve many of its contradictions. One can accept Weber's analysis of bureaucracy without completely accepting his pessimism toward the future. Still, the nineteenth-century social theorists provide a solid foundation upon which contemporary sociologists can stand.

Finally, I am proud that Athabasca University Press is an open-source press; in addition to publishing this book in hard copy and in e-book format, the press will make it available free to anyone with access to the Internet. This appeals greatly to my sense of community.

Frank W. Elwell
April 2012

SOCIOCULTURAL SYSTEMS

Introduction

In earlier times, maps often did a poor job of adequately reflecting actual geography; they were not often drawn to scale, they misrepresented many geographical features, and they left many areas blank or decorated with pictures of mythical beasts or phrases such as *Hic sunt dracones* ("Here be dragons" in today's vernacular) denoting the fear of the unknown. Over time, as people explored the world around them and maps became a sorely needed tool in these explorations, cartography became more specialized; systematic gathering of information from explorers and travellers became more common; new technologies such as the compass, printing press, longitude, and latitude were employed; and maps gradually became more accurate and useful in understanding the lay of the land (and waters). Today, our map-making skills are more accurate still through the professionalization of cartography, the further development of technologies such as global satellites, and the creation of government and private bureaucracies that employ cartographers, produce and distribute their maps, and promote education, research, and development in the field. Theories of society have much in common with the evolution of map making and with the maps themselves.

The knowledge base of a culture becomes broader, deeper, and more reflective of empirical reality with experience, discovery, and contact with other sociocultural systems. The accumulation and empirical accuracy of this knowledge base developed slowly through human history; very often, the accumulated knowledge based on observation and reason was confounded by traditions, folklore, myth, and religious and political beliefs. The Enlightenment and the development of science, however, greatly sped up the process of attaining ever greater empirical accuracy. Science has a strong connection to the rigorous observation of the physical world. Because its accumulated body of knowledge is continually checked and replicated by other scientists, the practice of science gradually filters out the wishful and the mistaken; tradition and emotion; the mythical, political, and spiritual; it thus arrives at ideas, concepts, and theories that more closely approach physical reality and the relationships among objects in this reality. Norbert Elias ([1970] 1978, 23) elaborates further:

> At one time, people imagined that the moon was a goddess. Today we have a more adequate, more realistic idea of the moon. Tomorrow it may be discovered that there are still elements of fantasy in our present idea of the moon, and people may develop a conception of the moon, the solar system and the whole universe still closer to reality than ours. The comparative which qualifies this assertion is important; it can be used to steer ideas between the two towering, unmoving philosophical cliffs of nominalism and positivism, to keep the current of the long-term development of knowledge and thought. We are describing the direction of this current in calling special attention to the decrease in the fanciful elements and increase in the realistic elements in our thinking, as characteristics of the scientificization of our ways of thinking and acquiring knowledge.

What Elias calls "scientificization" is more generally called "rationalization"—Weber's concept of the process by which modes of precise calculation based on observation and logic increasingly

dominate the social world. As has happened with maps, our knowledge base, our mental map of empirical and social reality, has been refined; elements based on tradition, values, and emotions have gradually been replaced. Of course, many irrational elements stubbornly remain, particularly beliefs held by elites, because to hold them is in their material interest (rejection of global climate change comes to mind, but there are many others), or by large numbers of a population who feel that their interests, values, or traditions are directly threatened by the findings of science (evolution being one example among many). But in general and over time, the knowledge base of society is undergoing constant rational refinement. While this process began in the West, it has spread as a result of both conquest and peaceful contact.

Social theorists could be thought of as cartographers of the sociocultural world. Like cartographers, they attempt to determine on the basis of evidence what phenomena are real and how they are related to one another. They decide on what social elements they wish to map, what social processes and relationships they are trying to capture—from micro theories of interactions among bureaucrats to macro theories that attempt to cast in language the relationships among sociocultural systems. Like cartographers, theorists attempt to eliminate objects from their theories that are not relevant to the generalizations they are trying to make and to reduce the complexities of the characteristics and the relationships of their theories, all in order to produce a framework that can be used to better understand the sociocultural world. Finally, like cartographers, they learn from their own and others' observations, from the maps that have been made before; their theoretical postulates are constantly checked by their peers and by new observations of social reality. Like a map of a given geographic territory, a social theory is judged on its parsimony and clarity of expression, and by the accuracy of the symbolic reflection of social reality that it creates. This book argues that the macro social theory created by the founders of sociology—as revised and refined by those who have followed—provides a very useful map for both understanding and navigating our world.

Principles of Macrosociology

Knowledge is a process of piling up facts; wisdom lies in their simplification.
— MARTIN H. FISCHER

Modern macrosociologists still tend to be deeply rooted in the classical social theories of Karl Marx, Émile Durkheim, Max Weber, and Herbert Spencer.[1] While many specialists in social theory like to emphasize the differences among macrosociological perspectives, the various theories actually share much common ground. They agree, for example, that the sociological world view differs from psychology, which puts great emphasis upon early socialization, individual motivation, and personal control over behaviour. It differs from the biological and medical views of human behaviour, which stress physiological and genetic predisposition. All of these factors are important, most sociologists would concede, but there is something more. Human behaviour, attitudes, and beliefs are profoundly affected by the groups and organizations in which people interact and the sociocultural system in which they are embedded. But the theories of Marx, Weber, Durkheim, and Spencer—as refined and elaborated by many contemporary macro theorists—share a good

deal more common ground than even this; they overlap in ways that have until now been minimized or ignored.

Macrosociology is the study of large-scale organizations, sociocultural systems, or the world system of societies. All four of the classical sociologists named above began from a macro perspective. Macrosociology should not be considered just another specialty within sociology. It is not a specialty; it is the holistic view of a sociologist's subject matter, the overall framework within which the specialties exist. Macro social theory seeks to unite numerous empirical observations and middle-range theories into a single, testable, explanatory framework. It is important that the field not be taken over by specialists, that macrosociology retain its role as an integrating mechanism to organize and inform the world view of all sociologists. There is a pull toward almost inevitable specialization in the modern world. As knowledge and techniques proliferate, society responds by breaking them up into supposedly discrete fields, encouraging individuals to specialize and ignore the whole. This is a disaster for the social sciences since so many of the disciplines themselves are based upon the influence of the sociocultural system on various parts of that system, and ultimately on individual behaviour and beliefs.

A reading of introductory sociology textbooks reveals the curious state of the discipline. The books usually mention the founders of the discipline. Each was a macro-level theorist, concerned with whole sociocultural systems—their origin, maintenance, and change—and how they affected human behaviours and beliefs. Our introductory texts briefly paraphrase these theories, mention how they differ from one another (conflict, functionalism, symbolic interaction, etc.), and then largely ignore them as the focus shifts to individual specialties—stratification, deviance, organizations, medical—within the discipline. What is lost in these textbooks, what has been lost in the discipline itself, is the fact that these macro theories actually have much in common. A close reading of the classical literature, as well as the more recent literature in that tradition, reveals that there is substantial overlap in their analyses, considerable agreement on the

basic components of society, on sociocultural stability and change, and much common ground as to how sociocultural systems affect human behaviours, attitudes, and beliefs. While macro theorists do not always use common terminology and concepts, they share many conceptual tools. For example, Durkheim's "anomie" and Marx's "alienation" have much in common, as do Durkheim's concept of the division of labour and Weber's concept of bureaucracy, which encompasses the former concept and applies it to all human organization. Much of Durkheim's work on the division of labour was built upon a foundation laid by Spencer (who relied heavily on Malthus). Weber has sometimes been described as being in a running dialogue with the ghost of Marx; his overall theory is quite compatible with Marx's emphasis on capitalism and the centrality of economic factors in understanding sociocultural systems. In this work, I focus on many of the common themes of macrosociology and make the case that there is, in fact, a common sociological perspective or world view.

The theories of Malthus, Spencer, Marx, Weber, and Durkheim, and their modern manifestations, are not as incompatible as many critics make them out to be. The apparent incompatibility is, perhaps, more in the texts that summarize and critique these theories than in the theories themselves. The goal of the textbook author is to present the essential ideas of the theorist in a coherent and distinct manner to the student (as well as to the professor). This requires the author to highlight the theorist's unique contributions, and as a result, the elements shared with other sociologists are often ignored. In addition, summarizing a theorist's life work in a single chapter or even a single book is a difficult task; including key qualifications and subtleties is nearly impossible.

A second reason why social theories appear to be almost mutually exclusive is that the differences between theories have often been exaggerated in order to make a point; they are more a product of a critic's imagination and biased reading. Many secondary sources take on the dual role of both summarizing and critiquing a theory without recognizing that there is often a conflict of interest

between the two tasks. Even social theorists themselves are guilty of this. Most authors are attempting to convince readers of the rightness of their own views and to make unique contributions to the theoretical literature. Consequently, they have a tendency to gloss over the finer points of rival theorists and then critique them on failing to recognize these points. Marvin Harris, a fierce advocate for his brand of cultural materialism, was often accused of doing this, and he received much return fire from critics who would similarly misrepresent his theories through oversimplification. The need to be unique may also explain the tendency of many theorists to coin their own terms, thus making common language between different theoretical schools more difficult. The fact that the classical theorists (as well as some contemporaries) are over-fond of coining their own terminology is a significant factor in the seeming incompatibility of social theories.

Social theories, then, are often portrayed (and criticized) as mere caricatures of themselves: Karl Marx is overstated to the point where he denies the importance of all non-economic factors in explaining social life; Max Weber portrayed as a hopeless idealist in which the Protestant ethic is the sole cause of capitalism; Marvin Harris represented as a "vulgar materialist" who failed to recognize any role for social structure or ideology in social life; T. Robert Malthus depicted as a near idiot who failed to realize that agricultural production could expand with improvements in technology; and Gerhard Lenski described as a technological determinist who failed to consider population pressure and structural and cultural factors in his theories. Consequently, the predominant view within the discipline is that these macro theories are mutually exclusive; that sociology is a "multi-paradigm" enterprise consisting of several contradictory and competing perspectives about the nature of the social world.

However, if one reads macro social theory with an eye toward integration and synthesis, one finds few areas in which the classical theorists contradict one another; their differences are more matters of emphasis and focus, and they are, in fact, perfectly compatible with one another. Furthermore, many of their theories have much

in common. C. Wright Mills (1959, 6–7) outlines three broad questions addressed by classically rooted sociological analysis: (1) What is the overall structure of the society and its component parts? How are these parts interrelated? And how does this structure and dynamic differ from those of other societies? (2) How is this society rooted in history? What are its major mechanisms of change? (3) What kinds of men and women are coming to prevail in this society? "In what ways are they selected and formed, liberated and repressed, made sensitive and blunted?" Macrosociology is guided by seven principles in seeking to address Mills's excellent questions: (1) a pronounced systemic/functional analysis; (2) a view that emphasizes a strong materialist-behavioural influence on social structure; (3) an evolutionary view of change; (4) an emphasis upon the impact of social structure (groups and organizations) on human beliefs, values, and attitudes; (5) true to systems theory form, the reciprocal influence of these cultural ideals on structures and material culture; (6) a concern with the endemic inequality within structures; and (7) a rich tradition of comparative historical data that are used to test its generalizations.

SYSTEMIC/FUNCTIONAL ANALYSIS

Although it is often overlooked, downplayed, or so ubiquitous as to go unobserved, the systemic character of all macrosociology simply cannot be denied. It is, indeed, the very definition of the sociological enterprise itself. Years ago, I wrote a book that attempted to apply the anthropological theory of cultural materialism as propounded by Marvin Harris (1979) to contemporary American society. The book first outlined Harris's "universal structure" of sociocultural systems—infrastructure (production and population), structure (primary and secondary groups, with some modification of Harris's perspective), and superstructure (knowledge base, ideas, religious beliefs, ideologies)—and then explained the dynamics of recent cultural change in terms of the theory. For a variety of reasons,

I chose as the working title *The System*. As a child of the sixties, I had grown up hearing "It's the system, man" from many of my friends, and it seemed to me that cultural materialism—with its emphasis on systemic change as a result of changes in population and technological development, as well as on the depletion and pollution of the environment—reflected that cry very well. But I also liked the title because the view of society as a system is part and parcel of the sociological enterprise, perhaps so ingrained in the discipline that it is given only passing mention in our texts and then rarely examined.[2] In fact, I know of no macrosociologist who does not see society as a system. While some claim that it is more or less organized, or that some parts of the system are more important in determining change than others, all assert its system-like qualities: that different parts of the system affect one another and affect the whole. A systems perspective teaches one to focus not only on the various components of the system but also on their interconnections and interactions. Demography, production processes, government, economy, and environment cannot be seen in isolation from one another. There are interconnections—feedback loops—that are as important for studying social structure and change as are the various components themselves.

All of the founders, as well as their modern followers, have at least implicitly asserted that society is a system that is focused upon stability and meeting the physical and psychological needs of its population. Spencer and Durkheim went even further, making explicit the analogy between social and biological systems. The analogy between societies and biological organisms or mechanical systems can be misleading, however, for it calls to mind a perfect coordination and integration of the various parts of the system. This is not the case with sociocultural systems, in which the parts have varying degrees of autonomy and independence from the overall system. Society is a system, but it is an imperfect system. The fact that society is an imperfect system means that not all of the parts function to strengthen the whole system. Many patterns and behaviours contribute nothing to the general welfare of the society, rather serving

the interests and needs of individuals or constituent groups—some of whom have more social, political, and economic power than others. Therefore, not all needs are addressed equally. The fact that society is an imperfect system also means that conflict is a normal feature of all societies. However, it is still a sociocultural *system*, and as such there must be enough co-operation among the members of the society for the system to maintain itself.

Sociocultural systems consist of three types of phenomena: material, structural, and ideational. Material phenomena have a physical presence that can be readily observed: they consist of such observable facts as the physical environment, population and its characteristics (size, age and sex ratios, birth and death rates), and the technologies used to exploit the physical environment or to control population growth and level. Social structural phenomena refer to all human groups and organizations. At a broad level of abstraction, examples of social structure include government, economic, and family systems. At a level closer to home, social structure refers to observable groups such as families, corporations, educational institutions, the military, and community organizations. Finally, ideational components of the sociocultural system comprise the values, norms, ideologies, religious beliefs, and other symbolic items present in all societies. I often think of such cultural items as the (mostly) shared sense of reality that members of a sociocultural system have about the world and their role in it. The basics of this symbolic map of reality that each of us carries in our head are developed in our early socialization and are continually refined and shaped throughout our lives in interaction with others. All human societies—prehistorically, historically, and in the present—are made up of these three components. All three affect one another as well as the overall sociocultural system.

Functional analysis is a natural consequence of thinking of society as a system. It is simply the analysis of sociocultural phenomena for their effects on other phenomena and on the sociocultural system as a whole. The functional orientation has long been implicit in biology and physiology, whose practitioners also see their subject matter

in systemic terms. Within biology, for example, part of the study of an individual animal species includes its function in the entire ecological system—its impact on the environment, competing species, and predators. Social scientists as seemingly diverse as Malthus, Spencer, Marx, Durkheim, and Weber have also engaged in functional analysis in describing the interrelationships among sociocultural phenomena. Malthus wrote of the relationship of sexual mores and marriage patterns to population pressures; Marx, of the control of production resources and its relationship to exploitation, dominant ideologies, and eventual revolution; Weber, of the relationship between the rise of the Protestant ethic and the origins of capitalism;[3] and Durkheim, of the overall functions of criminal behaviour. Spencer ([1876] 1967, 8) was clearest about the necessity of functional analysis in the opening lines of his *Principles of Sociology*: "There can be no true conception of a structure without a true conception of its function. To understand how an organization originated and developed, it is requisite to understand the need subserved at the outset and afterwards." Contemporary macro theorists continue to write in functional terms, exploring ways in which social phenomena affect one another and the whole.

Contemporary functional analysis does not hold that all prevalent activities relate positively to the social whole.[4] Many cultural items can have positive functions for some groups within a sociocultural system and negative functions (called "dysfunctions") for others. There are power differentials in all societies, and sociocultural forms that benefit powerful groups (or elites) may well have dysfunctions for other groups within the system—or even negative consequences on the system as a whole. In practice, many items have multiple consequences—both negative and positive—for the system as a whole and for groups within the system. While it is likely that all widespread and persisting sociocultural phenomena have a net balance of positive functions for the whole or for elite groups, this is an empirical question and not a theoretical given. In functional analysis, it is important to specify the groups for which a given sociocultural item is functional.

While the concept of "function" allows the analyst to focus on issues of stability and the status quo—on how a given cultural item is related to the maintenance and preservation of the system or its parts—the concept of "dysfunction" allows the analyst to focus on issues of change. Dysfunctions are those consequences that often lead to stress, contradictions, and pressure for change within the system. The dominant orientation of the sociocultural system is stability and resistance to change. Institutional structures and ideas are interrelated and predominantly mutually supporting, and the most likely outcome of any change introduced into the system is resistance to that change in other parts of the system. Such resistance seeks to extinguish or minimize that change, but resistance is not always successful, and the accumulation of stress and resulting conflict often causes systemic change. One of the primary goals of functional analysis is to examine a part of the system in its relationships to other parts and to the whole, to identify both functions and dysfunctions for various groups within the system, and then to map out patterns of change.

Students are often confused about the distinction between functions and motives. Functions are the ways in which a sociocultural trait contributes toward the maintenance or adaptation of the sociocultural system; dysfunction refers to a trait's impact on the system that lessens adaptation. Motives are the subjective orientations of the individuals engaged in behaviour. Functions and motives are often (though not always) very different. For example, I was once in a group discussing homosexuality with Marvin Harris in the mid-1980s. Harris was claiming that one of the reasons why homosexuals were more open and political about their sexual orientation than they had been in the recent past was because increasing population pressure and the consequent rise in the competition for resources was leading to a relaxation of the prohibitions on non-procreative sex. Because the condemnation from the dominant society was lessening, he went on to say, many homosexuals were emboldened to declare that they were gay and to openly advocate for acceptance and equality. Within our small group, one young woman strongly disagreed, claiming that the reason she came out of the closet had nothing to do with

babies, population pressure, or the relaxation of society's condemnation but rather with her pride in who and what she was. Harris was speaking the language of functions; the young lady was speaking of personal motives.

Several other points of interest about Harris's example touch upon the nature of functional analysis. By discussing the relationship between population pressure and attitudes and laws regarding homosexuality, Harris was not commenting on the morality of homosexuality or on the fairness of the laws condemning the practice; rather, he was claiming only that there is a functional relationship between population level and prohibitions against homosexuality. Nor was Harris saying that population pressure was the only cultural item affecting attitudes and laws regarding homosexuality. As a systems theorist, he was well aware of multiple relationships within sociocultural systems that included material, structural, and ideational forces. Nor was Harris saying that population pressure was uppermost in the minds of opinion makers in motivating them to ease up on restrictions on and condemnation of homosexuality; he was simply arguing that the functional relationship between population pressure and homosexuality created a climate in which a relaxation of the prohibitions fit with other system changes. Finally, it should be noted that while attitudes and laws condemning homosexuality were once functional for the entire sociocultural system in the West, they were dysfunctional to a significant portion of the population, thus creating strain (tension, contradictions), and ultimately overt conflict, within the system. Population pressure, then, had little to do with the motivation of homosexuals to come out of the closet and openly advocate for equal rights, but it had much to do with the success of this movement. It was when the prohibition was no longer functional for the system as a whole—no longer in the interest of elites to promote population growth or for the masses to have large numbers of children—that the conflict became active and the relaxation of the prohibitions began.[5]

There are times, however, when functions and motives are one and the same, and this seems especially true when government is consciously considering reform. Manifest functions are those

objective consequences that are intended by the participants in the system. Latent functions are those consequences that are unintended and often unrecognized by participants. It is through the concept of latent functions that one can begin to understand the seemingly irrational and non-rational qualities of many social practices. Robert Merton ([1948] 1968, 118) uses the Hopi rain dance as an example in this regard. From all outward appearances, the rain dance is a non-rational ceremony whose manifest function, to bring rain to a given area, is clearly not achieved.

> Thus, the Hopi ceremonials designed to produce abundant rainfall may be labeled a superstitious practice of primitive folk and that is assumed to conclude the matter. It should be noted that this in no sense accounts for the group behavior. It is simply a case of name-calling; it substitutes the epithet "superstition" for an analysis of the actual role of this behavior in the life of the group. Given the concept of latent function, however, we are reminded that this behavior *may* perform a function for the group, although this function may be quite remote from the avowed purpose of the behavior.

If the ceremony is unconnected to its avowed purpose of bringing rain, why then does it persist in Hopi culture? What latent functions does it serve for the group? Merton answers (in the tradition of Émile Durkheim) that the dance serves group unity: it fulfills "the latent function of reinforcing the group identity by providing occasion on which the scattered members of a group assemble to engage in common activity" (118–19).

In chapter 2 of this book, we will examine the functions of a growing gross domestic product in a society. The two primary manifest functions, of course, are to provide ever greater material wealth to the elites in a society and, through the presumed "trickle down" process, creature comforts to the masses. The latent functions and dysfunctions, as we will see, are legion.

The most important advantage to the distinction between latent and manifest functions is that it encourages systemic thinking. Most

people seem to think in linear terms: A causes B, and perhaps goes on to affect C. Life, however, is rarely that simple. We live in a world of systems—physiological, psychological, sociocultural, biological, and physical: systems that have many parts that not only affect one another and the whole but also interpenetrate and affect one another. Functional analysis is the elaboration of the systemic character of social life; it is an attempt to account for the web of the world and the influence of this web on social behaviour. Functional analysis is an invaluable tool in policy analysis as well. Through functional analysis, lawmakers (and, more importantly, their staffs) as well as pundits and other political observers can anticipate the consequences—manifest and latent, functional and dysfunctional—of laws and social programs.

The relevance of functional analysis to governance and self-determination can be seen in the great health care debates in the United States in 2009–10. The functions and dysfunctions—latent and manifest—of the various parts of the health care system have been analyzed and widely discussed in terms of their impacts on one another and on the total sociocultural system. The present system functions to the great benefit of a few providers, insurance companies (particularly executives), politicians (in the form of campaign contributions), and those wealthy enough to buy into the system, but it has many negative consequences, or dysfunctions, on industry, government, and consumers who must absorb the ever rising costs of care, as well as on individuals who simply are not covered. Because of these dysfunctions, there has been growing pressure within the system for change; because the present system benefits many elite groups, however, there is also great resistance to change. Consequently, various proposals have been made to restructure the entire medical care system so that incentives are created for preventive medicine, people have broader access to health care, and costs are redistributed and contained. Functional analyses were performed not only on the existing system but also on many of the proposed reforms. What functions and dysfunctions would a widely available government insurance option have for the rest of the system and on specific organizations and groups? Many groups and organizations

are promoting, and others resisting, changes through direct coercion on politicians who would institute the changes or through indirect persuasion of these government officials via advertising and other forms of propaganda. As of this writing, it is unclear whether substantial change will be achieved; much depends on the weight of evidence behind the functional analysis of health care, but even more depends on the political and economic power of the groups who are promoting and opposing the reforms.

MATERIAL/BEHAVIOURAL CONDITIONS

The fact that almost all macrosociologists root their analyses in material conditions is often overlooked. While their theories frequently focus on stability and change in social structures, as well as on the influence of social structure on ideas and behaviour, the founders generally view social structure and changes in that structure as ultimately the product of material circumstances. For example, Durkheim ([1893] 1997, 336–37) argues that cultural advancement ("civilization") results from the increased specialization made possible by the division of labour, which is itself caused by changes in the "volume" and "density" of societies—that is, by population pressure:

> Civilization is itself the necessary consequence of the changes which are produced in the volume and in the density of societies. If science, art, and economic activity develop, it is in accordance with a necessity which is imposed upon men. It is because there is, for them, no other way of living in the new conditions in which they have been placed. From the time that the number of individuals among whom social relations are established begins to increase, they can maintain themselves only by greater specialization, harder work, and intensification of their faculties. From this general stimulation, there inevitably results a much higher degree of culture. From this point of view, civilization appears, not as an end which moves people by its attractions for them, not as a good

> foreseen and desired in advance, of which they seek to assure themselves the largest possible part, but as the effect of a cause, as the necessary resultant of a given state. It is not the pole towards which historic development is moving and to which men seek to get nearer in order to be happier or better, for neither happiness nor morality necessarily increases with the intensity of life. They move because they must move, and what determines the speed of this march is the more or less strong pressure which they exercise upon one another, according to their number.

Herbert Spencer, of course, built most of his evolutionary theory around increases in population level through either natural population growth or conquest. Marx's historical materialism is also widely known in the sociological literature, as expressed in his well-known maxim: "It is not the consciousness of men that determines their existence, but, on the contrary, their social existence determines their consciousness" (Marx [1859] 1911, 11–12). Marx's primary causal variables are subsumed under his concept of "mode of production," which appears to include both the "forces" of production (technology and division of labour, which are material factors) and "relations" of production (economic relations, such as feudalism or capitalism, which are structural). With few exceptions, macrosociologists very quickly recognized that material factors are the necessary foundations of sociocultural systems. Max Weber is, unfortunately, often perceived to be one of the exceptions.

Weber is known as an idealist in many quarters, since he asserts that ideas (such as the Protestant ethic and rationalization) are primary causes of structural and material changes. This, however, is misleading, for Weber is a systems theorist who always traces a web of multiple causation, giving significant weight in his historical analysis to institutional, ideational, *and* material factors, depending upon the particular phenomenon under study. For example, in Weber's analysis of the origins of capitalism, he gives significant weight to such technological factors as transportation, communications, coinage, writing, and record keeping. These technological factors, he argues,

are essential conditions for the development of the bureaucratic state, for only such a state could assure the free movement of capital and labour as well as provide the institutional supports for large-scale markets, property and labour law, and the predictability and calculability of investment that is needed for large-scale capitalism. Randall Collins (1980, 940), a pre-eminent Weber scholar, has this assessment of Weber's overall theoretical orientation: "For Weber, the state and the legal system are by no means a superstructure of ideas determining the material organization of society. Rather, his theory of the development of the state is to a considerable extent an analogy to the Marxian theory of economy. The key factor is the form of appropriation of the material conditions of domination."

While Weber cannot be considered an exclusive materialist, he can be thought of as a fellow traveller. But it should be pointed out that no social scientist—even Marx—actually asserts that material conditions are all that matter. "The idealist likes to begin the causal analysis with the unquestioned motivating power of ideas," says social evolutionist Robert Carneiro (2003, 216). "The materialist prefers to begin the analysis one step further back, going behind the ideas to see how they arose in the first place and came to enter people's heads." According to the materialist, material and structural conditions are translated into ideas, ideologies, and values, cultural elements that then motivate people to action, sometimes action that is even counter to their own material interests.

Weber provides an often needed reminder that sociocultural systems are never simple. In the closing lines of *The Protestant Ethic and the Spirit of Capitalism* ([1904] 1930, 183), he states: "But it is, of course, not my aim to substitute for a one-sided materialistic an equally one-sided spiritualistic causal interpretation of culture and of history. Each is equally possible, but each, if it does not serve as the preparation, but as the conclusion of an investigation, accomplish[es] equally little in the interest of historical truth." What Weber is saying here is that the interaction of many sociocultural factors plays a role in social evolution. The subject matter of sociology deals with very complex systems—material conditions, social structures, and

cultural superstructures are in constant interaction. With regard to the origin of capitalism, these factors would include the geographical conditions of Western Europe; the dissolution of feudalism; the rise of the nation-state; the division of political authority among church, nobility, king, and merchants; the plunder of the Americas; and Weber's Protestant ethic and the rise of rationalism.

But while the full exploration of sociocultural system interactions makes for good ethnography and history, it makes for poor social theory. The goal of social theory is not to detail every conceivable relationship but to provide a concise world view that summarizes, orders, and weighs what appear to be the most important relationships among sociocultural phenomenon. Part of the futility of the debate between materialists and idealists is that material and ideal conditions are in constant interaction with one another and it is therefore extremely difficult to demonstrate causal priority. In addition, our concepts and measures of social processes simply are not precise enough to establish clear priority—a necessary precondition for establishing causality. Terms like *industrialism*, *bureaucracy*, *capitalism*, *Industrial Revolution*, *democracy*, *rationalization*, and the *Protestant ethic* are all treated as things or singular events when in fact the terms are abstractions of social processes with only a tenuous reference to reality.

The Industrial Revolution, for example, is an arbitrary construct used by social scientists, journalists, and lay people alike. There is no one event that marks its beginning or ending except as defined by social consensus: it is not a thing but an abstraction that we use to break the continuous world of reality into pieces that we can manipulate. Like other forms of technology, these abstractions have a totalitarian character: they tend to simplify by arbitrarily leaving out complexity. For example, many argue that the acceleration of industrial activity started well before the middle of the eighteenth century (the beginning date cited by most); some mark the beginning of the revolution as the mid–sixteenth century or even earlier (Nolan and Lenski 2011, 188–94). However, most continue to associate its beginning with inventions such as the steam engine, mechanization

of textile manufacturing, and innovation and expansion of the iron industry—the technological changes, in other words, that brought on the fundamental transformation to modern industrial forms. While we mark the initial phase as beginning in the mid–eighteenth century, it is important to keep in mind that we are dealing with a gradually intensifying process that occurred over generations (and is still ongoing), not with a discrete event. Technological innovations (such seemingly simple devices and practices as horse collars and three-field rotation) were producing food surpluses (and stimulating population growth) as early as the ninth century. These new methods affected structures and cultural values—and were affected by them—long before what we generally call the Industrial Revolution. By reifying the Industrial Revolution—that is, by considering the term as a *thing* in social reality rather than understanding it as a construct that arbitrarily labels a part of a continuous process of technological development—we are seriously misleading ourselves. The arbitrary nature of our abstractions of social phenomena prevent the type of testable precision called for by this theoretical disagreement.

Since materialist theory cannot be conclusively demonstrated empirically, the strongest argument of the materialist can only be one of logic. Why should material conditions be given priority over social structure and cultural elements? The reason rests on the fact that we are physical beings who depend on obtaining food, clothing, and shelter from the environment in order to survive. It is through regulating population level (by means of Malthusian preventive and positive checks, which lower the birth rate and increase the death rate, respectively) and through production technologies and practices that all societies manipulate their environments in order to regulate the amount and type of energy needed for survival. The aim of social science, Marvin Harris (1979, 57) tells us, is to discover the "maximum amount of order." The environment places severe constraints on human societies. It is population and production that are most directly affected by these constraints, and it is also through population and production that these constraints are stretched or modified. To say that ideas and ideologies are central in explaining human

behaviour ignores these physical constraints; to say that structures deserve the primary role also ignores this simple truth. Our physical relationship to the environment is critical: all other widespread and enduring social practices and beliefs must be compatible with—or at the least, must not directly oppose—these relationships. It is only after these material conditions are analyzed that structures and ideational factors should be examined in exploring the web of direct and indirect factors affecting human behaviour and thought.

Perhaps the main reason that the founders of sociology are seldom recognized for the materialists they are is that once they have acknowledged the primacy of material factors, the classical social theorists quickly move on to structural factors and their interrelationships with human behaviour and thought. Indeed, Marx, after establishing the forces of production as prime determinants in his system of thought, shifted his focus to an economic system (capitalism). Similarly, both Weber (bureaucratization and rationalization) and Durkheim (anomie) also moved from material factors to the resulting changes in structures and ideational culture in their sociology. Once theorists establish material factors as prime movers in macrosociology, they tend to focus on how these material factors affect structural and cultural elements within sociocultural systems since it is these social structures and cultural elements that are directly experienced by people. With the possible exception of Harris, modern macrosociologists—whether influenced by Marx, Spencer, Durkheim, or Weber (and all have been to some degree)—have carried on this tradition.

EVOLUTIONISM

Another integral part of a systems view of societies is the notion of cumulative change. Cumulative change is intrinsic to systems because of the functional dependence of parts on one another, because both continuity and change occur simultaneously within the system as a whole. "Within these systems," Gerhard Lenski (2005, 4) explains, "some parts change while others remain unchanged. Thus,

cumulative change is a process that combines elements of continuity with elements of change; many parts of the system are preserved for extended periods while new parts are added and other parts are either replaced or transformed. Cumulative change is also a process in which the characteristics of a system at any single point in time have a significant impact on the system and its characteristics at successive times." External stimulus for change in a sociocultural system stems from change in its natural and social environments. Internal stimulus for change stems from the cumulative process of change itself. New technologies or structural or cultural elements are added to old; rarely are old elements discarded completely, although they are often modified to accommodate innovation in other parts of the system.

Rather than relying on genetic change to encode and pass on adaptations to future generations, human populations have evolved culture. This has proven to be a much more rapid and broader transmission process, and it has had significant effects upon the speed and direction of sociocultural change.[6] Thus, macrosociological theory is both material and historical in character: sociocultural systems exist within the contexts of the natural and social environments and within the sweep of history; macro theory views sociocultural change as cumulative and transmitted through culture. Macrosociological theory is therefore evolutionary theory. This is not to say that all macro social theory is the type of formal social evolutionary theory of Herbert Spencer or, in the modern day, Gerhard Lenski. Spencer (1891) very explicitly considers social evolution as a part of natural evolution. For example, he states, "There can be no complete acceptance of sociology as a science, so long as the belief in a social order not conforming to natural law survives" (394). Lenski (2005, 5) is even more forthright: "Thus, stellar evolution laid the foundation for chemical evolution, which, in turn, laid the foundation for biological evolution, which, eventually, led to the evolution of human societies. In other words, one of the basic principles of modern evolutionary theory is that *the evolutionary process itself evolves*" (emphasis in the original). All macro theory worthy of the name is based on systemic and therefore cumulative and historical change and gives a

prominent causal role to material components of that system; this is highly compatible with formal social evolutionary theory.

Marx posited that societies go through evolutionary stages. Beginning as communal systems, they move through ancient, feudal, capitalist, and, finally, socialist phases. While Marx's evolutionary view is widely known, it is rarely acknowledged or emphasized; the revolution at the end seems to get all of the attention. However, looking at the entire sweep of prehistoric and historic societies, it is clear that Marx saw this revolution as occurring only after a long social evolutionary process: "No social order ever disappears before all the productive forces for which there is room in it have been developed; and new higher relations of production never appear before the material conditions of their existence have matured in the womb of the old society" ([1859] 1911, 12).

The evolutionary character of Durkheim's theory is expressed in the lengthy quotation in the previous section, particularly in his assertion that civilization develops from the pressure exerted by increasing numbers of people competing for sustenance (an assertion that owes much to Malthus, Spencer, and Darwin). It has often been claimed that Weber saw society as evolving toward an ever more bureaucratized, rationalized state. Weber was evolutionary in terms of his systemic view, his functional perspective, and his emphasis upon cumulative change. That he integrated such an evolutionary perspective into his social theory is evidenced by the fact that he uses the term "evolution" forty-three times in his classic *Economy and Society*, and thirty-three times in *General Economic History* (twice in chapter headings).[7] To say that macrosociology is evolutionary does not mean all macro theorists claim that society is going through set stages or that all societies are evolving toward a common system. These are hoary old theories that are too often used as straw men to entirely dismiss social evolutionary theory.[8] The common ground of macrosociology is only that societies are historical systems undergoing cumulative change and that this change often begins in a system's material infrastructure (population and production processes) in response to changes in its natural and social environments.

Modern macrosociology tends to be evolutionary in the same manner, most explicitly in the work of those theorists most influenced by Malthus or Spencer (Marvin Harris, Gerhard Lenski, Robert Carneiro, and Stephen Sanderson) and Marx (John Bellamy Foster, Immanuel Wallerstein, and Harry Braverman) but also with acolytes of Weber (C. Wright Mills, George Ritzer, and Norbert Elias) and Durkheim (Stjepan Meštrović and Robert Nisbet). The general model of today's macro theorists begins with the material base of societies and the immediate natural environment, which consists of the physical, chemical, and biological elements necessary to sustain human life. Arable land, climate, geography, water, and plant and animal life are all part of this environmental foundation. Like all living organisms, humans must obtain energy from their environment in order to sustain life. As social animals, humans exploit their environment in co-operation with others. In that process, the sociocultural system as a whole moves toward a balance between reproduction and the consumption of energy from a finite environment.

The collection of mechanisms by which social systems strike this balance is termed (by those writing explicitly in the materialist tradition) the "infrastructure"; it consists of all behaviours that regulate population as well as those behaviours involved in the production of food and other necessary goods. In other words, the infrastructure is the principle interface between a sociocultural system and its environment. It can be divided into two parts: (1) the mode of production, consisting of material and social technologies (including the division of labour) aimed at satisfying requirements for subsistence, and (2) the mode of reproduction, consisting of demographics and the behaviours, technologies, and conditions that affect them, such as mating patterns, fertility, mortality, contraception, and abortion.[9]

Not only are there structural factors within population and production that, when unchecked, cause them to grow exponentially, but there is also a positive feedback loop between population and production. In systemic terms, a positive feedback loop is a self-reinforcing chain of cause and effect. "It operates so that

a change to any element anywhere in the loop will have consequences that cascade along the chain of causal links, finally changing the original element even more in the same direction. An increase will cause further increase; a decrease will eventually cause further decrease" (Meadows, Randers, and Meadows 2004, chap. 2). Jared Diamond (1997, 111) uses the term *autocatalytic* to describe such a relationship, several examples of which will be discussed throughout this book. In the loop between population and production, for example, growth in population density often stimulates an increase in the production of food, and this increase in the production of food often causes a further increase in population density (Malthus 1798, 9; Boserup 1965). Throughout history (and prehistory), both productive and reproductive forces have expanded, and this expansion has been especially rapid in the past two hundred years.

STRUCTURES

Macrosociologists do not maintain that material conditions are all that matter in explaining sociocultural phenomena; rather, they argue that these material conditions are primary factors affecting social structure and culture. Social structures—human groups and organizations—are considered second-order variables in understanding sociocultural systems. The growth of population and the intensification of production have caused changes in the social structures of human societies. Max Weber asserts that this intensifying infrastructure has caused the growth of both government and capitalist bureaucracy. The larger the state, Weber ([1946] 1958, 211) notes, the more it is dependent upon bureaucracy: "It is obvious that technically the great modern state is absolutely dependent upon a bureaucratic basis. The larger the state, and the more it is or the more it becomes a great power state, the more unconditionally is this the case." The growing complexity of the production process also provides significant stimulus to bureaucratic growth:

> The growing demands on culture, in turn, are determined, though to a varying extent, by the growing wealth of the most influential strata in the state. To this extent increasing bureaucratization is a function of the increasing possession of goods used for consumption, and of an increasingly sophisticated technique of fashioning external life—a technique which corresponds to the opportunities provided by such wealth. This reacts upon the standard of living and makes for an increasing subjective indispensability of organized, collective, inter-local, and thus bureaucratic, provision for the most varied wants, which previously were either unknown, or were satisfied locally by a private economy. (212–13)

This bureaucratic growth, Weber argues, impacts a variety of structures (the military, religion, capital, education) as well as culture and human behaviour (rationalization). Modern macro theorists concerned specifically with bureaucracy and its impacts include Norbert Elias, C. Wright Mills, Gerhard Lenski, Marvin Harris, Robert Nisbet, and George Ritzer.[10] Other macro theorists include the fact of bureaucracy in their analyses but tend to be more focused upon the specific bureaucracies of the nation-state or the private bureaucracies of capital.

One of the primary carriers of bureaucracy is the nation-state, which, as many macro theorists note, has been expanding rapidly in the modern era. Many early sociologists, particularly Max Weber and Herbert Spencer, focused upon the expansion of the state. Spencer ([1876] 1967, 46) made the growth of the state an integral part of his evolutionary theory: "It inevitably happens that in the body politic, as in the living body, there arises a regulating system. . . . As compound aggregates are formed . . . there arise supreme regulating centers and subordinate ones and the supreme centers begin to enlarge and complicate." Modern macro theorists who are especially concerned with the centralization and enlargement of the state include C. Wright Mills and Robert Nisbet (the first belonging to the Left, the second, to the Right), both of whom wrote extensively of the dangers of the unchecked power of the nation-state. Modern Marxist

theorists, such as Immanuel Wallerstein and John Bellamy Foster, are particularly concerned with the role of the state in capital accumulation and militarization.

Perhaps the primary principle of all macro theorists is the idea that economic structure exerts a determining influence on a great many elements within the broader sociocultural system. When these theorists are discussing the modern period, this translates into a concern with capitalism. Marx and Weber were, of course, heavily concerned with capitalism's origins and workings, and almost every modern macro theorist has examined the origins and evolution of capitalism and its consequences for human society and its members. Harry Braverman, for example, carries on Marx's analysis of the effects of capital on work; John Bellamy Foster looks at the impact of capital on the environment and international relations; George Ritzer focuses on capital's global expansion and the creation of a consumer culture; and Immanuel Wallerstein examines capital as a world-system. Specifically, Wallerstein (2000) argues that one cannot analyze societies in isolation from their ties to other sociocultural systems. The only proper unit of analysis must incorporate the entire division of labor necessary to meet all the essential needs of a substantial majority of people through production and exchange within the system itself. Capitalism, he argues, is a world-system that had its origins in about 1500 in Western Europe and by the late nineteenth century covered the globe. This system is based on the economic exploitation of much of the world to benefit the core countries of Europe, North America, and increasingly the Asian rim. Within this core, there exists a hegemon, a nation-state that dominates by the sheer weight of its economic and military power. Hegemons rise and fall; the first to rise, according to Wallerstein, was the United Provinces (today the Netherlands), in the middle of the seventeenth century, to be succeeded in turn by the United Kingdom, in the middle of the nineteenth century, and then, following World War II, by the United States, which as a hegemon is now in decline (256). Our times are defined by this capitalist world-system, Wallerstein holds; it is the context in which struggles between nations, classes, ethnic groups and political movements are decided.

IDEAL CULTURE

Durkheim ([1893] 1997) argues that as a society becomes more complex, individuals play more specialized roles and, as a result, become increasingly dissimilar in their social experiences, material interests, values, and beliefs. While individuals within such a sociocultural system have less in common than do members of a simpler society, they are more dependent upon each other for their very survival. The growth of individualism is an inevitable result of the increasing division of labour that is part of the evolution of the mode of production and the bureaucratization of the social structure. Durkheim believed that this individualism can develop only at the expense of the common values, beliefs, and normative rules of society, the sentiments and beliefs that are held by all. With the loosening of these common rules and values, individuals also lose their sense of community or identity with the group. The social bond is thereby weakened, and social values and beliefs no longer provide members of the society with coherent, consistent, or insistent moral guidance. The weakening of the social bond is one of the key concerns of Durkheim's sociology. Modern macro theorists who have followed Durkheim's lead in this area include Robert Nisbet and Stjepan Meštrović, but one can find similar concerns expressed among Weberians (Mills and Ritzer), Marxists (Braverman and Foster), and those strongly influenced by Malthus and Spencer (Harris, Lenski, and Boserup). All argue that loss of community, alienation, or anomie are rooted in such factors as the increasing division of labour, specialization, urbanization, bureaucracy (corporate, government, and other), centralization, secularization, and a decline in primary groups.

Krishan Kumar, in his book *Prophecy and Progress* (1978), suggests that all of these causative factors are interrelated. He divides the characteristics of industrialism that were identified by the founders of the discipline into six broad categories: (1) urbanization; (2) demographic change; (3) the decline of community; (4) specialization and the division of labour; (5) centralization, equalization, and democratization; and (6) secularization, bureaucratization, and rationalization.

> The view suggested here, of the changes entailed by industrialization, involves so sweeping a transformation of the structure, culture, values and beliefs of a society that it is most unlikely that other changes cannot be accommodated under their general rubric. Indeed one of the analytical problems is that each single theme or characteristic usually represented for a particular thinker a more or less total characterization of the new society. So it is, for instance, with Tönnies and the decline of the Gemeinschaft; Durkheim and the increased division of labour; Weber and rationalization. It is clear from their accounts of these phenomena that almost any one of them could be made to encompass all of the six features that I have chosen to list separately. (109–10)

Kumar goes on to state that although many of these themes (particularly Weber's rationalization) predate the Industrial Revolution, they were developed and strengthened by the industrialization process and have come to characterize industrial society.

Along with his work on bureaucracy, Weber is perhaps best known for his concept of "rationalization." As already stated, many have taken Weber's rationalization as an indication that he was an idealist, an advocate for the theory that ideas are the prime movers in human societies. However, his writings reveal a much more complex position. Rationalization, according to Weber, is the process of substituting behaviour based on goal-oriented, observation-based, rational thought for actions based on emotions, traditions, or values. When confronted with a goal, rational thought guides us to choose the most efficient means to attain that goal. Weber believed that of the four basic motivators of human behaviour—rationality, emotions, traditions, and values—rationality was becoming more and more dominant in the West. He attributed this evolution not to simple chance or to mystical or spiritual reasoning but rather to changes in material conditions such as the intensification of production processes and the consequent growth of bureaucracy, both of which promote goal-oriented rationality.

True to his systemic thinking, however, Weber does not leave it there. Because of continuing intensification of production, population growth, and an ever more detailed division of labour, formal bureaucratic organization expands and the process of rationalization continues to grow in the West (and through the West, the world). People increasingly see their world in its terms. When confronted with problems of production or reproduction, we tend to rely on goal-oriented rationality rather than on tradition, emotions, or values. When confronted with problems of human organization, we attempt to solve these problems through bureaucracy—the application of rational thought to human organization—without much consideration for traditions, values, or emotions. Rationalization—the application of observation, logic, and experience to achieve specific goals—is now our characteristic mode of adapting to the natural and social worlds. The rationalization process is thus one of the many feedback loops discussed throughout this book. Intensification of production through mechanization and the division of labour causes bureaucratization, both of which lead to the increasing dominance of rationality (or goal-oriented thinking through the application of logic and observation). This growth of rationality, in turn, promotes further bureaucratization and intensification, which in turn promotes further rationalization. This characteristic mode of adaptation has significant impacts on both the sociocultural system and the individuals who make up that system.

INEQUALITY

A major principle of macrosociology is that there are inequalities of life chances both within and between societies. The degree of this inequality is highly dependent upon material conditions. Labour will always be necessary to draw subsistence from nature. The self-interest of individuals—the desire for riches or the fear of poverty—provides much motivation for human thought and action. Every macro theorist, bar none, deals extensively with inequality—its origins,

extent, and possible amelioration. This, of course, has its roots in materialist theory: since most resources needed for survival are in short supply, a struggle for access to those resources will be present in every human society. Human beings are social in nature, obliged to co-operate with one another in making a living. (*Antagonistic co-operation* is the term used by many.) Individuals are born with a range of innate abilities and into a variety of circumstances; in addition, the socialization process, combined with our own individual experiences and role in the division of labour, produces an acute sense of self and self-interest. Thus, the root of social inequality lies in our nature and in our nurture. Lenski (1966, 44) postulates that self-interest is one of the prime motivators of human action. However, as he goes on to say, these selfish interests compel men to cooperate in the division of labour: "If these two postulates are correct, then it follows *that men will share the product of their labors to the extent required to insure the survival and continued productivity of those whose actions are necessary or beneficial to themselves*" (emphasis in the original). Any surplus (goods and services over and above the minimum required to keep necessary workers alive and productive) will be distributed unequally. As there is little stored surplus in the earlier stages of sociocultural evolution, the distribution of resources is fairly equal, with perhaps only slightly more of the resources allocated on the basis of personal characteristics—hunting skills or plant-gathering productivity, for example. With the development of a more complex division of labour, these inequalities become greater and are institutionalized in class, status, caste, race, sex, and ethnic systems. Thus, most macrosociologists conclude that some degree of inequality is necessary and inevitable in all sociocultural systems, although the degree of inequality is variable across societies and through time.

HISTORICAL-COMPARATIVE METHOD

A final area of common ground among macrosociologists is their use of historical-comparative methodology to test their generalizations.

Macro theorists' data consist of the archaeology of prehistoric societies, the ethnographies of preliterate societies, and the histories of all human societies. All of the classical sociologists named above employ the historical-comparative method, and it remains the method of choice among contemporary practitioners of the craft. This need to test their theories through historical data is directly related to their evolutionary perspective; documenting cumulative change can only be done by examining the history of a sociocultural system through time or by comparing different sociocultural systems at different levels of development. History tends to be idiographic, or focused upon the particular or unique event. Macrosociology is the nomothetic branch of history, searching for universals or common patterns of structure and change within sociocultural systems.

The major points of this chapter can be summarized as follows: (1) Society is a system, with each of the component parts affecting one another and affecting the whole; (2) the material components of a society form its critical foundation and are especially important in determining the rest of the sociocultural system; (3) production and population must constantly adapt to changes in the physical and social environment; (4) production and population have a reciprocal relationship, with expansion or growth in one often stimulating growth in the other; (5) system change tends to be cumulative, with some parts of the system adjusting to change and other parts maintaining their continuity with the past; (6) because adaptations are transmitted through culture rather than through genetics, social evolution is very rapid; (7) all societies have inequalities, although the degree of inequality is an empirical question; and (8) the method of choice of macrosociologists is historical-comparative.

Materialism in Macrosociology

Man is an intelligence in servitude to his organs. — ALDOUS HUXLEY

According to Marx, Spencer, Durkheim, and Weber—the most important founders of the discipline of sociology—society is a system with a pronounced materialistic causal order. Material variables such as population and production are central in explaining the origin, maintenance, and change of sociocultural systems. The prime material factors considered by these founders to be behind the vast social changes that were transforming their societies from agrarian to industrial, from monarchies to democracies, were changes in population, technology, division of labour, and the environment. One can see this with Marx focusing on the production and reproduction of life; with Spencer and Durkheim emphasizing population growth, density, technological development, and an increasing division of labour; and with Weber rooting his concepts of bureaucratization and rationalization in the growth of population and material production. It is not that these theorists assert that material conditions are independent of other parts of the system; rather, they claim that

material conditions are critical in determining these other parts. It is not that social structures and cultural ideas do not matter in the analyses of these materialists; they are, in fact, critical in both affecting and motivating human behaviour. Rather, for the materialist, it is a matter of first principles: material conditions cause certain structures to arise and endure; material conditions allow particular ideas and not others to gain widespread acceptance. These conditions are not the only determining factors, but they are often the ultimate cause. The various elements of other parts of the sociocultural system—structures and culture—also exercise their influence on the course of human events (including material conditions), but such influence is secondary to material conditions.

Even Marx and Engels, the two most identified with a purely materialist position, never assert that a material base is all that matters, for it is a sociocultural *system*.[1] It is through population and production technologies that a society manipulates its environment by modifying the amount and type of resources needed for the survival of its population. Like all life on earth, human beings must obtain subsistence from their environment. All human action is therefore necessarily limited by environmental constraints—chiefly, the availability of food. The amount of food that a particular environment can provide is limited by environmental factors (such as land fertility, the existence of animals with potential to be domesticated, climate, and rainfall patterns), human technologies (such as the domestication of plants and animals, fertilizers, irrigation, the plow, and insecticides), and the division of labour. The amount of food that a particular sociocultural system needs is determined by its population size. It is through modifications of the technologies and population practices that societies increase or decrease the type and amount of resources required from their environment. All of these material factors—environment, population, production technology, and labour—are interrelated and directly affect other elements of the sociocultural system. It is not the case, however, that these factors alone determine all other aspects of the sociocultural system. In other words, structures and

ideal factors are not merely passive effects that can be reduced to material causes. The non-material parts of the system are in mutual interaction with the material factors; structures and cultural ideas and ideologies are continually being transformed by material forces, which, in turn, are affected by the structural and cultural parts of the system. It is, indeed, a sociocultural system.

While the founders of sociology rooted their analyses in material conditions, much of their sociology was concerned with the effects of structural and ideal factors on human behaviour. For example, Max Weber claimed that growth in population and in the complexity of the mode of production (material factors) is directly responsible for the growth of bureaucracy in the social structures of societies. His sociology is primarily concerned with the impact that these bureaucratic structures and the consequent rationalization of cultural ideals have on the rest of the sociocultural system. Structures and ideas often determine people's interests and motivations; they are successful in motivating human behaviour, however, only to the extent to which they are compatible with material conditions. While materialists recognize that structures and ideas motivate human beings, they insist that life starts (and ends) with material conditions and that these conditions therefore form the foundation of any sociocultural system. And it is with these material conditions, then, that social scientists must begin their analyses (Carneiro 2003, 216).

This chapter reviews the material conditions identified by macrosociologists as critical for understanding the origin, maintenance, and change of sociocultural systems. We will examine the significant characteristics that make up a society's infrastructure—population, mode of production, and division of labour—and the ways in which these material factors are related to one another and to other parts of the sociocultural system. Finally, we will look at the causes and consequences of the intensification process, a process by which massive increases in population and production have devastating consequences on our environment and on the rest of the sociocultural system.

POPULATION

Unfortunately, T. Robert Malthus is generally ignored in sociology. His principle of population is actually a very subtle theory of the relationship between population and production, two primary material factors affecting the rest of the sociocultural system. First, Malthus (1798, 11) proposes a link between the production of food and the growth of population: "That population does invariably increase where there are the means of subsistence, the history of every people that have ever existed will abundantly prove." Increase the food supply, he says, and food becomes cheaper and more abundant, nutrition improves, and more children are born or are allowed to live to adulthood. But, he adds, this can only be a temporary phenomenon. As population increases, it inevitably comes up against the limits of what the environment can provide under current production processes. Coming up against these limits then stimulates growth in food production by expanding land under cultivation or by developing more intensive farming technology or techniques. This, however, only causes population to further expand: increasing the supply of food causes a drop in its price, cheaper food gives potential parents more of an incentive to have additional children, and increased access to food allows more children to survive infancy. Child mortality rates in Malthus's day were extremely high, as they still are in many areas of the world, largely due to nutritional factors.

For Malthus, the principle of population "keeps the inhabitants of the earth always fully up to the level of the means of subsistence; and is constantly acting upon man as a powerful stimulus, urging him to the further cultivation of the earth, and to enable it, consequently, to support a more extended population" (115). Malthus thus postulates that the relationship between population and production is autocatalytic in nature: that is, as one grows, it necessarily stimulates growth in the other. But this process is rarely smooth. Generally, technological advances (or the discovery of new land) stimulate the growth of population until the new resources are consumed, and then the limits reassert themselves.[2] Once new plants and animals

are domesticated or new technologies developed to increase the yield of the earth, population increases until the new surplus is consumed.

Unless a society is in the immediate aftermath of expansion into virgin territory or the adoption of more productive technology, its population is always at the limit of what the environment can provide given the prevailing technology and distribution of resources. Existing at this environmental limit means that population growth must be constantly checked, a necessity, Malthus says, that has profound effects on societal institutions and culture. There are only two forms of population checks: "positive checks," generally through the premature death of large segments of the population, or preventive checks. Examples of positive checks include malnourishment leading to increased susceptibility to disease, high infant mortality, or infanticide. Positive checks are usually much more widespread among the poor. In other segments of the society, population checks are more likely to be exercised through preventive means: later marriage, birth control, or the loosening of prohibitions on nonprocreative sex. The fact that our species' ability to produce children will always be greater than our ability to provide for them means that there must always be checks on population growth. And this, writes Malthus, forms the foundation for the rest of the sociocultural system. Specifically, Malthus details this imbalance as the root cause of inequality in our institutions and distribution of resources, dominant marriage patterns within the society, approved and prohibited forms of sexuality, infanticide, abortion, gender inequality, and the provision of welfare.

Malthus makes clear his materialist credentials in citing population factors as first or ultimate causes of many widespread social institutions and practices. For example, he attributes the low population density in hunting-and-gathering societies to the fact that the subsistence resources are scattered over a large area: "In the rudest state of mankind, in which hunting is the principal occupation, and the only mode of acquiring food, the means of subsistence being scattered over a large extent of territory, the comparative population must necessarily be thin" (14). Without the stimulus of population

coming up against these environmental limits, he notes, "it is probable that man might never have emerged from the savage state" (114).

According to Malthus, it is physical want that stimulates human thought and action, and it is the drive to satisfy material needs that is responsible for the development of civilization.[3] People are motivated to action by opinions and ideas, he claims, but we are not entirely rational animals; the thoughts and opinions we hold are strongly influenced by our physical needs and desires. "The voluntary actions of men may originate in their opinions, but these opinions will be very differently modified in creatures compounded of a rational faculty and corporal propensities from what they would be in beings wholly intellectual" (79). While thought normally precedes action, he writes, our ideas and ideologies are strongly influenced by our material interests—the satisfaction of our physical needs and desires. "I am willing to allow that every voluntary act is preceded by a decision of the mind, but it is strangely opposite to what I should conceive to be the just theory upon the subject, and a palpable contradiction to all experience, to say that the corporal propensities of man do not act very powerfully, as disturbing forces, in these decisions. The question, therefore, does not merely depend upon whether a man may be made to understand a distinct proposition or be convinced by an unanswerable argument" (80). And this is true of individuals as well as whole societies. "An Alaric, an Attila, or a Zingis Kahn, and the chiefs around them," Malthus writes (1798, 15), "might fight for glory, for the fame of extensive conquests, but the true cause that set in motion the great tide of northern emigration, and that continued to propel it till it rolled at different periods against China, Persia, Italy, and even Egypt, was a scarcity of food, a population extended beyond the means of supporting it." For Malthus, population and the means of supporting it are the foundation of all sociocultural systems. All other components of the system are based upon this foundation.

Ester Boserup (1965) looks at the relationship between population and agricultural production from early horticultural societies to agrarian societies. Malthus's main line of reasoning, she says, is

that agricultural production severely limits population growth. At any point in time, population level is seen as dependent upon previous changes in agricultural productivity. Increases in agricultural productivity result from technological innovation—either within the society itself or as a result of cultural transmission—or from the expansion of agriculture to new lands. Only when agriculture expands does population rise to meet the new level of food production, after which it is again checked.

Boserup (1965, 11) focuses instead upon the line of causation that runs in the opposite direction—that population growth stimulates greater food production.[4] Because of natural limits on the fertility of the land, societies practicing primitive agriculture did not have permanent fields; rather, they shifted their cultivated plots from place to place within the land holdings of a given tribe. All land holdings were in use in such systems as cultivated plots, fallow land, pasture, or hunting grounds. "This fact," Boserup notes, "which seems to have been ignored by classical economists, is fundamental for our problem, for it follows from it that in primitive types of agriculture there is no sharp distinction between cultivated and uncultivated land, and it is impossible likewise to distinguish clearly between the creation of new fields and change of methods in existing fields" (12–13). In such a case, the researcher must drop the distinction between cultivated and uncultivated lands and recognize that the entire area of the tribe is a necessary part of its agricultural system.

Soil fertility, rather than being an immutable gift of nature, is highly variable and closely associated with agricultural methods. Since, as Boserup points out, the fertility of the land can be greatly increased through human activity, one must focus directly on the intensity of the work on that land and the frequency with which the land can be cultivated as a result of that intensity. According to Boserup, the true measure of the intensification of agriculture is the frequency of cropping. She argues that both fertilization and cultivation become more labour intensive with the shortening of fallow (25–26). Societies that practice forest-fallow agriculture clear plots of land within the forest and plant for a year or two, or until the natural

fertility is exhausted. The land is then left fallow for twenty to twenty-five years to allow the forest to regenerate. When it has, the people burn the forest, creating sufficient ash to return nutrients to the soil, and plant again. The burning of forest loosens the soil and frees the land of weeds, and hoeing is completely unnecessary. With bush-fallow agriculture, the fallow period is usually only six to ten years. When the period of fallow is shortened, only bushes, saplings, and weeds take root; burning these is not an effective method of clearing or returning fertility to the land, so the hoe is needed. Short-fallow is a system in which the fallow period is only one or two years, during which time the land is invaded by wild grasses. Grasses are difficult to remove through hoeing; plowing then becomes not only necessary but possible, given the absence of bush and tree roots. Boserup adds that the grasslands that replace forests with the shortening of fallow are often invaded by nomads seeking to feed their herds. Thus, animals suitable for cultivation and fertilization appear "around the time when the local cultivators need them and become able to use them" (25). With annual cropping (which includes crop rotation), the land is left uncultivated for only several months between harvest and planting. The final stage of intensification, multi-cropping, occurs when the same plot of land bears two or more crops every year; such a system involves no real fallow period (15–16). "Even if we cannot be sure that systems of extensive land use have preceded the intensive ones in every part of the world," Boserup concludes, "there seems to be little reason to doubt that the typical sequence of development of agriculture has been a gradual change—more rapid in some regions than in others—from extensive to intensive types of land use" (17–18).

While more intensive methods produce more crops per acre, they also require far more human labour to produce those yields—and the increases in yield are not commensurate with the effort. Much more work is needed to produce food; with population increase, a household has to work harder to maintain its standard of living. The short-term effect of intensification, Boserup maintains, is necessarily to lower output per man-hour. "But sustained growth of total population and

of total output in a given area has secondary effects which—at least in some cases—can set off a genuine process of economic growth" (118). These secondary effects of intensification include a compulsion to work harder and more regularly, a more detailed division of labour, changing work habits, and the raising of overall productivity; intensification facilitates the spread of urbanization, communication, and education, as well as population and urban growth, which stimulate the further intensification of agriculture.

Boserup insists that agriculture must be understood as part of a *system*, in which changes in one area provoke changes elsewhere. As population increases, most of the land brought under more frequent cultivation in a given area is already being used for something: fallow, hunting ground, or grazing areas. "It follows that when a given area of land comes to be cropped more frequently than before, the purpose for which it was hitherto used must be taken care of in a new way, and this may create additional activities for which new tools and other investments are required" (13–14). Thus, population changes often have direct effects upon the development of new agricultural technology and further division and intensification of labour. For this reason, Boserup claims, even primitive agricultural output can be increased significantly—far more than neo-Malthusian authors assume—by additional inputs of labour. Intensification, Boserup argues, could only take place in response to population pressures within a given area. Even when people have access to more intensive techniques and tools, the investments in labour are so large that they are not likely to be made unless population pressure makes such investment necessary. Unless population pressures are keenly felt, people may well reject more intensive methods of cultivation as being a bad bargain—far more work for only marginally more food (41).

Boserup's argument for the relationship between population growth and the intensification of production had great influence on ecological-evolutionary theory as proponents attempted to explain the Neolithic Revolution. Mark Cohen, Marvin Harris, Jared Diamond, and others used Boserup's basic argument to link population pressure to the original agricultural revolution in which hunters

and gatherers made the transition to agriculture in response to population pressure forcing a change in their way of life.

Marx also includes population in his conception of the material foundation of sociocultural systems. "According to the materialist conception of history," Marx and Engels (1962, 488) write, "the ultimately determinant element in history is the production and reproduction of real life." Marx differs from the Malthusian view, however, in that he asserts that the reciprocal relationship between population and production was a historical rather than a natural one. "It was, of course, far more convenient, and much more in conformity with the interests of the ruling classes, whom Malthus adored like a true priest, to explain this 'over-population' by the eternal laws of Nature, rather than by the historical laws of capitalist production" (Marx [1867] 1915, 580n). Under capital, this relationship took on a peculiar character. Labour became a commodity to be sold on the market, its price determined by workers' subsistence needs (food, clothing, fuel, and housing), the level of civilization in which expectations were formed, and the amount necessary for the workers to reproduce their replacements. Marx includes the cost of educating a workforce in this calculation, asserting that the cost would vary according to the complexity of the labour power required. He also points out that this cost would be exceedingly small in the case of unskilled labour—a growing part of the labour pool under industrial capitalism (191).

According to Marx, the booms and busts of capitalism are responsible for first stimulating population growth and then crushing large numbers of people under the weight of unemployment and underemployment—a view we will return to in later chapters. Not only does population pressure stimulate technological development in production and the conquest of new lands, but it also has a direct impact upon the division of labour within a society, a fact also much remarked upon by both Herbert Spencer and Émile Durkheim. In fact, all macrosociologists have incorporated population level, growth, and density as major factors in the origin, maintenance, and evolution of sociocultural systems.

PRODUCTION

That Marx's theory is very much focused upon the mode of production is widely known.[5] What is less clear, and is the subject of much debate, is precisely how Marx defined the mode of production. In his writings, Marx variously refers to the *mode*, *forces*, *means*, and *relations* of production, without necessarily specifying the exact scope of these terms. Many of his followers have further muddied the issue by focusing more or less exclusively on the economic structure of societies (capitalism, in the modern case), without distinguishing the *relations* of production from technology and other material factors. Although some sociologists have subsumed Marx's material forces of production under the relations of production, it is likely that Marx held the two as separate entities, giving the bulk of his theoretical attention to the relations of production—that is, the economy and, in his own day, capitalist economic relationships and their impact on the rest of the sociocultural system.

Marx appears to divide the mode of production into two parts: the "forces" and the "relations" of production. The forces of production consist of production technologies and the division of labour; the relations of production are the economic relationships based on these technologies and the consequent systems whereby products and services are distributed. So, while Marx begins with the forces of production, his sociology very quickly moves to the relations based on this technology—in other words, the economic structure of a society. The economic structure, he maintains, is firmly grounded in the material forces of production. "Social relations are closely bound up with productive forces," he writes. "In acquiring new productive forces men change their mode of production; and in changing their mode of production, in changing the way of earning their living, they change all their social relations. The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist" ([1847] 1955, 92).[6]

True to systems form, Marx argues that while the relations of production are rooted in the material forces of production, they also interact with these forces of production, such that each transforms the other. In *The Communist Manifesto*, for example, he and Engels

note that as production technologies evolved, feudal relations of property became outmoded, paving the way for the rise of the bourgeoisie and, in turn, the development of industrial technologies:

> The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of Nature's forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground—what earlier century had even a presentiment that such productive forces slumbered in the lap of social labor? We see then: the means of production and of exchange, on whose foundation the bourgeoisie built itself up, were generated in feudal society. At a certain stage in the development of these means of production and of exchange, the conditions under which feudal society produced and exchanged, the feudal organisation of agriculture and manufacturing industry, in one word, the feudal relations of property became no longer compatible with the already developed productive forces; they became so many fetters. (Marx and Engels [1848] 1954, 15–16)

Marvin Harris (1999, 187–88) argues that it is useful for modern theorists to separate material and behavioural phenomena from structural and cultural phenomena. I agree with Harris's assessment and will therefore distinguish between these two types of phenomena. For purposes of this work, the forces of production within a society—whether hunting and gathering, horticulture, or industrial technologies—will be examined as a phenomenon separate from the economic system (or relations of production) of that society. The forces of production will here be confined to production technology and the division of labour, that is, to the material and behavioural forces used to extract resources from the environment and shape them to human ends; the relations of production, or the economic organization based on these material forces, will be considered as an element of social

structure. As Marx and Engels point out above, changes in the forces of production have some very real effects on economic relationships.

What types of technology should we include in the material infrastructure? In a remarkable passage much overlooked in the secondary literature, Marx ([1867] 1915, 406n) draws an analogy between the technology of production and the evolution of the organs of plant and animal life:

> Darwin has interested us in the history of Nature's Technology, i.e., in the formation of the organs of plants and animals, which organs serve as instruments of production for sustaining life. Does not the history of the productive organs of man, of organs that are the material basis of all social organisation, deserve equal attention? And would not such a history be easier to compile, since, as Vico says, human history differs from natural history in this, that we have made the former, but not the latter? Technology discloses man's mode of dealing with Nature, the process of production by which he sustains his life, and thereby also lays bare the mode of formation of his social relations, and of the mental conceptions that flow from them.

Following Marx's analogy (if not his imprecise terminology), the forces of production include all technology used by a society to exploit its environment. This technology consists of physical technology, such as tools and machines, and social technology, or the division of labour. This conception is consistent with Marvin Harris (1979), who includes only material and behavioural characteristics in his category of infrastructure. Harris argues that whatever Marx may have had in mind, the mode of production should include only "the technology and the practices employed for expanding or limiting basic subsistence production, especially the production of food and other forms of energy, given the restriction and opportunities provided by a specific technology interacting with a specific habitat" (52). All physical and social technologies that directly affect the production of food, the extraction of energy and raw materials, and

the fashioning of these materials into useful goods are components of the mode of production. All of these technological factors have been found to have strong effects upon not only the environment but also social structures and cultural ideas and ideologies.

Max Weber is widely seen by sociologists and anthropologists as an idealist, a theorist who posits that cultural ideas and ideologies are prime movers in society. Much of this image is due to the popularity of his *Protestant Ethic and the Spirit of Capitalism* and much to his insistence on systemic analysis. As a result, there is no clear weighting of the different parts of the system in Weber, although even a cursory reading reveals that his analyses often include such material factors as geography, natural resources, and production technology. In discussing the development of modern industrial manufacturing, for example, Weber calls on many factors, defining the modern factory as a concentration of the ownership of the workplace, means of work, power source, and raw materials in the hands of a single entrepreneur ([1923] 2003, 302).[7]

Weber goes on to identify industrial technique and machinery as a product of capitalism and defines industrialism as a part of the "mechanization and rationalization of work" (303). He asserts that England gained much technical knowledge of the textile industry through contact with other societies, particularly Italy's early cotton manufacture. It is from this technological base that England developed the industry. In historical fashion, Weber then identifies the development of the cotton industry in eighteenth-century England as being the first establishment of the factory system "which determined the character of the evolution of capitalism" (302). He details the political competition between wool and cotton manufacturers, an immediate challenge to the cotton industry, and the limitations of technology on the development of the textile industry, many of which were overcome with the invention of the power loom in 1785 by Cartwright, "one of the first inventors who combined technology with science and handled the problems of the former in terms of theoretical considerations" (303–4).[8]

It is at this point that Weber turns to purely material-environmental relationships to explain the evolution of modern industry. Until the eighteenth century, he writes, the primary source of fuel in England was wood.

> Everywhere the destruction of the forests brought the industrial development to a standstill at a certain point. Smelting [of iron] was only released from its attachment to organic materials of the plant world by the application of coal. . . .
>
> In the face of the further development [in the use of iron] arose two difficult problems. These were set, on the one hand, by the danger of deforestation and, on the other, by the perpetual inroads of water in the mines. . . . The solution of the [first] problem was reached through the coking of coal, which was discovered in 1735, and the use of coke in blast furnace operation, which was undertaken in 1740. . . . The threat to mining was removed by the invention of the steam engine. (304–5)

The steam engine was developed as a way of pumping water out of the mines, and by the end of the eighteenth century, coal was being produced in quantities necessary for modern industry. The switch from a resource base primarily dependent on wood for energy and raw materials to one relying on coal and iron had three significant consequences, according to Weber. First, by developing the technologies to exploit fossil fuels and iron, England freed itself from the traditional constraints of animal power and plant growth (305). Second, the need for human labour in the production process was reduced. In terms reminiscent of Marx, Weber adds: "Not altogether, it is true, for it goes without saying that labor was indispensable for the tending of machines. But the mechanizing process has always and everywhere been introduced to the definite end of releasing labor; every new invention signifies the extensive displacement of hand workers by a relatively small man power for machine supervision" (306). The third consequence, Weber notes, was the systematic application of

science to the production process, which freed production from the fetters of tradition (306).

So it is in classic materialist fashion that Weber cites the intensification of production first leading to environmental depletion (forests and easily available coal), which called forth technological solutions (the use of coke in blast furnaces and the invention of the steam engine to pump water out of mines) and changes in the division of labour, which, in turn, created the material conditions necessary for capital industrial development. Weber then goes a step further in characterizing these developments as part of the rationalization process.

In addition to the technology directly involved in the production of goods, Marx and others make a good case for including communication and transportation technologies as central to understanding sociocultural systems. For example, much like Durkheim and Spencer, Marx saw population level and density as a direct cause of the increasing division of labour. In addition, he notes that communication technology can make population density relative: a well-developed system of communication that enables a widespread population to communicate across long distances allows for an increased division of labour.[9] Marx saw the intensification of communication and transport as a necessary part of the intensification of production. The communication and transportation technologies of traditional societies proved wholly inadequate in the transition of early manufacturing into large-scale industrial production. The revolution in production required a similar revolution in the fields of transportation and communication—the two were in an autocatalytic relationship.[10] Production technology plays an important role in the theories of Marx, Spencer, Durkheim, and Weber, as well as in those of most modern macro theorists. Among modern theorists who place a special premium on communication technology are Elizabeth Eisenstein, C. Wright Mills, and Neil Postman. As we will see in later chapters, production and communication technologies significantly impact bureaucracy, economic systems, and the state, as well as community and culture.

DIVISION OF LABOUR

A variety of social scientists have established the intimate relationship of the division of labour both to the development of physical technology and to population level and density; indeed, division of labour is the primary social technology by which human societies adapt to their environments, and, as such, it significantly impacts social structures and cultural superstructures. The concept of the division of labour has a long history in the social sciences. The social division of labour is the breakdown of labour on the basis of sex, age, and craft specialization. All human societies make these basic distinctions and assign labour accordingly. Based largely on age and sex roles, the social division of labour entails the assignment of specific tasks to individuals and allows some minimal specialization and expertise in the performance of these tasks to be developed. Because of this development of expertise, the social division of labour is an important factor in the rate of technological development. In its initial stages, the division of labour is simple enough to allow individuals to exercise many of their mental, physical, and social capacities in their assigned tasks.

In contrast to the social division of labour, Marx writes of the manufacturing or detailed division of labour, a much more extreme phenomenon. The detailed division of labour breaks down the manufacturing of a product into simple discrete steps and then assigns each step to an individual worker. The more these steps are broken down into the simplest actions on the part of the workers, the more efficient the manufacturing process becomes. Capital, both Adam Smith and Karl Marx agree, is one of the driving forces behind the manufacturing division of labour. This was first described by Adam Smith ([1776] 1887, 5–6) in *The Wealth of Nations* in reference to the manufacture of pins:

> The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed, or applied, seem to have been the effects of

> the division of labor. . . . To take an example, therefore from a very trifling manufacture; but one in which the division of labour has been very often taken notice of, the trade of the pin-maker; a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them.

An individual artisan doing all of the steps himself, Smith estimates, would be hard pressed to produce twenty pins a day. He had observed small factories in which ten men engaged in the detailed division of labour produced 48,000 pins a day. This would amount to some 4,800 pins for each man, or twenty-four times what they could produce using traditional methods.

Smith asserts that the division of labour is promoted by capitalist firms because it increases productivity through three specific characteristics. First, breaking the production up into simple discrete tasks encourages an increase of dexterity in repeatedly performing a simple operation. Second, this division of labour saves time that is lost by a worker changing from one task to another. And third, it encourages the invention of machines to assist the workers in accomplishing their tasks. Beyond these technical advantages to the

detailed division of labour, Harry Braverman ([1974] 1998, 57) points out a significant cost advantage as well: by specializing in a single task, the detail worker becomes "unskilled" labour. Far from being an artisan in the manufacture of pins, the detail worker is coming to the labour market without any distinctive skills to offer, his labour being interchangeable with a multitude of others. As unskilled labour, he has little leverage in increasing his wage, and the capitalist has little incentive to pay him more than the prevailing minimum for such labour. So not only will the ten skilled pin makers produce only a fraction of the amount of pins that will be produced by the ten unskilled labourers when the work tasks are "properly divided," but the ten skilled workers will also have to be paid a higher wage. Breaking a task into discrete steps not only makes it easier to train a worker to perform that step, but it also makes it easier to design a machine to do the task. In addition, the detailed division of labour increases the manager's control over the labour process. No longer will the manager be at the mercy of the work rules, specialized knowledge, or high salary demands of the skilled artisan. By dividing the work up in such detail and using machines to assist in the tasks, the manager gains direct control over the process and pace of the work. The detailed division of labour is thus carried out with no regard for human needs and capabilities.

Marx ([1867] 1915) proposes that the detailed division of labour arose in early manufacturing when capitalists began gathering together skilled artisans into a single factory under their command. "But whatever may have been its particular starting point, its final form is invariably the same—a productive mechanism whose parts are human beings" (371). Marx points out that with the development of machines, capital carried the detailed division of labour ever further: "According to Adam Smith, 10 men, in his day, made in co-operation, over 48,000 needles a-day. On the other hand, a single needle-machine makes 145,000 in a working-day of 11 hours. One woman or one girl superintends four such machines, and so produces near upon 600,000 needles in a day, and upwards of 3,000,000 in a week. A single machine, when it takes the place of co-operation or of

manufacture, may itself serve as the basis of an industry of a handicraft character" (502–3).

The detailed division of labour ultimately separates mind and body. The higher mental functions of creativity and control are assigned to the capitalist or to a paid manager; the worker is assigned to perform an unskilled physical task or, worse, to tend a machine. The worker loses all control and creativity over work and product. Marx states, "Some crippling of body and mind is inseparable even from division of labour in society as a whole. Since, however, manufacture carries this social separation of branches of labour much further, and also, by its peculiar division, attacks the individual at the very roots of his life, it is the first to afford the materials for, and to give a start to, industrial pathology. 'To subdivide a man is to execute him, if he deserves the sentence, to assassinate him if he does not. . . . The subdivision of labour is the assassination of a people'" (399; the last lines quote David Urquhart, *Familiar Words*, 1855). In sum, the detailed division of labour dismembers individual workers and is a crime against their humanity. The resulting jobs are repetitious, mind numbing, low paying, and devoid of human initiative and thought.

This detailed division of labour has directly affected social organization in the form of bureaucratization. In chapter 5 ("Bureaucratization"), we will examine how Weber roots the development of bureaucracy in the growth in the level and density of population and in the growing complexity of modern production technologies. One of his followers, C. Wright Mills ([1951] 1973, 205–6) adds the development of office machines as a force to simplify and routinize clerical and management tasks—this before the development of modern computer technology. The increasing division of labour—breaking down tasks to their simplest components—leads to increasing mechanization and less power and control by the workers. Growing bureaucratization (and its concomitant division of labour) are also explored in chapters 6 ("Capital") and 7 ("The State").

Durkheim made the division of labour the centrepiece of his sociology. Consistent with Weber, Durkheim saw the division of labour

as existing within the coordinating bureaucratic organizations of corporations and states, as well as in the actual production and distribution of goods and services. As in Weber's work, Durkheim's theory of the increasing division of labour over time is rooted in materialism and evolutionary theory. The increasing division of labour, Durkheim maintains, does not occur merely because people are attracted to it in order to increase productivity or human happiness. Rather, its increase has material causes. Durkheim ([1893] 1997, 262) argues that the division of labour "varies in direct ratio with the volume and density of societies"; as societies grow in population, "they necessitate a greater division of labor." Population growth and density is "its determining cause." As population grows and becomes more concentrated, the intensity of the struggle for survival rises, and individuals begin to specialize in order to avoid directly competing with one another for subsistence. Durkheim's theory of the increasing division of labour is thus both materialistic and explicitly evolutionary in character. We will examine the impact of this increasing division on community more fully in later chapters.

INTENSIFICATION

It has long been recognized by anthropologists that over the course of sociocultural evolution, societies have increased their production of goods, experienced accelerating population growth, and consumed ever greater amounts of energy and raw materials (Harris 1979, 67). Part of the reason for this growth in production and reproduction is the autocatalytic relationship described earlier, but other factors are also involved. With population, for example, there is an exponential component to growth. Malthus hypothesized that without checks, the human population has the potential to double in size every twenty-five years. Of course, he understood that with the inevitable checks on this population, actual growth is much lower, but the potential for rapid growth is always there.

The mechanics behind this exponential growth are quite apparent. When there is an increase in population, two types of babies are born: boys and girls. Over time, many of the girls born today will bear more than two children, who will also give birth three or more times. Thus, an increase today leads to further increases tomorrow unless that growth is constrained. There is a similar exponential component in the production of goods. Societies produce two types of goods: consumer and capital. Capital goods are used in the production process itself. In simple societies, capital goods include tools such as hoes, spinning wheels, and looms; in more complex societies, capital goods include machinery, factories, tractors, and power plants. "A steel mill can make the steel for another steel mill; a nuts-and-bolts factory can make nuts and bolts that hold together machines that make nuts and bolts; any business that makes a profit generates money for investment to expand the business" (Meadows, Randers, and Meadows 2004, chap. 2). Thus, an increase in goods today leads to further increases tomorrow. Neither population nor production always grow, since they are both subject to fluctuations in constraints, but both are structured to grow exponentially in the absence of constraints.

Material factors that influence the growth rates of population and production include environmental factors such as the availability of raw materials and arable land, pollution, and climate. These environmental factors can change with human activity, especially when human populations run into the billions and are armed with technology that can move mountains (or at least remove their tops), but even prehistoric societies had the potential to deplete environments. As production and population of a society intensifies, the environment depletes, causing societies to further intensify their production processes or, with extreme depletion, change the resource base upon which they rely. If they are unable to change their resource base because of limited cultural knowledge or structural obstructions, they experience population collapse.

The process of intensification can clearly be seen in sixteenth-century Western Europe's increasing harvest of wood for use as its

primary energy and material resource, which eventually led to forest depletion and the transition to coal as an energy source. Widespread use of this new energy source necessitated numerous technological innovations (the steam engine being a prime example) and eventually led to a revolution in technology and in the division of labour as well as a concomitant increase in population (Elwell 1999, 33–37).[11] We are undergoing a similar process today with the exploitation of oil. When this fuel source was first tapped, we exploited oil resources close to the ground and close to home. Over time, we have had to go further afield, deeper into the ground, and even under the oceans—to the point that today our technology is stretched to the breaking point. As we run up against these limits, some are advocating continued intensification in our exploitation of oil, others a switch to new energy sources. Both strategies will necessitate significant technological development as well as tremendous change in other parts of the system.

The division of labour—part of the production process itself—is also a critical factor in terms of increasing productivity. As Spencer and Durkheim pointed out, this increase in the division of labour is directly related to population growth, and, as Marx noted, the increase is also strongly related to both the growing complexity of the production process and the structure of capitalism, which spurs technological innovation as well as the detailed division of labour. Other structural factors that affect the rate of growth of population and production include the organization of the family, the military, and the government, as well as cultural beliefs and ideologies. The research strategy of the materialist is to begin the analysis with material factors; only when these have been fully explored and acknowledged, does one move on to structural and superstructural factors. This is not to say these non-material causes are always less important—as we will see, structures and superstructures have great influence in the stability and change of sociocultural systems—but such factors are part of a *system* and are conditional on material factors.

It is not simply the rate of growth of production and population that is significant in hyperindustrial societies; it is also the massive

levels of population and production. When exponential growth is applied to this base—even the slowing rates of growth recently experienced by industrial societies—tremendous physical growth results. One way to gauge the size of productive activities within a nation-state is through the gross domestic product, or GDP. GDP is defined as the market value of all goods and services produced within a nation-state. After slightly more than one hundred years of intensifying industrialization, the United States reached a GDP of $6.1 trillion dollars in 1983. By 2009, a mere twenty-six years later, the GDP had increased to well over $12 trillion, more than doubling in size (US Department of Commerce 2012a, Table 588; figures are in constant 2005 dollars, so inflation is not a factor). Canada has undergone even more explosive growth, going from $333.81 billion in 1983 to $1.34 trillion in 2009 (data.worldbank.org). And it is not only the sheer size and rapidity of economic growth to which a society must adjust. Other issues abound. Rapid and massive growth of the mode of production, we will see, must necessarily have massive impact on the rest of the sociocultural system.

Population level and growth show a similar pattern to GDP. Both, of course, are intimately related to economic growth. Population growth means more available workers, more consumers, and thus a growing GDP. In fact, it is estimated that population growth alone accounts for over half of all recent economic growth in the United States (Miller 2004, 202).[12] Population growth accounts for a significant part of the growth not only in the overall GDP but in the GDP per capita as well.

Although the rate of increase in population has slowed significantly in hyperindustrial societies, the numerical increase continues to be substantial. For example, in the United States the *rate* of population increase peaked during the initial wave of industrialization in the 1800s, when it was growing at about 35 percent per decade; however, the much slower rate per decade today, about 13 percent, leads to much greater increases in actual numbers: over thirty-two million people were added from 2000 to 2010, more people than populated the entire United States in 1860 (Elwell 2006, 59–61).

These additional people all have to be housed, clothed, fed, socialized, loved, policed, and provided a variety of services. Again, it is not only the exponential growth rate of population that distinguishes hyperindustrial society; it is the level of real physical growth.

Along with increasing population levels and rates, population density and the percent of the population that is urban have increased dramatically over the twentieth century in Western societies; for example, more than 80 percent of all North Americans now live in urban areas. Population growth is uneven within a nation-state due to uneven economic development and resulting migration patterns: economic activity and growth are strong magnets for both internal and international migration. Both types of immigrants tend to be young and thus have higher fertility rates than those that stay behind. Thus, high migration rates lead to higher birth rates, all of which leads to further economic growth.

Hyperindustrial societies tend to have declining fertility rates. Contributing to the decline in fertility is the postponement of marriage and children, as young women attend college or enter the workforce and young couples take time to establish themselves financially in a modern economy. Such shifts mean that today's young women have fewer years in which to have children once they start and, consequently, have fewer children over the life course. Another factor behind the decline in fertility is the rising cost of raising children. Yet another set of factors leading to fewer children is the institution of child labour laws, the decline of family farming, the movement of women into the outside labour force, the rise of consumerism, the establishment of social security and private pensions, and the ready availability of contraceptives, making it easier for women to control their fertility. Finally, other characteristics that affect both population and economic growth, as well as other parts of the sociocultural system, include the age/sex structure of the population, minority/majority population structures, marriage rates, death rates, morbidity, and reproductive practices.

An example of how the age structure affects other parts of the sociocultural system is found in the general aging of hyperindustrial

populations and its effects on governments and politics. Because of the constantly expanding number, wealth, and political clout of the elderly in these societies, governments have developed programs such as social security, medical care, and a host of other welfare programs to meet their needs. So powerful have the elderly become that politicians find it extremely difficult to back programs that run counter to their interests. Businesses have also responded to their numbers and wealth, with ever more capital devoted to long-term care, retirement communities, medical research for chronic conditions, and the creation of consumer goods specifically designed to meet their needs.

The argument of this chapter, you will recall, is that macrosociology is very materialistic in its causal ordering, and that this material infrastructure consists of interrelated production, population, and environmental variables. Furthermore, macro theorists have argued that these material variables have profound effects on other structural and superstructural components of sociocultural systems. Since material infrastructure is what a society manipulates in order to fit into its environment, it is essential for the society's survival. Therefore, any widespread institutional structures—family, government, economic, or educational—must be consistent with this infrastructure; they must be consonant with the way people make their living. And cultural elements must also follow suit. Teachings of Christianity, for example, that are not consistent with the industrial mode of production will be abandoned or reinterpreted so as to be either neutral or supportive of the way in which people make their living. For example, prohibitions against usury and work on Sunday and the biblical parable about a rich man having as much chance of getting to heaven as a camel has of going through the eye of a needle have all been reinterpreted or redefined to better fit the needs of hyperindustrial society.[13]

Production and population characteristics have independent and combined effects on one another as well as on the rest of the sociocultural system. Among many other benefits, the intensification of production and population have manifest functions of providing an unparalleled material standard of living for the masses and of

promoting science, the arts, and mass education. But there are also many dysfunctions of infrastructural intensification:

1. Growth in population and production are based on a finite environment. There are limits to the amount of depletion and pollution that can be tolerated by the natural environment. While the emphasis on GDP expansion in hyperindustrial societies is gradually shifting away from manufactured goods and toward financial and service categories, the base of all economic activity is still (and must necessarily remain) resource extraction, agriculture, and the production of physical goods. The impact of infrastructural intensification on the environment was a concern of Malthus, Spencer, Marx, and, as we have seen, even Weber. It is a theme that has been carried over in modern macrosociology in the work of Gerhard Lenski, Marvin Harris, Stephen Sanderson, and, in the Marxist tradition, John Bellamy Foster.
2. The overall expansion of the economy and growth in population are among the primary causes of the growth and centralization of private and public bureaucracy. This has put inordinate economic, political, and social power and authority into the hands of a few at the top of these organizations. This centralization and concentration of power and authority has caused a growing dependence of professionals and the middle class on corporate bureaucratic organization. Growing economic concentration was, of course, a major concern of both Marx and Weber. Modern macro theorists who are especially concerned with this growing concentration include C. Wright Mills, Harry Braverman, and John Bellamy Foster. The expansion of necessary governing sectors to coordinate the increasing complexity is a phenomenon much remarked upon by Herbert Spencer and later taken up by both C. Wright Mills and Robert Nisbet.
3. The growth in the size and wealth of economic organizations combined with the uneven growth of various sectors of this

economy (such as banking, services, manufacturing, trade, arms manufacturing, and the military service sector) has tremendous impact on the power and interests of economic elites. This Marxist theme is carried forward today by John Bellamy Foster, Immanuel Wallerstein, and Stephen Sanderson.

4. The "creative destruction" of industry—the constant rise of new industries to the detriment and eventual destruction of the old—and the growth and decline of population also create disruption in the life of the community. Uneven growth is especially disruptive. Communities must expand and contract employment, schools, water and sewer lines, roads, and other community facilities to respond to the changes brought about by such a dynamic infrastructure.
5. The need for individual and family mobility because of the ever changing needs of the economy have personal costs as well. A transient population is unlikely to put down deep roots, join civic organizations, establish neighbourhood ties, or identify closely with place. Geographical mobility has also placed great stress on extended families, and the growth of dual-career families is increasing the stress on nuclear families. The disruption of community life and its consequent impact on individuals is a dominant theme in the sociology of Émile Durkheim and is emphasized today in the work of Robert K. Nisbet, David Riesman, and Stjepan Meštrović.
6. The increasingly detailed division of labour that is part of the intensification process combined with the creative destruction of many industries and the rise of new industries produces constant churning of the labour force. This has meant the disruption of lives through unemployment and the loss of skills for many individuals. This phenomenon was extensively examined by Marx and has been carried forward by Harry Braverman, among others.
7. The expansion of industrial capitalism has led to the commodification of social life. More and more of the goods and services that used to be supplied by one's family or

community are increasingly being integrated into the market economy (or the "big bazaar" of Mills). The pervasive exposure to advertising has created a consumer culture in the West based on comfort, consumption, and instant gratification, all phenomena much commented upon by Weber, C. Wright Mills, Harry Braverman, and George Ritzer.

8. All of these structural changes—disruption of community, growth in bureaucracy, commodification, and changes in occupational structure (particularly the detailed division of labour)—have contributed to the rationalization of social life. A concept introduced to sociology by Max Weber, rationalization is a theme in the modern macrosociology of Norbert Elias (who speaks of "the civilizing effect"), C. Wright Mills (who distinguishes between rationality versus reason), and George Ritzer (who refers to "McDonaldization").
9. Finally, one of the most important dysfunctions of the incredible economic expansion and growing population is a widening inequality both within the nation-state and between nations. Almost all macrosociologists address inequality, but the theme is especially noteworthy in the work of Harry Braverman, C. Wright Mills, and Gerhard Lenski.

In the chapters that follow, I examine both functions and dysfunctions of production and reproduction with regard to various structural and superstructural characteristics as demonstrated by a variety of classical and contemporary macrosociologists. I also detail how these structures and superstructures have reciprocal effects on the infrastructure of society. But first, we must explore the strong current of evolutionism in the discipline of macrosociology, for it is evolutionism that animates the system.

Evolutionism in the Work of the Founders

The past isn't dead. It isn't even past. — WILLIAM FAULKNER

Evolutionism is pervasive in macrosociology. While there is a widespread belief among biologists and social scientists that evolutionary theory in the social sciences was borrowed from biology, the truth is much more complex. Darwin and other biologists borrowed from the ideas of Malthus and Spencer, just as Spencer was influenced by Darwin and other biologists. In fact, the term *evolution* itself was popularized by Darwin's contemporary, Herbert Spencer, who was writing about social evolution years before Darwin's *On the Origin of Species*. Darwin did not use the term *evolution* in the first edition of his ground breaking work, preferring instead "descent with modifications" (Gould 1996, 137). But there is more than simple analogy involved in biological and social evolution; sociocultural evolution is but a specific case of the general evolutionary process.[1] Human populations are subject to environmental and biological influences just as other animal populations are. Evolution is a process by which populations are formed and transformed in response to changes in the environment; in organic evolution, inheritable

biological characteristics are formed and transformed; in sociocultural evolution, it is cultural information that undergoes these processes (Lenski 2005, 43).

The distinguishing characteristic of evolution is cumulative change, a process by which continuity of the organism—organic or social—is paramount while some elements of this organism are transformed or replaced to adapt more successfully to the environment. Cumulative change is a distinctive kind of change associated with systems composed of multiple, interrelated parts. Within these systems, some parts change while others remain unchanged. Thus, cumulative change is a process that combines elements of continuity with elements of change; many parts of the system are preserved for extended periods while new parts are added and other parts are either replaced or transformed. Earlier adaptations are "absorbed and incorporated" into newer biological or social systems, thus greatly influencing later adaptations by foreclosing many possible evolutionary paths or opening up new ones (Lenski 2005, 4, 188). Just as an animal's past evolutionary history and its relation to the present environment is important in understanding that animal's adaptation to its environment, so too, a society's history is extremely important in understanding that society's present structure and its relation to its environment. Finally, it should be noted that the process of evolution itself—whether inorganic, organic, or social—is itself cumulative and evolving (121). Thus, just as there are differences between inorganic and organic evolution, there are differences between organic and sociocultural evolution.[2]

In organic evolution, inheritable genetic characteristics act as the chief mechanism of descent through the generations; in sociocultural evolution, the chief mechanism is learning preserved through cultural institutions, oral traditions, graphic depictions, and, more recently, written, electronic, and photographic means. Rather than relying upon the chance transmutation of genetic material, sociocultural evolution relies upon teaching the next generation successful innovations. The speed of sociocultural evolution is therefore potentially many times faster than that of organic evolution and,

because of the nature of human beings, sociocultural evolution is potentially subject to purposeful direction. It should be noted, however, that this speed and potential purposefulness is itself evolving, sociocultural evolution having been incredibly slow and subject to little purposeful human action through much of prehistory and into the historic record. This change in purposefulness, of course, can be characterized as the rationalization process.[3] Change in humans' earliest social form, the hunting-and-gathering society, took place, if at all, over many generations; the first great transition, the Neolithic Revolution, in which hunting-and-gathering societies began to domesticate plants and animals, took place within individual sociocultural systems over thousands of years. While even this is much faster than organic evolution, the ever quickening pace of change since that revolution is testimony to the cumulative and evolving character of the evolutionary process itself.

Perhaps a more serious difference in organic and social evolution involves divergence. In biological evolution, once a species becomes distinct from others, it cannot recombine; it becomes separate forever. (This is no longer strictly true with recombinant DNA techniques that bring together genetic material from multiple sources, creating new sequences that would not otherwise be found in biological organisms. Again, this was a purposeful change brought about by the rationalization process and thus belongs more to sociocultural than biological evolution.) In sociocultural evolution, one of the chief mechanisms for acquiring adaptive strategies is contact with other sociocultural systems. Because of this, there is the potential—many social evolutionists would say, the long-term likelihood—that favourable adaptations will be adopted across sociocultural systems, leading to the long-term convergence of technologies, institutions, ideologies, and beliefs (Gould 1991, 65; 1996, 222). Prior to modernity and the pace and reach of industrial capitalist societies, it is notable that the vast majority of societies experienced little change over the course of their histories. But within the global system over time, societies have become larger and have developed more sophisticated technologies and more complex social structures (Nolan and Lenski 2011, 43, 57).

Sociocultural evolution exists on two distinct levels: the level of individual societies, which follow a divergent evolutionary path, and the level of the global system of societies, which follows a convergent path.

At the societal level, individuals respond to changes in their natural and social environments. Changes in the natural environment, which can be induced by human activities as well as by natural processes, include variations in soil fertility, the degree of forestation, and the availability of particular animal and plant species for exploitation. Changes in the social environment include those that result from contact of various sorts (economic, military, social) between sociocultural systems. The first contact of Europeans with the Americas, for example, brought tremendous changes to both the Old and the New Worlds. It is these changes in natural and social environments that cause individuals, bounded by a society's distinct history and its storehouse of cultural and technical knowledge, to initiate adaptations within sociocultural systems.

The global system of societies evolves through a process of "intersocietal selection" that has dramatically reduced the number of sociocultural systems over the past ten thousand years. The growth of some societies in size, technology, complexity, and economic and military power has allowed them to prevail in conflicts over territory and resources with societies that have maintained more traditional sociocultural patterns (Nolan and Lenski 2011, 59–61). Successful adaptations are spread among societies through social contact, military conquest, and economic relations. The number and nature of these contacts depend upon geographic location and barriers (deserts, mountain ranges, oceans), as well as the technological levels (particularly with respect to transportation and communication technologies) of the societies involved. Societies that were environmentally positioned (in terms of the natural and social environments) to adopt innovations that led to increases in productivity, population, structural complexity, and economic and military power are those that have survived to transmit their culture and institutional patterns to others (63). Human societies are of a single species—successful adaptations undertaken by individual societies in response

to changes in their natural or social environments are passed on through the intersocietal selection process.

EVOLUTIONISM IN MALTHUS AND SPENCER

The ideas that came to be associated with evolution—both biological and social—were very much a part of early nineteenth-century Western thought. In his 1798 *Essay on the Principle of Population*, Thomas Robert Malthus argues that the primary mechanism of change is the struggle for subsistence. For all life, he asserts, the power of reproduction is far greater than the ability of the earth to provide sustenance. New life, therefore, is in competition for what nature will provide. Malthus came to believe that God works through natural processes to form and shape all life on earth. Through observing nature, Malthus claims, we can see the workings of God, and what Malthus saw became a remarkable precursor to evolutionary theory. The world, he speculates, is a mighty process for the formation of life. Life forms change in response to the competition for sustenance: "The powers of selection, combination, and transmutation, which every seed shews, are truly miraculous. Who can imagine that these wonderful faculties are contained in these little bits of matter?" (77). In that process of change, he notes, many life forms will reach dead ends and cease to exist, while others will propagate and come nearer to the creator. "Many vessels will necessarily come out of this great furnace in wrong shapes. These will be broken and thrown aside as useless; while those vessels whose forms are full of truth, grace, and loveliness, will be wafted into happier situations, nearer the presence of the mighty maker" (79). He finds these speculations on evolutionary change to be "consistent equally with the natural phenomena around us, with the events of human life, and with the successive revelations of God to man, to suppose that the world is a mighty process for the creation and formation of mind" (79). Both Charles Darwin ([1876] 1958) and Alfred Russel Wallace (1905) credit Malthus as one of their primary inspirations in the development of evolutionary theory.

This evolutionary process continues, Malthus argues, in the evolution of human societies. The hand of the creator, acting through natural law, has created an earth in which food will not grow in great quantities unless humans invest much labour and ingenuity in the process. The great awakeners of the human mind are the wants of the body. It is hunger and want that stimulate the brain of an infant to attain language and consciousness, and such stimulants throughout life motivate people to work, think, and therefore thrive. If such stimulants were removed, a great number of people would sink into torpor and sloth. It is because population increases much faster than our ability to produce food that humankind has been pushed to intensify the cultivation of the earth, to create civilization. It was the necessity of food that drove humans to develop agriculture and ever more sophisticated technologies and practices to secure our livelihood (Malthus 1798, 113–14).

In addition to his influence on the biologists, Malthus had a profound effect on Herbert Spencer (1820–1903) in his formulation of social evolutionary theory. Originating in a series of papers beginning in 1842, Spencer's evolutionary theory became fully explicit in his first major work, *Social Statics*, published in 1850. In this work, he explains the cumulative nature of evolutionary change, claiming that nature is infinitely complex and ever developing and that each new form has additional influence "destined to some degree to modify all future results" ([1850] 1954, 45). Spencer views evolutionary change as constant, "in the decompositions and recombinations of matter, and in the constantly-varying forms of animal and vegetable life. . . . With an altering atmosphere, and a decreasing temperature, land and sea perpetually bring forth fresh races of insects, plants, and animals" (45). Humans, being a part of nature, are part of this "universal mutation," and human development follows evolutionary laws: "His circumstances are ever changing; and he is ever adapting himself to them" (46).

The universe and all life in it evolves, Spencer proposes, and society is but the latest phenomenon to conform to this natural law. For Spencer, it is not that social evolution parallels natural evolution or

that social evolution has much in common with natural evolution but rather that it is an extension of organic evolutionary principles. He contends that the main engine of social evolution is increases in the size (or population) of social units. Societies, he suggests, are like living bodies. They begin as small groups of people, relatively homogeneous, all sharing similar tasks and with similar values and beliefs. In the early stages of social evolution, all share in the food gathering, hut building, and tool making. But as the population increases, a division of labour necessarily develops, the structure of the society becomes more complex, and the differences between people caused by the increasing division of labour become more pronounced. As the population becomes more diverse in terms of occupation, experience, wealth, interests, and values, the people also become more dependent upon one another. "And the mutually dependent parts, living by and for another, form an aggregate constituted on the same general principle as is an individual organism" ([1876] 1967, 8). Like a living organism, Spencer claims, the various parts of a society form a whole, and the whole becomes increasingly dependent upon the functioning of all of its parts.

As social evolution continues, production processes become more complex and the division of labour becomes ever more specialized, causing the structure of the society to become more complex and more dependent upon the proper functioning of the various parts. As in a living body, regulating systems arise: at first, they are simple, but as evolution progresses, they become increasingly complex and layered, with "supreme centers" and subordinate ones, "and the supreme centers begin to enlarge and complicate" (46). While Spencer often uses the terms *progress* and *evolution* interchangeably, he is somewhat more subtle than the unilinear theorist that many make him out to be. Some critics misinterpret him, claiming that he saw all societies as passing through the same stages of development. Spencer's evolutionary system is much more open-ended than that. Rather than set stages, he proposes a general direction of increasing complexity. Furthermore, he recognizes that not all societies evolve and that while the process of evolution is inevitable for human societies as a

whole, it is not inevitable or even probable for each particular society. Retrogression is as likely as progress, he notes, and stability more likely still. In *The Principles of Sociology* (1862–96, 1:96), he writes: "A social organism, like an individual organism, undergoes modifications until it comes into equilibrium with environing conditions; and thereupon continues without further change of structure." Once a society reaches this equilibrium with its environment, evolution continues only in terms of the increasing integration of the parts of the sociocultural system.

Spencer also wrote about the importance of a society's social environment—its relations with other societies—in affecting its own evolutionary path and that of human societies in general. With peaceful relations come relatively decentralized and weak systems of government; with hostile relations come highly centralized and authoritarian forms of government. And it is these relations between sociocultural systems that provide the key to human social evolution. Again in *Principles* (1862–96, 1:280), he writes: "In the struggle for existence among societies, the survival of the fittest is the survival of those in which the power of military cooperation is the greatest; and military cooperation is that primary kind of cooperation which prepares the way for other kinds. So that this formation of larger societies by the union of smaller ones in war, and this destruction or absorption of the smaller un-united societies by the larger ones is an inevitable process through which the varieties of men most adapted for social life, supplant the less adapted varieties." Spencer was very clear that he did not consider evolution to be fueled by some inherent natural force but rather by a society's history, population level and growth, division of labour, and relationship to its natural and social environments. Growth in population level as a result of conquering new territories or adopting new production technologies, changes in the natural environment, or intersocietal contact—warfare, absorption by more powerful neighbours, political and economic alliances, or simply cultural diffusion of innovations—all lead to the evolution of human societies.[4] Adaptations made in the past then affect future changes. Spencer came to see the social evolutionary process as one

of increasing complexity in human societies—that is, growing populations, intensifying production technologies, an increasing division of labour, and greater integration of this increasing heterogeneity through social organization.

The evolutionary theories of Malthus and Spencer fell into considerable disrepute in twentieth-century social science. Some of their ideas had been appropriated by advocates of social Darwinism, who argued that society should allow unfit members, such as the poor and the mentally ill, to suffer and die, rather than developing social programs to help them survive—in which case they would only have children, whose existence would pose an even greater obstacle to social progress in the future. "Survival of the fittest," a term coined by Spencer, was soon used to justify the position and privilege of the elite in Western societies and to damn the poor and the other "non-productive" members of the society to their lot. This, as Carneiro (2003, 68) rightly points out, is a political program, not a social theory. This political philosophy was abhorrent to many social scientists, and as it became increasingly linked to the early social evolutionists (sometimes fittingly so), explicit theories of social evolution in the tradition of Malthus and Spencer were mostly abandoned. They only made their reappearance, rather tentatively, in the cultural anthropology of the 1930s, and only in the past fifty years, in macrosociology. Before we pick up that thread, however, we will explore the unilinear evolution of Marx and Engels as well as the implicit assumption of social evolution in the sociology of Durkheim and Weber, for modern macrosociology draws heavily upon all of these traditions.

EVOLUTIONISM IN MARX AND ENGELS

While often viewed as revolutionary, the sociological theory of Marx and Engels is explicitly evolutionary in character. According to Marx ([1859] 1911, 13), society has moved through several evolutionary stages, from a communal arrangement based on hunting and

gathering whatever nature provided to societies based on state and religious power (Asiatic), slavery (ancient), land (feudal), and capital (bourgeois).[5] While he saw struggle as the moving force of the evolutionary process, this struggle was only rarely violent in character. Marx's theory posits that since humankind left the communal societies of prehistory, society has been based on the domination of powerful elites over the mass of people. The power of elites is rooted in their control of the forces of production; this power is often contested, with subordinate groups struggling to increase their share of wealth and power. Technologies of production affect human organization based upon the control of these means. As these technologies change in response to a depleting environment or to new discoveries, the relations between the dominant and subordinate groups change. As new technologies develop, power differentials between the groups shift, and at times, new elites arise based upon their control of new and more powerful production technologies. It is this struggle between dominant and subordinate groups that is the engine of history, the engine, if you will, of sociocultural evolution.

Marx ([1867] 1915, 786) recognizes that these changes are not instantaneous but occur over the course of generations: "The economic structure of capitalist society has grown out of the economic structure of feudal society. The dissolution of the latter set free the elements of the former." Marx and Engels often use the term *revolution* in the sense of a drastically different way of behaving or thinking. As when anthropologists or sociologists use the term in referring to the Neolithic or Industrial Revolutions, Marx and Engels are not talking about an instantaneous change but rather transformative changes that often take place over generations, sometimes over thousands of years.

What, aside from its insistence on gradual and incremental speed, makes Marx's theory evolutionary? Most significantly, it is based on cumulative historical change of human societies in response to a changing environment. The first human societies, Marx argues, were communal in nature. These classless societies existed with a minimal division of labour and were relatively egalitarian in nature.

With the domestication of plants and animals, an increasing specialization of crafts and roles appeared, bringing in its wake differential access to resources as well as differing material interests. These divisions eventually led to the formation of groups of differing status, which acted in antagonistic co-operation to meet their biological and psychological needs. As the material means of production change, the social relations based on these productive forces necessarily alter and transform. In a classic evolutionary statement, Marx ([1867] 1915, 197–98) writes: "Labour is, in the first place, a process in which both man and Nature participate, and in which man of his own accord starts, regulates, and controls the material re-actions between himself and Nature. He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order to appropriate Nature's productions in a form adapted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature."

According to Marx, every sociocultural system produces counter forces that eventually lead to new social forms. Over time, these forces become so great that they tap into new resources to satisfy human needs, at which point the social relations are transformed. The rise of capitalism began with changes in the mode of production in the last third of the fifteenth century and in the opening decades of the sixteenth.[6] Innovations in wool manufacturing caused a rise in the price of wool in England. In response, feudal lords transformed their holdings from manorial systems—in which thousands of peasants had rights to farming the land in exchange for labour and crops—into pasture land for sheep. The peasants had as much right to the land as the lords, Marx points out, but the nobility, weakened by incessant wars, "was the child of its time, for which money was the power of all powers." Against all opposition of king and Parliament, the feudal lords forcibly drove the peasantry from the common land. The serf is "freed" of his bond to the soil and torn from his means of subsistence. He becomes unprotected and without rights to a livelihood, with nothing to sell but his labour ([1867] 1915, 789–90). Marx notes, "The history of this expropriation, in different countries,

assumes different aspects, and runs through its various phases in different orders of succession, and at different periods. In England alone, which we take as our example, has it the classic form" (787).

The structure of capitalist society grew out of the guilds, markets, and towns that were in increasing conflict with feudal lords, the church, and the central nobility. The newly emerging merchant class eventually amassed great wealth and began to challenge the hold of the elites who had dominated the feudal order through shifting alliances with nobility and monarchy. This revolutionary class began to view existing property relations (feudalism) as a restraint on the further development of their interests: the production of goods through the factory system.[7] Many modern historians and sociologists have taken up this perspective, asserting that the fact that feudal Europe's elite were split among church, centralized monarchy, and feudal lords was a large factor in the successful rise of capitalism.

Marx predicted that similar tensions and eventual class conflict would arise in late capitalist societies, bringing on a new social order. Like all previous existing economic systems, capitalism carries the seeds of its own destruction. The capitalist system necessarily goes through regular periods of boom and bust as the productive forces unleashed by capitalism far outstrip its ability to sell its goods at a profit. These periodic crises create great hardship for workers, who live only through selling their labour, and bankrupt many of the capitalists themselves. Over time, Marx predicted, capitalism would necessarily lead to enormous amounts of wealth and political power being placed in very few hands: that is, to monopoly capitalism in which a few control all the big industries as well as the state. At the same time, he foresaw that the mass of people would become relatively impoverished in terms of both wealth and political power and would continue to be subjected to periodic crashes of the economic system. As capitalism continued to evolve, he forecast, the situation would become intolerable for the great masses of people, and the working classes would begin to exercise the power of their numbers and take control of the means of production through the nation-state, gradually establishing industrial production as a means of

satisfying the wants and needs of the people rather than increasing the profit of the few.

Engels, of course, recognized the explicit evolutionism in Marx's theory and referred to it in his eulogy for his friend:

> Just as Darwin discovered the law of development of organic nature, so Marx discovered the law of development of human history: the simple fact, hitherto concealed by an overgrowth of ideology, that mankind must first of all eat, drink, have shelter and clothing, before it can pursue politics, science, art, religion, etc.; that therefore production of the immediate material means of subsistence and consequently the degree of economic development attained by a given people or during a given epoch, form the foundation upon which the state institutions, the legal conceptions, art, and even the ideas on religion, of the people concerned have been evolved, and in the light of which they must, therefore, be explained, instead of *vice versa*, as had hitherto been the case. (Engels 1883)

We will examine Marx's analysis and predictions for capitalism in more detail in a later chapter; for now, suffice it to say that he had a well-defined evolutionary theory.

John Bellamy Foster demonstrates that Marx was also concerned with the impact of both population and production on the natural environment and on the workers. Foster (2000, 116) argues that, according to Marx, man is a part of nature and can only live within nature's limits. Since material conditions make life and society possible, both the number of people and the means by which they exploit their environment to meet their needs are central to understanding the sociocultural system. Driven by the accumulation of capital, Marx argues, the production process intensifies its exploitation of both workers and the environment. Foster quotes Marx on the need to care for the environment: "From the standpoint of a higher socio-economic formation, the private property of particular individuals in the earth will appear just as absurd as the private property of one man in other men. Even an entire society, a nation, or all simultaneously

existing societies taken together, are not owners of the earth, they are simply its possessors, its beneficiaries, and have to bequeath it in an improved state to succeeding generations, as *boni patres familias* [good heads of household]" (Marx [1894] 1991, 911, quoted in Foster 2000, 164). Under the rule of capital, the greater the wealth, the more it becomes concentrated in the hands of a few; the greater this concentration, the more developed the machinery of production, the more extensive the mass of workers and the poor, and the more intensive the exploitation of the masses and of the earth itself.

EVOLUTIONISM IN WEBER

Weber's analysis of sociocultural change is based on cumulative changes in sociocultural systems, with changes in one component of society leading to changes in others, and eventually, to changes in the overall system itself. Weber's writings attest to his identity as a social evolutionist asserting cumulative systemic change. As mentioned previously, he uses the term *evolution* extensively in his writings, even in several chapter titles and section headings. While he is far too much of a systems theorist to assert the near "single causality" of Marx and his followers, he clearly gives material and structural factors great weight in his analysis of sociocultural change.[8]

Some have argued that Weber went so far as to claim that the rationalization process itself was an inevitable evolutionary development. For example, Gerth and Mills (Weber, [1946] 1958, 51) characterize the rationalization process as Weber's "philosophy of history," with the rise and fall of empires and nations, rulers, and classes progressively serving the drift toward a bureaucratized and rationalized world. Certain passages from Weber support this; perhaps the most telling are remarks that Weber made to the Verein für Sozialpolitik (Association for Social Policy) in Vienna in 1909, in which he warned of the dangers of bureaucratization. Perhaps because it was a political speech rather than the careful scholarship for which he is known, Weber was much more expressive than usual of his personal reactions

to bureaucracy and his predictions regarding the evolutionary trajectory of the West and the growing bureaucratic juggernaut:

> To this day there has never existed a bureaucracy which could compare with that of Egypt. This is known to everyone who knows the social history of ancient times; and it is equally apparent that to-day we are proceeding towards an evolution which resembles that system in every detail, except that it is built on other foundations, on technically more perfect, more rationalized, and therefore much more mechanized foundations. The problem which besets us now is not: how can this evolution be changed?—for that is impossible, but what will come of it? We willingly admit that there are honourable and talented men at the top of our administration; that in spite of all the exceptions such people have opportunities to rise in the official hierarchy, just as the universities, for instance, claim that, in spite of all the exceptions, they constitute a chance of selection for talent. But horrible as the thought is that the world may one day be peopled with professors [laughter]—we would retire on to a desert island if such a thing were to happen [laughter]—it is still more horrible to think that the world could one day be filled with nothing but those little cogs, little men clinging to little jobs and striving towards bigger ones—a state of affairs which is to be seen once more, as in the Egyptian records, playing an ever-increasing part in the spirit of our present administrative system, and specially of its offspring, the students. This passion for bureaucracy, as we have heard it expressed here, is enough to drive one to despair. It is as if in politics the spectre of timidity—which has in any case always been rather a good standby for the German—were to stand alone at the helm; as if we were deliberately to become men who need "order" and nothing but order, who become nervous and cowardly if for one moment this order wavers, and helpless if they are torn away from their total incorporation in it. That the world should know no men but these: it is in such an evolution that we are already caught up, and the great question is therefore not how we can promote and hasten it, but what can we oppose to this machinery in order to keep a portion of

> mankind free from this parceling-out of the soul, from this supreme mastery of the bureaucratic way of life. The answer to this question to-day clearly does not lie here. (Quoted in Mayer 1944, 127–28).[9]

More famously (and traditionally more available), Weber ([1904] 1930, 181–82) strikes similar themes in the closing paragraphs of *The Protestant Ethic and the Spirit of Capitalism*:

> This order is now bound to the technical and economic conditions of machine production which today determine the lives of all individuals who are born into this mechanism, not only those directly concerned with economic acquisition, with irresistible force. Perhaps it will so determine them until the last ton of fossilized coal is burnt. In Baxter's view the care for external goods should only lie on the shoulders of the "saint like a light cloak, which can be thrown aside at any moment." But fate decreed that the cloak should become an iron cage.
>
> Since asceticism undertook to remodel the world and to work out its ideals in the world, material goods have gained an increasing and finally an inexorable power over the lives of men as at no previous period in history. To-day the spirit of religious asceticism—whether finally, who knows?—has escaped from the cage. But victorious capitalism, since it rests on mechanical foundations, needs its support no longer. . . . In the field of its highest development, in the United States, the pursuit of wealth, stripped of its religious and ethical meaning, tends to become associated with purely mundane passions, which often actually give it the character of sport.
>
> No one knows who will live in this cage in the future, or whether at the end of this tremendous development entirely new prophets will arise, or there will be a great rebirth of old ideas and ideals or, if neither, mechanized petrification embellished with a sort of convulsive self-importance. For of the last stage of this cultural development, it might well be truly said: "Specialists without spirit, sensualists without heart; this nullity imagines that it has obtained a level of civilization never before achieved."

This passage contains several notable ideas. First, note how, in the first paragraph, Weber ties the social order "to the technical and economic conditions of machine production," which now "determine the lives of all." Capitalism, Weber proposes, is one of the primary carriers of bureaucracy and rationalization, and he sees its triumph as having dire consequences for the entire society—specifically, an iron cage in which social life is dominated by bureaucratic organization and centred on the acquisition of material goods. Note also that the only limit he sees on the continuing mechanization and bureaucratization of society appears to be the availability of fossil fuels upon which it is based.

In the second paragraph, Weber makes clear that while the Protestant ethic facilitated the emergence of capitalism, capital now exists independently of that ethic. As we have seen, Weber came to believe that material and structural factors played a much larger role than ideas in the origin of capitalism, yet true to his systemic view of society, he continued to see a role for ideas in his sociology. It is also interesting that, at this early date, he likens the pursuit of profit to sport. No longer motivated by the association of wealth with moral value but instead by "purely mundane passions," such as greed and the desire for victory, capitalists focus increasingly on winning the economic game, as proof to all of their worth.

In the final paragraph of the extract above, Weber again speculates on where evolution is taking us. Will such "nullities" continue? Will society remain enclosed in the iron cage in which tradition, values, and emotions play an ever diminishing role and goal-oriented rational behaviour increasingly rules our lives in the quest for wealth and material possessions? Will such "nullities" continue to imagine that they are living at the pinnacle of civilization? Or will this trend finally be reversed by the rise of new prophets and charismatics calling us to higher purpose?

Some argue that these speculations are not part of Weber's theory but rather of his all-too-human reaction to his analysis. This is supported in the final paragraphs of *The Protestant Ethic* ([1904] 1930, 182), where he writes that the above lament is one of "judgments

of value and faith, with which this purely historical discussion need not be burdened." But he did burden his discussion with this, and although his speculations go beyond his historical analysis, they are consistent with the evolutionary trends identified in that analysis. Regardless, many of his followers have incorporated this pessimistic view of evolution into their analysis, for once it is encountered, who could escape it?[10]

EVOLUTIONISM IN DURKHEIM

Durkheim's theory, too, is thoroughly imbued with an evolutionary perspective: indeed, he often makes direct comparisons between organic and social evolution.[11] While much, of course, depends upon context and the translator, the term *evolution* appears some twenty-one times in *The Elementary Forms of the Religious Life* and up to forty times in *The Division of Labor in Society*—mostly in the context of social evolution. Even when he forgoes the use of the term *evolution*, his analysis is often infused with the concept of cumulative change. In *The Elementary Forms of the Religious Life*, for example, in a paragraph in which he also extols the historical-comparative method, Durkheim ([1912] 1954, 15–16) argues for the value of analyzing early religious forms in order to understand religion's role in modern society. In so doing, he sounds themes of cumulative and historical change through time:

> In the first place, we cannot arrive at an understanding of the most recent religions except by following the manner in which they have been progressively composed in history. In fact, historical analysis is the only means of explanation which is possible to apply to them. It alone enables us to resolve an institution into its constituent elements, for it shows them to us as they are born in time, one after another. On the other hand, by placing every one of them in the condition where it was born, it puts into our hands the only means we have of determining the causes which gave rise to it. Every time

> that we undertake to explain something human, taken at a given moment in history—be it religious belief, moral precept, a legal principle, an aesthetic style or an economic system—it is necessary to commence by going back to its most primitive and simple form, to try to account for the characteristics by which it was marked at that time, and then to show how it developed and became complicated little by little, and how it became that which it is at the moment in question. One readily understands the importance which the determination of the point of departure has for this series of progressive explanations, for all the others are attached to it.

We can discern in this excerpt a direction to Durkheim's evolutionary theorizing: in his sociology, he repeatedly returns to a social evolutionary process in which population growth causes greater competition for needed resources within a society, thus increasing the division of labour and magnifying differences in the material interests, values, and beliefs of that population.

In *The Division of Labor in Society*, Durkheim ([1893] 1997, 84) identifies two types of solidarity, the foundations of which differ.[12] Mechanical solidarity is "the solidarity that derives from similarities": it is based on commonalities—experiences that are shared by most, if not all, individuals in the group. This type of solidarity occurs in so-called primitive societies, in which the division of labour remains very simple. Such societies tend to be homogeneous: all individuals engage in similar tasks and daily activities, and all have much the same experiences. Relatively few distinct institutions exist, and those that do express a largely consistent set of values and norms, which thus serve to reinforce one another. In such societies, individuals and their experiences, beliefs, values, and behaviour are a reflection of the society as a whole. Durkheim holds that mechanical solidarity "is at its *maximum* when the collective consciousness completely envelops our total consciousness, coinciding with it at every point" (84). In other words, the society confronts the individual with such overwhelming and monolithic force that there is little room for individuality or deviance from this collective consciousness: the

collective and individual consciousnesses are virtually identical. For this reason, Durkheim proposes, traditional cultures dominated by mechanical solidarity have a high degree of moral integration, which is usually embodied in religion. By engaging in religious ritual, the people reaffirm their solidarity with these moral precepts and with one another.

Durkheim's second form of solidarity "organic solidarity," is a result of the division of labour. As population grows and the sociocultural system necessarily becomes more complex in its production processes, individuals must play increasingly specialized roles and thus become more dissimilar in their material interests, social experiences, and consequent values and beliefs. In such sociocultural systems, individuals have less in common with one another, but at the same time, they become more dependent upon one another. The farmer depends on the manufacturer for farm machinery, the factory worker on the farmer for food; both rely on the carpenter for shelter, and on and on. In such a system, Durkheim says, individualism grows at the expense of common values and beliefs, and the normative rules of society. With the loosening of these common values and beliefs, the individual's sense of community or identity with the group weakens, and with the weakening of the social bond, social norms and values no longer provide individuals with coherent, consistent, or insistent moral guidance.

Although the diversity of norms and values liberates the individual from tradition and the hierarchies of family, church, and community, diversity also creates problems. According to Durkheim, individuals who lack any source of social restraint will tend to satisfy their own appetites with little thought of the possible effect that their actions will have on others. The individual is left to find his or her own way in the world—a world in which personal options for behaviour have multiplied as strong and insistent norms have weakened.

Durkheim saw the shift from mechanical to organic solidarity as an evolutionary trend, pointing out that "as we mount the scale of social evolution," mechanical solidarity becomes progressively weaker and organic solidarity becomes stronger ([1893] 1997, 105).

And this, of course, is a consequence of population growth and the associated growth in the division of labour, as well as the changes caused by these developments in the structure and cultural superstructure of the sociocultural system. "Thus it is a law of history," he writes, "that mechanical solidarity, which at first is isolated, or more so, should progressively lose ground, and organic solidarity gradually become preponderant. But when the way in which men are solidly linked to one another is modified, it is inevitable that the structure of society should change. The shape of a body needs be transformed, when the molecular affinities within are no longer the same" (126).

Durkheim ([1893] 1997, 119–20) extends this analysis to the future, positing that this evolutionary trend must necessarily continue. As religion continues to become less and less encompassing, the collective consciousness will continue to weaken:

> If there is one truth that history has incontrovertibly settled, it is that religion extends over an ever diminishing area of social life. Originally, it extended to everything; everything social was religious—the two words were synonymous. Then gradually political, economic, and scientific functions broke free from the religious function, becoming separate entities and taking on more and more a markedly temporal character. God, if we may express it in such a way, from being at first present in every human relationship, has progressively withdrawn. He leaves the world to men and their quarrels. At least, if He continues to rule it, it is from on high and afar off, and the effect that He exercises, becoming more general and indeterminate, leaves freer rein for human forces. The individual thus feels, and he is in reality, much less acted upon; he becomes more a source of spontaneous activity. In short, not only is the sphere of religion not increasing at the same time as that of the temporal world, nor in the same proportion, but it is continually diminishing. This regression did not begin at any precise moment in history, but one can follow the phases of its development from the very origins of social evolution. It is therefore bound up with the basic conditions for the development of

> societies and thus demonstrates that there is a constantly decreasing number of beliefs and collective sentiments that are both sufficiently collective and strong enough to assume a religious character. This means that the average intensity of the common consciousness is itself weakening.

As we will see in later chapters, Durkheim held that it is only through religious organization, family, and other community-based groups that social values can be instilled in individuals—values and beliefs that call the individual to act in unselfish, altruistic ways. These are the very groups, however, that are being weakened by the continuing division of labour; they are rapidly losing their utilitarian functions as the state and the corporation become enlarged and more encompassing.[13]

CONVERGENCE

The standard practice is to highlight the differences between theorists, to carve out a separate path for a favourite theorist and demonstrate why that theorist's vision is sharper and clearer than all others. My goal, of course, is different; I wish to point out where these early sociologists agree. They share more with one another than the simple fact of being evolutionary theorists; as with the evolutionary theories of their counterparts in biology, their evolutionary theories have much common ground. All societies must live within the changing constraints of their environments, changes that occur as a result of both human activities and natural processes. The process of adapting to changes in the natural and social environments begins with the individual and the modifications that individuals make to their productive and reproductive practices. When large numbers of people within the population make similar adaptations, these create patterns, which in turn affect institutional structures (primary and secondary groups) and cultural superstructures (ideas, values, and ideologies). All of the founders of the discipline concluded that as

corporate and state organizations enlarge and centralize, smaller primary groups such as clan, family, church, community, and guild lose their functions and salience. The result of this evolutionary trend is material and spiritual poverty for the great mass of people, as individualism, commodification, and consumerism become a way of life.

Of the founders, Weber, with his incessant focus on the sociocultural system as a whole, constructed the most general theory of the evolutionary process that occurs in a society's structure and superstructure in response to, and in interaction with, infrastructural intensification. According to Weber, the intensification of production processes and the growth of population result in the enlargement and centralization of the bureaucracy of both the state and capital enterprise and a consequent decline in the function and role of primary groups. Bureaucratization of structure leads in turn to a rise in goal-oriented rational behaviour among individuals (rationalization). Rationalization, of course, provides positive feedback to bureaucratization, and bureaucracies (private and public) and the rationalization of the superstructure contribute to the intensification of the infrastructure. For what is bureaucratization but the ever greater role of goal-oriented thinking—observation, logic, science—applied to human organization? What corporate or state bureaucracy—the first under the spur of profit, the second under ever tightening budgets—does not seek greater efficiency and productivity? And what is intensification but goal-oriented behaviour applied to technology, labour, and population? Using the founders of sociology as guides, I attempt in the next chapter to integrate the theories and insights of contemporary macro theorists into a systematic theory of sociocultural evolution.

Contemporary Social Evolution

It must be remembered that necessity is only the mother of invention; socially accumulated knowledge is its father. — ROBERT K. MERTON

The theorist who first brought social evolutionary theory back to mainstream contemporary sociology was Gerhard Lenski, tentatively at first in his book *Power and Privilege* in 1966, and then far more boldly and insistently with his introductory textbook, *Human Societies*, first published in 1970 and now in its eleventh edition.[1] In 2005, Lenski wrote *Ecological-Evolutionary Theory*, a comprehensive summary of the theory he developed over a forty-year span. Lenski's ecological-evolutionary theory is a synthesis of key insights of the founders of sociology and of contemporary macrosociology and anthropology.[2] In exploring the origin, maintenance, and change of sociocultural systems, ecological-evolutionary theory places great emphasis upon the intensification of the material infrastructure (population, production, and the division of labour) proposed by Malthus, Spencer, Durkheim, and Marx. Lenski's ecological-evolutionary theory is intended to explain the big picture of sociocultural origins, the maintenance of sociocultural systems over time,

and the processes of sociocultural evolution. To fully understand a sociocultural system or any of its component parts—whether infrastructural, structural, or superstructural—analysis must begin in the context of this macro-level vision, for all sociocultural systems have an evolutionary history that, combined with their natural and social environments, largely determines their present and future (Lenski 2005, 5, 15).[3]

For Lenski, like Spencer, sociocultural evolution is not analogous to biological evolution but has evolved from that process. "In other words," he explains, "one of the basic principles of modern evolutionary theory is that the evolutionary process itself evolves" (2005, 5). The primary difference between natural and social evolution is in the recording of prior experience. Biological evolution depends upon DNA and genetic change to transmit this information to descendants and is therefore an extremely slow process, relying upon random genetic variation to successfully adapt to changing environments. Sociocultural evolution, on the other hand, depends upon symbol-based cultural information, which is learned and can be transmitted across cultures (6, 121). This has several consequences for the social evolutionary process: (1) it makes sociocultural evolution a far more rapid process; (2) individual and eventually social adaptation becomes potentially deliberative and purposeful; and (3) it gives rise to intersocietal selection in which successful adaptations by individual societies become critical factors in the competition between societies for resources, thus causing the conquest and extinction of many sociocultural systems through time and the convergence of those systems that remain (111–13).

Marion Blute (2010) also applies principles developed in biology directly to sociocultural evolution. Like Lenski, she believes that social learning is the mechanism by which successful sociocultural adaptations are acquired by individuals. While *culture* is often broadly defined as the "way of life for a people," various texts in sociology and anthropology give many different definitions. "Almost all of these, however, emphasize that the culture of a people is 'shared' or similar and is so, not because it is genetic, nor because it has been

learned individually, but because it has been learned socially—i.e. members are similar because they share a common cultural ancestry" (30–31). Blute focuses much more on the process of evolution than on the story of human history itself. She identifies four factors that determine both the sociocultural and biological evolutionary process: constraints (physical and chemical), chance (something has to arise before it can be selected), unity of types (history, in sociocultural terms), and the conditions of existence (necessity or selection). The evolutionary process produces descent with modification or continuity and change in a branching pattern. Within this evolutionary context, Blute examines such factors as competition, conflict, co-operation, human agency, and complexity. She asserts that evolutionary theory can serve as the great synthesizer within the social sciences, encompassing as it does the material and ideal, change and stability, co-operation and conflict, and both biological and sociocultural systems. It is her contention that modern biological evolutionary theory has a rich conceptual apparatus to offer the social sciences, and she predicts that before the close of the century, nothing in the social sciences will make sense except in the light of evolution; it is a world view that will come to be seen as an inclusive metanarrative for all that we do.

Lenski (2005) has remarked upon the robustness of ecological-evolutionary theory: he sees it as a synthesis of previous social theory and notes that it appears to be flexible enough to incorporate new findings while still maintaining its essential structure (138). In my view, the great weakness of ecological-evolutionary theory is the lack of systematic theoretical development of the interrelationships among the material infrastructure, the social structure, and the cultural superstructure of societies. I intend to remedy this here by synthesizing ecological-evolutionary theory with Max Weber's rationalization theory.[4] Rationalization occurs in each component of the sociocultural system. In the cultural superstructure, it manifests as the increasing dominance of goal-oriented behaviour over behaviour motivated by values, traditions, and emotions. In the social structure, it is revealed in the increasing functional dominance of formal

bureaucratic organization over more informal primary group organization. Both of these assertions are, of course, part of Weber's theory, as is his position that bureaucracy is but a particular case of rationalization applied to social structures and that bureaucratization promotes the rationalization of the cultural superstructure, which in turn gives positive feedback to the growth of bureaucracy (as explained above, they are in an autocatalytic relationship). Finally, I would add that intensification is also a particular case of rationalization as it is the application of science, experience, observation, and logic in adapting to our natural and social environments. Feedback promoting intensification is provided by a bureaucratizing structure and a rationalizing superstructure of sociocultural systems. Using Lenski's ecological-evolutionary theory as a starting point, I will attempt in this chapter to outline a broad synthesis that incorporates, orders, and weighs many of the theories and empirical findings of two hundred years of macrosociology.

Lenski begins with a foundation in Malthus and Spencer, and asserts that sociocultural systems are very much a part of the world of nature and are therefore subject to natural law. He argues that human beings and their societies must therefore be understood as biological entities (2005, 33). We have a common genetic heritage, and the societal mode of life is prevalent in our species, as is our dependence on learning (36–37). Like other animal life, humans must adapt to their immediate environment, but unlike other animals, humans have a unique communication tool, language, to aid in their adaptation. "Closely linked to learning and the societal mode of life are the complex and efficient systems of communication that distinguish mammals in general, and primates in particular, from most other species" (37), writes Lenski, going on to point out the importance of communication in the coordination of human actions; human communication is particularly relevant for structural groups and organizations, as well as for the sharing and reinforcement of cultural innovations, beliefs, values, and ideologies. As we will see, the technology that humans have developed to enhance and extend communication systems (first language, then writing, print, and

telecommunications) have played an increasingly central role in the speed and spread of the evolutionary process.

Lenski considers our propensity to self-interest and individualism, which often goes against the interests of the social whole, as part of our genetic heritage. He does not attribute this individualism directly to a gene, however, but to the heavy reliance of human beings on learning rather than biological instincts, as observed by Durkheim; as a consequence, differences in experiences, values, and ideologies are bound to develop over time. In other words, the growing division of labour that parallels population and production growth leads to increasingly different social experiences among a society's population, leading to a growth in individualism and self-interest at the expense of the society as a whole (Lenski 2005, 38).

The reliance of humans on learning is central to understanding human behaviour because it is the root cause of the conflict and tensions among us. "*Homo sapiens* is, by nature (i.e., by genetic endowment), simultaneously a cooperative social animal and an individualistic, self-seeking animal," writes Lenski (2005, 38). Learning is also central to understanding human societies in that it, and not random genetic mutation, is the primary mechanism by which information and adaptations are discovered and passed on to other individuals, social groups, and societies. "For the first time in evolutionary history," Lenski notes, "a species had the capacity to acquire vast stores of information that were separate and distinct from the information contained in its genes. Learning and communication could now become tools to be used in a limitless process of information acquisition and cumulation, something never before possible" (41). This is responsible for the unprecedented speed of sociocultural evolution.

For Lenski and other evolutionists, a society is an aggregation of people that is geographically located and politically autonomous, and has a "broad range of cooperative activities" (Lenski 2005, 17). Societies are sociocultural *systems* with component parts fitting loosely together to form a coherent whole (16, 74). They are loose systems, very imperfect, in that not all parts benefit equally in the

distribution of resources. The primary organizational unit of human populations, societies are tremendously variable in terms of their population size, production and consumption of goods, wealth and inequality, division of labour, size of territory, contact with other societies, and access to natural resources. But, despite this variability, Lenski also recognizes a "global system" consisting of the totality of human societies and their interrelationships.

Environment-population-production relationships are the infrastructural foundation of these sociocultural systems. According to Lenski, infrastructural relationships largely determine structural relationships within the system, and both of these types of relationship in turn largely determine cultural ideas and ideologies. Lenski (2005, 21, 83) identifies the basic subsistence strategy of a society—its technology and labour techniques in drawing energy out of the environment—as being strongly related to a variety of other important characteristics of the society. Subsistence technology, he states, is directly correlated with a society's demographic characteristics (population level and growth, and age and sex ratios) and its division of labour. And these characteristics have a direct effect upon energy budgets, the production and consumption of goods and services, and the levels of inequality in power, privilege, and wealth within and between societies.

Forces for change within a society come primarily from environmental-infrastructural relationships or from contact with other sociocultural systems. For Lenski, sociocultural change is often rooted in changes in the environment caused by spontaneous natural forces (such as ice ages) or human activities (pollution, resource depletion, cultural diffusion). Our ability to reproduce far outweighs our ability to acquire food for our children's survival; therefore, if population is not held in check, the critical balance between population and resources will soon be upset (117). Because of these limits, Lenski argues, human societies are ever alert to ways to increase the food supply or improve access to other needed resources (58). The human tendency to exploit resources beyond the capacity of environmental renewal—such as overhunting or deforestation—have led to

changes in the environment necessitating adaptive changes in sociocultural systems (61).

As we saw in the previous chapter, Weber, in his historical exploration, identifies the environmental problem of the depletion of England's forests as resulting in turning to coal for fuel in the smelting of iron. Weber saw this environmental change as being largely responsible for seminal technological innovations such as the coking of coal and the steam engine, and ultimately for the Industrial Revolution itself.[5] We also reviewed Ester Boserup's (1965) work on the relationships between population and agricultural production. In all these analyses, environmental-infrastructural relationships play a central role in the process of sociocultural evolution. This is also true of the intensification within systems of production (hunting and gathering, horticultural, agrarian, or industrial) and in the transitions between production systems.

The first great shift in production technology occurred with the domestication of plants and animals, the transition from hunting-and-gathering to horticultural societies. For the first time in social evolution, humans were able to produce and store food beyond what was immediately needed for subsistence: they were able to create a surplus. Also, horticulture allowed for a more settled way of life and therefore for the accumulation of goods. All of this, of course, is essential for the growth of population, an increased division of labour and inequality, and, eventually, the rise of the state (Lenski 2005, 95).

According to Lenski, a society's technology is the most important component of the sociocultural system, for technology impacts all other parts of that system. "This should not be surprising, however," he writes, "since technology is information about the ways in which the resources of the environment may be used to satisfy human needs and desires. In other words, it is the critical interface between the biophysical environment and all the other components of sociocultural systems, and therefore influences virtually every aspect of human life" (63). Technology is our main adaptive mechanism to a changing environment, and technological innovation has come to largely

replace genetic mutation in our species (64).[6] Technological change is cumulative, and as it accumulates, "there is an inherent tendency for the rate of innovation in a society to accelerate as its store of technological information increases" because the store of technological information provides fuel for further invention (66). Also, like many macro theorists before him, Lenski posits that one primary impact of technological change is to promote the growth of organizations (such as corporations and government) and cultural belief systems and ideologies (such as capitalism and values of efficiency), all of which promote further technological and social change (64–67).

In addition to the infrastructural-environmental foundation of sociocultural systems, Lenski integrates another critical factor into his evolutionary theory: the relations of a society to other societies. Marvin Harris and many other macro theorists often focus on the development of "pristine changes" within a society—changes that occur in the absence of contact with other sociocultural systems. For example, it is widely theorized in the literature that the development of agriculture occurred independently in five to seven different areas of the world beginning about fifteen thousand years ago. It was from these centres that agriculture spread to the rest of the world. If, as the evidence indicates, genetically modern humans have been on earth for one million years, living in hunting-and-gathering societies for almost all of that time, the sudden independent domestication of plants and animals within a comparatively short time span (the last 1.5 percent of human existence) requires a theory of process rather than individual discovery to explain this development, and ecological-evolutionary theory does an admirable job describing this process. Aside from the five to seven areas in which agriculture developed independently, all other societies learned agriculture from neighbouring societies. Cultural diffusion therefore appears to be a much more common mechanism of social change than pristine innovation (Lenski 2005, 71).

The biological and geological resources of different areas of the earth vary widely, and this diversity makes for differences in the potential for development among societies (60). Differences in

climate, available plants and animals for hunting and gathering, and available species suitable for domestication all lead to differences in population level, technological development, and the extent of the division of labour. And these environmental limitations and constraints are passed on, of course, to structural and cultural features of societies. Also of note, Lenski states, are constraints imposed by a society's sociocultural environment. Location is critical, particularly before the advent of modern communication and transportation systems that allow humans to transcend distance and geographical barriers. Societies located on major trade routes between other societies would benefit the most from cultural contact; societies geographically isolated by mountains, deserts, oceans, or distance would be the least developed (61–62).

Because of their systemic character, the conservative nature of the socialization process, and the slowness of change in the physical environment, past societies had a built-in resistance to change (70). But while continuity and tradition dominated societies throughout our past, change has become a pervasive feature of modern life (71–72). Because of the cumulative nature of technological innovation in the past ten thousand years, and especially in the past two hundred, the earth's population has exploded, causing a host of changes in other parts of sociocultural systems: an explosion in the amount of per capita energy use, intensified division of labour, and soaring growth in the production of goods and services. "Not surprisingly," Lenski writes, "these trends are paralleled by trends in the accumulation of wealth in general and of capital goods in particular. Their rate of increase has been especially explosive in recent millennia, since accumulation was all but impossible until the beginnings of plant cultivation allowed for a more settled way of life. And, finally, the volume of illth, or waste and injurious products (e.g., harmful drugs), has also grown exponentially in recent times" (27–28).

Inequality in wealth, power, prestige, and privilege also grew along with this intensifying infrastructure, although absolute limits of inequality may have been reached in early industrial societies (Lenski 2005, 30). Lenski provides evidence that inequality peaked

in agrarian or perhaps in early industrial societies and is now on a decline (although still very high). The evidence for this decline in the past hundred years or so is fairly substantial, but it should be noted that inequality in wealth and income appears to be once more on the rise, particularly in hyperindustrial societies. (We will look at this, as well as inequality between societies, in much greater detail in the final chapter.) Population growth also appears to have peaked in the late 1960s, and the rate of growth has been in decline in most societies since then (although world population levels are still projected to rise over this century). In addition, there has been a sharp increase in the size of societies, now averaging twenty to thirty million, as well as a growth in territorial size and complexity of social structures (29).

Lenski and other materialists view structural and ideal factors as dependent upon the material base of a society. Change begins in the infrastructure of sociocultural systems and often affects elements of the structure and superstructure. These structural and superstructural elements may well influence infrastructural change—they may serve to extinguish, dampen, or sometimes amplify and promote the change, or to channel the change in a specific direction—but these are secondary effects; when examining sociocultural change, the materialist first looks to the material base upon which social structure and cultural superstructures are erected (Lenski 2005, 132). Lenski recognizes that structural and ideal variables often influence sociocultural evolution, although he sees such factors as subordinate to and constrained by material factors; he does not, however, translate these relationships into general theoretical principles (128).[7]

While Lenski posits a growing complexity of social structure and superstructure as a result of sociocultural evolution, he declines to characterize this change any further. Weber and his followers, however, see the drift of structural and superstructural change as part of the rationalization process.[8] Rationalization is generally defined as the process by which modes of precise calculation based on observation and reason increasingly dominate the social world. Weber posits that rationalization results in a pattern of thought that increasingly replaces tradition, emotion, and values as motivators of human

behaviour. His rationalization theory, however, does not propose some ideal that was driving human evolution; rather, Weber considers rationalization as a mode of thought that gains dominance because of developments in material and structural conditions. These changes include the growing production of goods, increasingly complex production techniques and technologies, growing populations competing for scarce resources, an increasing division of labour, and a consequent growth in state and corporate bureaucracies at the expense of kinship, community, religious, and other primary groups (Weber [1946] 1958, 209–30).

In other words, changes in material conditions are pushing people to increasingly use observation, logic, and rational calculation (rather than tradition, emotion, and universal values) to adapt to changing natural and social environments. In response to a depleting natural environment, humans adapt by expanding their use of science (a supremely rational enterprise based on observation and logic) to develop technology and labour techniques; in response to problems of organization, humans increasingly adapt by recourse to both corporate and public bureaucracies (again, ideally rational organization). Living and interacting within these organizations, our behaviour is guided more and more by goal-oriented rational thought rather than traditions, values, and emotions. The most important carriers of rationality in the social structures of modern societies are, of course, economic and government bureaucracies. As social structures become dominated by the expansion and centralization of such bureaucratic structures, according to Weberians, goal-oriented rational thinking becomes the predominant motivator of human action, the primary manner in which we navigate and interpret our world, thus promoting further bureaucratization of social structure and intensification of infrastructure.

One of the major characteristics of all bureaucracy is its hierarchical organization. Elite hierarchies exist within the structure of societies and wield great power and influence on infrastructural relationships. Because of their relationship to the technologies of production, some individuals and groups benefit more than others.

"To say that a society adapts to its environment in a certain way," explains Lenski (2005, 74), "does not mean that the process is beneficial to all members. In class-structured societies, wars of conquest have often been rewarding for dominant classes but costly for others, just as actions that benefit the dominant religious or ethnic group in a pluralistic society may be harmful to minorities." Institutional structures (and the elite who dominate these organizations) have a strong influence on cultural ideas and ideologies, and these cultural ideas provide motivation for human behaviour, consequently affecting both social structure and infrastructure. However, although ecological-evolutionary theory recognizes the role of structural and ideal factors in determining the speed and direction of change, it insists upon first looking at the material factors that play the most critical role in sociocultural evolution (78).

While we must necessarily place great emphasis upon the fast pace of sociocultural change in recent years, it is stunning to contemplate the slow, cumulative nature of sociocultural change throughout human history. For most of our time on earth—all but the last 2.5 percent of hominid history, according to Lenski—the archaeological record indicates that technology, population, and the division of labour remained remarkably stable. As he observes, "Patterns of life in the global system, insofar as they can be inferred from the archaeological record, persisted not merely for centuries and millennia, but for tens and hundreds of millennia" (2005, 30). Despite the impact of industrialization, the vast majority of individual human societies have changed very little over the course of their existence, whereas the global system of societies has changed greatly in the past ten thousand years (62–70). What caused that comparatively sudden change? In addition to subsistence technology, Lenski ascribes a special role to technologies of communications and transportation, which are responsible for increasing the interactions among and between sociocultural systems while also allowing humans to store information more reliably and permanently. Communication revolutions significantly increase the speed and spread of innovation within and between societies and preserve these innovations for future

generations (62). Max Weber ([1946] 1958, 213) and C. Wright Mills ([1951] 1973, 334–36) also ascribe a special significance to communication technology in the expansion of bureaucracy.

In addition to communication revolutions, there has been a revolution in transportation systems. Thus, an important variable is the historical era in which the society exists: it is quite a different matter being an agrarian society in 1492 and being an agrarian society today. The difference can be attributed to constant contact through trade and communication networks with industrial and hyperindustrial societies. Through increased contact brought about by business, diplomacy, war, international sports, education, missionaries, and tourists, the world has been brought into ever closer interaction (Lenski 2005, 112–13). "As a result, there has been a remarkable tendency throughout the entire global system toward cultural convergence around the norms and practices of industrial societies, even in societies where the process of industrialization has barely begun" (105). However, although the pace of change has increased markedly in recent times, it must be emphasized that this change is cumulative in nature. Jet airplanes, for example, incorporate "principles of metallurgy, the wheel, the chair, the window, the handle, numbers, letters and more" (31). The evolutionary process is one of cumulative change—a process by which older elements are absorbed and incorporated into more intricate and complex systems. For this reason, a society's past adaptations to its environment very much influence its present and future.

Throughout human history, there have probably been over one million different societies; Lenski (2005, 74) posits that, at the end of the hunting-and-gathering era, there were between 100,000 and 300,000 societies in existence.[9] Today, there are at most two hundred, and these are highly unrepresentative of the total throughout history. As Lenski points out, "Societies today are, on average, far larger, far more complex, far more productive, far more powerful, and far more subject to change than societies of the past" (74). This is due to the process of intersocietal selection described earlier, in which societies that have adapted to changing environments by developing more

productive technologies grow in population size, structural complexity, and economic and military power and absorb societies that have maintained more traditional patterns (Nolan and Lenski 2011, 59–61). Sociocultural evolution is thus a two-track process. At the level of the individual society, a society adapts to its changing natural and social environments, which, in combination with its history, produces innovative adaptations. This individual societal evolution is responsible for the incredible diversity of sociocultural systems. However, some of these adaptations are passed on to other societies in the global system through cultural contact or conquest and become critical factors in the intersocietal selection process. Lenski labels this latter process "general" sociocultural evolution, which is far more directional than individual societal evolution, leading to larger populations, increased use of energy and productivity, and greater division of labour and structural complexity (Lenski 2005, 111, 117). It is, of course, this intersocietal selection process that has advanced the spread of intensification, bureaucratization, and rationalization. Since sociocultural evolution takes place at the levels of both the individual society and the global system of societies, both processes must be taken into account in examining sociocultural systems and their evolution.

JARED DIAMOND'S ENVIRONMENTALISM

While Lenski has been testing various aspects of ecological-evolutionary theory since the early 1960s, independent tests of some of its postulates have been provided by Jared Diamond's more recent work. Diamond, whose work is very consistent with ecological-evolutionary theory, is a public intellectual who has made social evolution accessible to a broad public. In *Ecological-Evolutionary Theory* (2005, 145), Lenski strongly recommends Jared Diamond's *Guns, Germs, and Steel: The Fates of Human Societies* (1997). While noting that Diamond does not label his analysis as ecological-evolutionary theory, "most of the chapters in *Guns, Germs, and Steel*

provide valuable further tests of the principles on which ecological-evolutionary theory is based." What is most interesting about Jared Diamond, apart from the wealth of ethnographic and historical examples he brings to his explanations, is how closely his underlying theory parallels the work of such social scientists as Lenski, Marvin Harris, and Stephen Sanderson. Diamond's graduate education was in physiology, with a specialty in evolutionary biology and biogeography. To this specialty, Diamond has added a broad familiarity with languages, history, and the social sciences.[10] He posits that characteristics of the environment—physical, biological, and social—play a dominant role in sociocultural stability and change in human societies. What he demonstrates is that these environmental characteristics largely condition what is possible in terms of production and population, and that these environmental and infrastructural factors combined affect not only individual sociocultural systems but the global system of societies as well. Lenski and Harris take a more social scientific tack in their explicit development of the social theory that guides their analyses and then test that theory through further analysis. Diamond's guiding theory is much less explicit, and as a result, his writing has the feel of history and ethnography. However, there is a theoretical framework underlying his analysis, one that is quite consistent with ecological-evolutionary theory.

Diamond first focuses on what he calls "ultimate factors" in explaining the vast differences in social development among societies. These ultimate factors are all environmental in nature: geography, soil fertility, plant and animal availability, and climate. Other factors that, according to Diamond, lead to inequalities between societies—population, production, social organization, ideologies—all come into play in his analysis as "proximate causes," strongly influenced (if not determined) by environmental ultimate factors. But the differences between Diamond and other ecological-evolutionary theorists are ones of semantics: the social scientists and the biologist all begin with environmental-infrastructural relationships and focus upon how these factors profoundly affect the rest of the sociocultural system.

How then does Diamond explain the great inequalities between sociocultural systems in the modern world? What explains the patterns of wealth and poverty we see between societies? The short answer is that technological and political differences around the year 1500 determined this pattern of inequality between societies today, but this merely begs the question. Why were some societies so much more technologically advanced, populated, and politically and militarily organized than others in 1500? How did Europeans come to have guns and steel swords, while in other cultures people continued to arm themselves with wooden clubs and weapons of stone (15–16)? Jared Diamond's short answer to these questions is that the speed and course of sociocultural development is determined by the physical, biological, and social environment of that sociocultural system (25). We now turn to a slightly longer version of Diamond's answer—specifically, an explanation of how these factors are directly related to population size and density, division of labour, and technological development.

The evolutionary sequence that culminated in *Homo sapiens* unfolded over a period of about seven million years. For the first five or six million years of that history, human ancestors remained in Africa. The species known as *Homo erectus* was the first to leave Africa, some one to two million years ago, and *Homo sapiens* diverged from *Homo erectus* as a distinct species about half a million years ago (Diamond 1997, 36–37). What is most remarkable is the relatively unchanging character of the technology associated with early humans: tools were primitive and clumsy, and little change in shape or design occurred over long periods of time. Human history finally "takes off," Diamond notes, about fifty thousand years ago with what is commonly termed the "Great Leap Forward," in which artifacts became more abundant, intricately designed, and varied (39). Diamond attributes this advance to the development of the human voice box, making sophisticated language possible, which in turn makes culture possible (40).

Many dispute this, believing that language evolved well before this time. Spencer Wells (2010) points to evidence that the Great Leap was much more gradual than previously thought. Recent discoveries of decorative art and artifacts in Africa provide evidence that the

changes began more than seventy thousand years ago, only reaching full flower through selective pressure on human populations brought about by environmental change. About seventy-five thousand years ago, one of the largest volcanoes in the past two million years erupted. Mount Toba in northern Sumatra spewed more than three thousand times the ash than the 1980 eruption of Mount St. Helens. As a result of Toba's eruption, global temperatures were lowered "somewhere between nine and twenty-seven degrees Fahrenheit" (97). This was then followed by about a thousand-year period of "substantially cooler temperatures, among the coldest of the last ice age" (99). Not only did Africa become considerably cooler, but it also became much drier since water was locked up in the northern ice sheets.

These environmental changes, Wells believes, put substantial pressure on human populations. He cites genetic evidence suggesting that the total number of our direct ancestors alive at this point was only about two thousand to ten thousand individuals. Wells characterizes the artifacts of the time as evidence of a "novel way" of thought, indicative of ability for abstract thought, problem solving, and rapid adaptation to new situations in an innovative manner (102). He and others posit that it was only during the last ice age, when the human population was stressed to near extinction, that selective pressures on that population produced humans that could "make use of their ability to solve problems in novel ways" (99).[11] Humans who had developed the ability to adapt through observation, experience, and abstract thought, and thus to devise technologies and develop new skills to exploit their environment, were those who survived and reproduced in the harsh African environment of the time; it was this small cadre of survivors from which all modern humans descend. Regardless of the causes of the Great Leap, the end of the ice age brought an extension of the human range: out of Africa and into Eurasia to Australia and New Guinea, armed with new technology and sophisticated culture.

Another significant first with the colonization of Australia/New Guinea (a single landmass at that time) was the extinction of the megafauna. Diamond is a strong advocate of Paul C. Martin's hypothesis that the early colonists killed most of the large animals of Australia/

New Guinea shortly after arriving on the continent from the Eurasian landmass. Martin (and others since) attributes this to the fact that these large animals had never before encountered humans and, consequently, were relatively easy prey when the first Australians crossed the ocean channels (cited in Diamond 1997, 41).[12] This is because of the phenomenon of co-evolution. Over the course of several million years, animals on the Eurasian landmass evolved with humans as part of the natural environment. As humans slowly developed better hunting skills, their prey developed both a fear of the predator and better defences against the hunt. Australian mammals evolved with no such fear or defences. A similar fate is posited for many of North and South America's megafauna that first came into contact with humans some thirty thousand years later (46). The extinction of megafauna is one of the prime examples of the activities of human populations disrupting and depleting natural systems, thus necessitating social adaptation to the new environment. These extinctions had significant consequences for subsequent sociocultural development in these regions; wild mammals that might have been available for domestication were eliminated (47).[13]

According to Diamond (1997, 98), agriculture originated independently in five areas of the world: the Near East (or the Fertile Crescent), China, Mesoamerica, the Andes, and what is now the eastern United States. While several other areas are candidates for this distinction, in these five areas, the evidence for independent development is overwhelming. Most other areas appear to have developed agriculture as a result of diffusion from other societies or through the invasion of farmers or herders. Others failed to acquire agriculture until modern times. Through the use of environmental variables, Diamond attempts to explain this pattern. Why did the domestication of plants and animals first occur where and when it did? Why did it not occur in additional areas that are suitable for the growing of crops or the herding of animals? Finally, why did some peoples who lived in areas ecologically suitable for agriculture or herding fail to either develop or acquire agriculture until modern times?

Diamond's analysis of the origins of agriculture differs little from those of Harris or Lenski, although he presents some interesting

details regarding the transitions. Like Harris and Lenski, Diamond posits that the transition was the result not of conscious choice but rather of thousands of small cost-benefit decisions on the part of individuals over centuries: "The underlying reason why this transition was piecemeal is that food production systems evolved as a result of the accumulation of many separate decisions about allocating time and effort" (107). Echoing Harris, Diamond suggests that many considerations go into this decision-making process, including the simple satisfaction of hunger, the craving for specific foods, and the need for protein, fat, or salt. Also consistent with Harris, Diamond states that people concentrate on foods that will give them the biggest payoff (taste, calories, and protein) in return for the least time and effort (107–8).[14] Throughout the transition, hunting and gathering competed directly with food production strategies for the time and energy of individuals within the population. Only when the benefits of food production outweighed those of hunting and gathering did people invest more time in that strategy (109).

What finally gave food production the advantage? It was not that food production led to an easier lifestyle. Studies indicate that farmers and herders spend far more time working for their food than do hunters and gatherers (109). Nor are people attracted by abundance: most studies indicate that peasants and herders do not eat as well as hunters and gatherers. Diamond proposes several factors that led some hunters and gatherers to gradually make the shift. The primary factor may have been a decline in the availability of wild foods; with the receding of the glaciers, many prey species became depleted or extinct. A second factor is an increasing range and thus availability of domesticable wild plants: "For instance, climate changes at the end of the Pleistocene in the Fertile Crescent greatly expanded the area habitat of wild cereals, of which huge crops could be harvested in a short time" (110). A third factor, according to Diamond, is an improvement in the technologies necessary for food production—specifically, tools "for collecting, processing, and storing wild food" (110). The fourth factor—prominent in the analyses of Diamond, Malthus, Boserup, Harris, and Lenski—is the relationship between population and food

production, which rise in tandem. Diamond calls this relationship "autocatalytic"—a gradual increase in population forces people to obtain more food, and as food becomes more plentiful, more children survive into adulthood. Once hunters and gatherers began to make the switch to food production, their increased yields impelled population growth, thus causing them to produce even more food, perpetuating the autocatalytic relationship (111). A final factor noted by Diamond is the expansion of territory by food producers. This expansion was made possible by their much greater population densities and certain other advantages enjoyed by food producers compared to their hunting-and-gathering neighbours (112).

While Diamond has not turned over any new ground in his analysis of the agricultural revolution, he has certainly produced a much richer description of the domestication process than previous attempts. For example, Diamond explains in interesting detail how the early domestication of plants could have proceeded without conscious thought on the part of early farmers. Plant domestication, he explains, is the process by which early farmers selected seeds from plants that were particularly useful for human consumption, thereby causing changes in the plant's genetic makeup. But it was not a one-way process: when humans selected certain seeds over others, they were changing the environmental conditions of the plants themselves—the conditions, that is, in which certain plants thrived and propagated (123). According to Diamond, plants that produced bigger seeds, or a more attractive taste for humans, were initially chosen in the gathering process and provided the first seeds planted in early gardens (117). The new conditions then favoured some of these seeds over others (123). The conditions in the garden, as well as the farmer's unconscious and conscious selection of seeds for sowing the following spring, gradually changed the genetic structure of domesticated plants; domesticated varieties are therefore often starkly different than their wild ancestors.

Through this process, Diamond notes, hunters and gatherers domesticated almost all of the crops that we consume today; not one major new domesticate has been added since Roman times (128).

Furthermore, only a dozen plant species account for over 80 percent of the world's annual crop yields. "With so few crops in the world, all of them domesticated thousands of years ago, it's less surprising that many areas of the world had no wild native plants at all of outstanding potential" (132).

Diamond proposes a very similar process and conclusion regarding the domestication of animals. Animal domestication, he explains, is the process by which early farmers selectively bred animals that were more useful for humans, thereby causing changes in the animal's genetic makeup. Although 148 wild, large, herbivorous mammals were available for domestication, only 14 were ever domesticated: the "major five" (sheep, goats, cattle, pigs, and horses) and the "minor nine" (Arabian and Bactrian camels, llamas and alpacas, donkeys, reindeer, water buffalo, yaks, Bali cattle, and mithan) (160–61). Why did so few of the 148 become domesticated? Why did so many fail? Because, Diamond answers, not just any wild animal can be domesticated; to be successful, a candidate must possess six specific characteristics. Lacking any one of these would make all efforts at domestication futile (169).

The first factor required for successful domestication concerns the diet of the animal. To be valuable, the animal must consume a diet that efficiently converts readily available plant life to meat. A second factor is growth rate: to be worth raising, the animal must grow relatively quickly. Animals that take ten to twenty years to reach mature size represent far too great an investment for the average farmer. Third is ease of breeding—many animals have problems breeding in captivity, requiring range and privacy that stymies domestication efforts. A fourth factor is disposition: animals with a nasty disposition toward humans are much too dangerous to domesticate. A fifth characteristic is tendency to panic: many species are extremely nervous and quick to flee when confronted with a threat. The sixth and final characteristic that is necessary for a domestic relationship with humans regards herd structure. "Almost all species of domesticated large mammals," writes Diamond, "prove to be ones whose wild ancestors shared three social characteristics: they live in

herds; they maintain a well-developed dominance hierarchy among herd members; and the herds occupy overlapping home ranges rather than mutually exclusive territories" (172).

Eurasian people, befitting their large landmass and its environmental diversity, started out with many more potential domesticates than people on other continents. Australia and the Americas lost most of their potential domesticates through either climate change or the actions of early settlers to these lands. In addition, a much higher percentage of the Eurasian candidates "proved suitable for domestication" than of those in Africa, Australia, or the Americas (174–75).

Why did food production first appear in the Fertile Crescent? The primary advantage of this area was its Mediterranean climate of mild, wet winters and long summers, making it ideal for crop production. It also possessed a number of wild ancestors of crops that were already highly productive and growing in large stands in the wild (136). And finally, the Fertile Crescent contained four large herbivores that fit the profile of domestication, as well as several well-suited plants. "Thanks to this availability of suitable wild mammals and plants, early people of the Fertile Crescent could quickly assemble a potent and balanced biological package for intensive food production" (141–42). Other early originators had similar (though not quite so varied) biological advantages and physical and climatic conditions suitable for agricultural production. In the New World, because of the paucity of wild plants suitable for domestication and the almost complete lack of big herbivores for meat or traction, the coming of agriculture was much delayed and, once started, much slower to develop. One cannot readily imagine people choosing agriculture over hunting and gathering in their cost-benefit decision making when their only available domesticates were sumpweed or squash. In such cases, agriculture remained a supplement to the basic hunting-and-gathering lifestyle for much longer periods.

Another critical factor in the rise of food production proposed by Jane Jacobs, author of *The Economy of Cities* (1969), focuses upon population density and trade. Jacobs argues that domestication must

have first occurred in the early trading centres of hunting-and-gathering societies and then spread from there. There is overwhelming archaeological evidence for the existence of trading centres among pre-agricultural hunting-and-gathering peoples. These urban centres of up to approximately two thousand people traded amber, shells, obsidian, and other desirable goods to hunters and gatherers in the region. Settlements such as these have been found throughout the world, and trade goods have been found far from their source (40). It was to these early trading centres that hunters and gatherers brought animals and grains to trade for materials not available to them in their home regions.

Among the goods that hunters and gatherers brought for trade were wild animals. It was in keeping wild animals for eventual consumption, Jacobs posits, that the selection process of domestication began. With an abundance of animals coming in for trade, animal stewards were given the task of keeping animals alive until they are needed for food. When the time for slaughter came, the first animals chosen were the dangerous carnivores, followed by those herbivores that had mean dispositions, refused to feed, or were difficult to manage. The more docile animals would be saved for last, sometimes giving birth in captivity. Jacobs imagines the scene thus: "They have no conception of animal domestication, nor of categories of animals that can or cannot be domesticated. The stewards are intelligent men, and are fully capable of solving problems and of catching insights from experience. . . . The only reason that second, third or fourth generation captives live long enough to breed yet another generation is that they happen to be the easiest to keep during times of plenty" (23–24). Over generations, after fits and starts in which the breeding stock may well have been sacrificed in time of need, a permanent system of domestication of a species is achieved.

In a similar vein, Jacobs theorizes that plant domestication also required the existence of urban trading centres in order to occur. It took generations of selection to turn wild grasses into the grains we know today, but only under the following conditions could it have happened at all:

1. Seeds that normally do not grow together must come together nevertheless, frequently and consistently over considerable periods of time.
2. In that same place, variants must consistently be under the informed, close observation of people able to act relevantly in response to what they see.
3. That same place must be well secured against food shortages so that in time the seed grain can become sacrosanct; otherwise the whole process of selective breeding will be repeatedly aborted before it can amount to anything. In short, prosperity is a prerequisite. (27)

It was from these trading centres, Jacobs proposes, that domestication gradually spread to outlying regions. Her hypothesis that population density and trade over large areas are necessary preconditions for the development of domestication is part of her broader theory that urbanization and contact among sociocultural systems are key factors in the intensification process. This perspective is, of course, perfectly in keeping with the principles of ecological-evolutionary theory.

Diamond suggests that the environment of Eurasia favoured not only early domestication but also the spread of agriculture from pristine areas of origin to other societies. Recall that most societies do not develop agriculture on their own but rather receive it through conquest or other cultural contact. The Eurasian continent has several advantages over Africa and the Americas in this regard. The foremost reason for the rapid spread of crops in Eurasia, according to Diamond, is that the Eurasian continent has an east-west axis—the bulk of the land mass stretches east to west rather than north to south. Similar latitudes, Diamond (1997, 183) reasons, share the same seasonal variations, length of days, and, often, climate. Thus, plants first cultivated in one area, adapted as they are to such factors of latitude as growing season and length of day, can easily be cultivated in areas east or west of the original site. The axis of the Americas and Africa, on the other hand, is north-south. Corn that was first domesticated in the Mexican highlands, with its long days

and long growing season, could not readily spread to areas of the eastern United States or Canada. To be grown in these new latitudes, corn had to be redomesticated for these climates through a very long process of human selection (184). There are additional geographical barriers to the spread of agriculture, barriers that also came into play in the diffusion of other technologies among societies: desert regions, tropical jungles, and mountains played a much more prominent role in preventing or slowing down the spread of agriculture in the Americas and Africa than in Eurasia, where such barriers are considerably less formidable.

Returning to the question about inequality between societies raised at the beginning of this section, Diamond considers the acquisition, timing, and spread of agriculture the ultimate cause of global inequalities in the fifteenth century but not one of the proximate causes. Proximate or immediate causes were the superiority of Eurasian technology, particularly their guns, steel swords, and armour; the centralized political governments of Eurasian nations, which allowed the marshalling of armadas of ships and armies; and the more lethal germs carried by the conquerors. How are these proximate factors related to agriculture?

First and foremost, there is a strong relationship between food production and population. As noted earlier, many more people can be sustained in a given area through farming than can be supported through hunting and gathering. With the development of agriculture, an autocatalytic relationship between production and population is set in motion, with each one stimulating the other. Before the development of agriculture, all human beings lived in small band-type societies—communal societies with little inequality, a system of reciprocity or sharing of food and resources, and little division of labour. While often ruled by a headman, such "rulers" were little more than the man with the most influence because of his hunting prowess or wisdom; he was, we might say, the first among equals. With population growth, Diamond (1997, 271) argues, social organization moved from loose band-type societies to tribes and, with further growth in numbers, to chiefdoms. The main reason for these changes was the

need for regulation and control of the increasing numbers of people. In earlier band and tribal societies, many of the members of the group were related, making "police, laws, and other conflict-resolving institutions of larger societies unnecessary, since any two villagers getting into an argument will share many kin, who will apply pressure on them to keep it from becoming violent." Other reasons for the shift include the growing impossibility of communal decision making in large populations and the need for some specialization and redistribution of goods among societal members (286–87).

In chiefdoms, one person comes to exercise a monopoly on the use of force, occupying an office that becomes hereditary; the chief thus becomes the central authority figure within the society, making all of the important decisions and, over time, taking on more power, prestige, and wealth. Rather than rely on the generalized reciprocity of hunting-and-gathering bands and tribes, chiefdoms begin a more redistributive economy in which tribute goes to the chief, some of which is then redistributed to other members of society in times of need. As population size increases, chiefs surround themselves with more functionaries to more effectively separate the commoners from the surplus, and more and more of the surplus is held back to reward these functionaries and to provide luxuries for the elite.

States differ from chiefdoms in that centralized control is much more extensive, the division of labour more specialized, and economic inequality and redistribution within the society much more extreme (279). States also have considerably more extensive bureaucracies than do chiefdoms; increasingly, rule is based on written laws and achieved rather than ascribed status (280). Echoing Lenski, Diamond (1997, 281) states that "over the past 13,000 years the predominant trend in human society has been the replacement of smaller, less complex units by larger, more complex ones." The reason for this long-term evolutionary trend is the advantage that states enjoy in population size, weaponry, technology, specialized armies, and centralized coordination and control.

States—which, according to Diamond, are merely natural progressions from chiefdoms—"arose around 3700 BC in Mesopotamia

and around 300 BC in Mesoamerica, over 2,000 years ago in the Andes, China, and Southeast Asia, and over 1,000 years ago in West Africa" (278). The primary reason for the rise of states, according to Diamond, is population growth: the range of population for chiefdoms is a few thousand to perhaps twenty thousand people; a population much bigger than that requires the more centralized coordination and control of a state (279). As we will see in chapter 7, however, the conditions for state formation requires a more extended explanation.

Diamond claims that there is an autocatalytic relationship between intensified food production, population, and societal complexity.[15] First, food production both facilitates and necessitates a sedentary lifestyle, thus allowing for the accumulation of possessions as well as the creation of crafts. Second, intensified food production can be organized to produce a surplus, which can then be used to support a more complex division of labour and social stratification (285). Finally, agricultural production involves seasonal labour. "When the harvest has been stored," writes Diamond, "the farmers' labor becomes available for a centralized political authority to harness—in order to build public works advertising state power (such as the Egyptian pyramids), or to build public works that could feed more mouths (such as Polynesian Hawaii's irrigation systems or fishponds), or to undertake wars of conquest to form larger political entities" (285). Societal complexity, continuing the feedback loop, can then stimulate further intensification of food production.

With population growth and wars of conquest, Diamond maintains, the character of societies began to change. During the hunting-and-gathering era, when population densities were low, conflict between groups often meant that the defeated group would merely move to a new range further removed from the victors. In the intermediate developmental stage of non-intensive food production and consequent moderate population level, there is no place for the defeated to move, but in horticultural societies with little surplus, "the victors have no use for survivors of a defeated tribe, unless to take the women in marriage. The defeated men are killed, and their territory may be occupied by the victors" (291). With intensified food

production and high population densities, as with states that produce a surplus of food and have a developed division of labour, the defeated can be used as slaves or the defeated society can be forced to pay tribute to the conquerors.

The most direct line from the ultimate cause of agriculture to a proximate cause is the relationship between raising livestock and lethal germs. "The major killers of humanity throughout our recent history—smallpox, flu, tuberculosis, malaria, plague, measles, and cholera—are infectious diseases that evolved from diseases of animals" (Diamond 1997, 196–97). Eurasian farmers were exposed to these germs from a very early time; many, therefore, developed resistance to these diseases, but they remained carriers. Thus, native populations of the Americas, Australia, and Polynesia were often decimated before guns and steel were used to subjugate them.

In summary, because food production was much more intensive on the Eurasian continent, there was great competition, diffusion, and amalgamation among the states that evolved on this continent. These states became larger in population, more resistant to the diseases carried by domesticates, more sophisticated in terms of technology, and more centralized politically than the tribes, chiefdoms, and early states with which they came into contact in the New World, the Pacific Islands, Africa, and Australia. Thus, when worlds collided, one barely survived. Although Diamond comes from a tradition based in the biological sciences and developed almost in isolation from social theory, his work explores the many relationships among environment, population, and production—as well as the impact of these relationships on the rest of the sociocultural system—and is perfectly consistent with the principles of ecological-evolutionary theory.

ELIZABETH EISENSTEIN'S FOCUS ON THE PRINTING PRESS

While Lenski and Diamond capture the grand sweep of the social evolutionary process, historian Elizabeth Eisenstein (1979) focuses upon

a single technological innovation and traces its impact on the rest of sociocultural system. In elaborate detail, she outlines the beginnings of the communications revolution started by the invention of the printing press. I have selected her work for review because she successfully demonstrates two principles of ecological-evolutionary theory: (1) technology is a potent force in sociocultural evolution and often has far-reaching effects throughout the sociocultural system, and (2) communications technology in particular, because it involves both the storage and dissemination of information and data, is an intensifier of the evolutionary process. Modernity, Eisenstein claims, is too indefinite a concept for careful scholarship. Rather, she examines the effects of a communications revolution on a variety of social movements in sixteenth-century Europe. While many look to the discovery and sudden influx of wealth from the New World, or class struggle and the triumph of capitalism, or the scientific revolution, or the schism of Christianity to explain the turmoil and innovation of that century, Eisenstein looks to the printing press as the primary agent of change.

This initial communications revolution has been much overlooked by historians and social scientists, Eisenstein argues, because the cumulative impact of more recent communications technology has largely overshadowed this fundamental shift in the storage and retrieval of information and data. "Since Gutenberg's day," she notes, "printed materials have become exceedingly common. They ceased to be newsworthy more than a century ago and have attracted ever less attention the more ubiquitous they have become. But although calendars, maps, time-tables, dictionaries, catalogues, textbooks, and newspapers are taken for granted at present (or even dismissed as old-fashioned by purveyors of novelties) they continue to exert as great an influence on daily life as ever they did before" (1979, 17).

Another reason why the advent of the printing press is largely overlooked as being truly revolutionary is the prevalence of anthropological studies that focus upon the contrast between oral and literate culture, which is very great, but do not properly emphasize the impermanence of scribal records. In early scribal cultures, records

often perished in a few generations unless stored or buried in jars (and then were often forgotten). To be preserved over time, such records had to be copied, and such copying was painfully slow and labour intensive, and led to "textual drift" (114). Consequently, records and knowledge gained were often lost or simply not recorded. Printed documents, too, are on perishable materials but can be easily and reliably duplicated and thus preserved in perpetuity. Because of its amazing duplicative powers, print can spread innovation, ideas, maps, drawings, data—indeed, all types of information—through time and space.

Eisenstein claims that, beginning in the 1450s, the impact of the new print technology on medieval life was profound. By 1500, every major city in Europe had at least one printing workshop (43–44). The focus of her historical analysis is on the effects of these early print shops on the social structure and culture of Europe over the next hundred years. Many of these print shops brought together scholars and artisans, and served as a bridge between universities and cities. These workshops were also capitalistic enterprises employing and training new occupational groups, utilizing new technologies, and developing new techniques; print shop owners were constantly seeking new markets to increase their profits and expand their enterprises. Eisenstein describes the shops as serving a coordinating function for scholarly, religious, state, and scientific activities while producing commodities for profit (690). As such, these shops represent a new destabilizing force in Europe, both in their organization and in their products.

Eisenstein also refers to the change in motivation experienced by printers caught up in capitalism. Before the advent of printing, book dealers who served university faculties were also subject to self-interested motivations and competitive drives. But these commercial interests were muted, Eisenstein maintains, compared to the early printers, who had to worry about creditors, employees, and the cost of paper and ink: "The manuscript book dealer did not have to worry about idle machines or striking workmen as did the printer" (58). The consequent increase of overhead, debt, and dependence

on machines and skilled and unskilled workers necessarily forced a revolution in the printer-entrepreneur's mind. His thinking must increasingly have been dominated by finance and technology—he must constantly search for ways to expand his markets in order to increase his profit. In many of these shops, book printing was accompanied by job printing: commercial advertising for the book shops themselves and for other enterprises, official documents and propaganda for the state, seditious materials for radicals and revolutionaries, and documents required by private, church, and state bureaucracies (59). Early printers were in a unique position vis-à-vis other commercial enterprises, Eisenstein asserts, because in seeking to expand their own product line, they also "contributed to, and profited from, the expansion of other commercial enterprises" (60).

But again, Eisenstein lists a variety of motives behind the power of the press in sixteenth-century Europe—among them, profit, evangelism, individual fame, bureaucratic necessity, and the extension of the state's power. In this sense, Eisenstein states, the press was not a single technological innovation that changed everything but rather an invention that could be used by church and state, capitalists and scholars to further their interests. In a different culture, the technology may have been used for very different ends or perhaps even entirely suppressed. Accordingly, institutional context is important when considering technological innovation, and it specifically points to the importance of the material interests of elites. Early printers were effective change agents, but only in combination with other institutional forces. This function of communication as a catalyst makes printing different from most other innovations (702–3).

The major impact of the printing press, of course, was the marked increase in the number of books available to the reading public. "The fact that identical images, maps and diagrams could be viewed simultaneously by scattered readers constituted a kind of communications revolution in itself" (Eisenstein 1979, 53). Readers had more sources from which to draw and thus a greater diversity of views, facts, contradictions, observations, theories, drawings, illustrations, and maps to heighten their "awareness of anomalies or discontent

with inherited schemes" (686). While scribal errors in writing, mathematics, charts, graphs, and inferior maps continued to be printed after the advent of the press, a process had begun to address these errors with more certainty, and much greater confidence could eventually be placed in the accuracy of the record (686, 699).

The long and uneven spread of literacy after the invention of printing occurred over the next several centuries (indeed, is still occurring) and constitutes the most dramatic change associated with the invention of the printing press. A knowledge explosion occurred in the sixteenth century, and although this explosion is often attributed to the discovery of the New World or to the Reformation or the rise of science, Eisenstein maintains that access to a greater variety of books deserves at least equal attention (74). The increase in texts and literacy exposed ever greater numbers of people to classical literature as well as cross-cultural information, new discoveries, religious beliefs, philosophies, fashion, and ways of thinking in contemporaneous societies geographically remote from Europe. Such a sudden abundance of literature—often novel or contradictory to established patterns and thought in such traditional societies—created great intellectual ferment in sixteenth-century Europe.

Printed material, Eisenstein claims, also facilitates problem solving and directly affects the life of the mind (689). Along with Marshall McLuhan, Eisenstein speculates that the format and presentation of books—from scanning lines of print from left to right, to chapter organization, presentation of argument, and arrangement of facts—may well affect the thought patterns of readers (88–89). Printing also helped to codify and standardize languages, thus strengthening national identities as well as the centralization of the state. Finally, printing serves the function of "amplifying and reinforcing" norms, values, beliefs, and ideologies in that it serves to repeat "identical chapters and verses, anecdotes and aphorism, drawn from very limited scribal sources" (126). This does not happen from sheer duplication—although that contributes to the phenomenon—but rather because writers tend to be great readers and, for the past five hundred years, have "jointly transmitted certain old messages with

augmented frequency even while separately reporting on new events or spinning out new ideas" (126–27).

Printing also contributed to the fragmentation of Christianity. With the advent of print, religious divisions became more permanent. Heresy, and its condemnation, Eisenstein (1979, 118–19) writes, became more fixed in the minds of followers, religious edicts more "visible" and "irrevocable." The study of scripture became more individualized and fragmented the religious beliefs and experiences of Christians, helping to start civil wars, heresy trials, and intolerance of other beliefs, a result quite opposite to the effect of printing on science (701).

The advent of printing also contributed greatly to the spread of individualism in the West. A scribal culture, because of the dearth of written materials, required communal gatherings to receive messages from government or church. With the advent of the mass duplication of printed materials, these messages could be given directly to individual readers. This led to a weakening of the social bond with local groups but gave opportunity for allegiance and attachment to larger collectives (say, the nation-state or socialist organizations) and for "vicarious participation" in distant events. "Printed materials encouraged silent adherence to causes whose advocates could not be found in any one parish and who addressed an invisible public from afar. New forms of group identity began to compete with an older, more localized nexus of loyalties" (132).

Over time, printers began to differentiate the markets for their printed materials to better target the reading tastes of males and females, newly created occupational groups (due to an increasing division of labour), and different age groups. The latter, combined with newly established schools for youth, served to create distinctive youth cultures for children and, somewhat later, adolescents (133–34).[16] In general, the marketing of printed materials to specific groups served to further differentiate them from one another in terms of their social experiences, beliefs, interests, ideologies, and values, a process that has been "amplified and reinforced" as the communications revolution has continued (158–59).

While Eisenstein's focus is on the communications revolution that occurred in sixteenth-century Europe, the revolution has continued with the development of metal presses, the harnessing of steam and then electricity to the presses, photography, telegraph, telephone, Linotype, radio, television, and computers. "Since the advent of movable type, an enhanced capacity to store and retrieve, preserve and transmit has kept pace with an enhanced capacity to create and destroy, to innovate or outmode. The somewhat chaotic appearance of modern Western culture owes as much, if not more, to the duplicative powers of print as it does to the harnessing of new powers in the past century" (704).

This chapter began by detailing Gerhard Lenski's ecological-evolutionary theory, calling attention to the fact that many social scientists have contributed to his synthesis. I then demonstrated the usefulness of the theory through the independent writings of an evolutionary biologist and a social historian. The empirical work of Lenski, Harris, Robert Carneiro, Stephen Sanderson, and a host of other social scientists could also be detailed, but I believe the following points have been made:

- Macrosociology is steeped in evolutionism.
- Its practitioners share much common ground regarding the material foundations of sociocultural systems and the primary mechanisms of the evolutionary process.
- Its explanations are both powerful and wide in scope; using a few logically consistent principles, they are able to explain much about the origins, maintenance, and change of sociocultural systems.

We will now turn our focus to some of the structural and cultural changes that this evolutionary process has wrought.

Bureaucratization

During the past century the successive advances in technology have been accompanied by corresponding advances in organization. Complicated machinery has had to be matched by complicated social arrangements, designed to work as smoothly and efficiently as the new instruments of production. — ALDOUS HUXLEY

Macrosociologists do not maintain that material conditions are all that matter. Material conditions affect social structures—primary groups and secondary organizations. These social structures are considered second-order variables in understanding sociocultural systems. Sociologists have examined such structural characteristics as capitalism, the state, religious institutions, kinship networks, and community organizations and groups. This chapter focuses upon one general form of structural organization: bureaucracy. Specifically, we will examine the characteristics, causes, and consequences of bureaucratic organization.

In 1921, Max Weber published his systematic study of bureaucracy in *Wirtschaft und Gesellschaft* (*Economy and Society*), and this seminal work continues to inform modern studies of the phenomenon.

C. Wright Mills—arguably the most controversial of all modern sociologists—picked up and extended Weber's analysis significantly, writing on the impact of bureaucracy and rationalization on the "tang and feel" of American life in *White Collar* ([1951] 1973), as well as on the political and economic life of a nation in *The Power Elite* (1956) and on the social sciences in *The Sociological Imagination* (1959). Mills was a committed Weberian; the concepts of rationalization and bureaucratization permeate his sociology and form the foundation of his more radical critiques of American society. *The Power Elite* centres upon the growth and increasing centralization and enlargement of government, the military, and corporate bureaucracy, as well as the impact of this on democracy—an elaboration and update, if you will, of Weber's work on the essential incompatibility of bureaucracy and democracy. The theme of *The Sociological Imagination* is that this same bureaucratic growth has essentially emasculated the social sciences, turning their methods into tools for increasing control and manipulation by the bureaucratic state and promoting the process of academic specialization to the point of rendering the social sciences irrelevant to understanding and addressing the social problems of our societies. George Ritzer (1993) also expands on Weber's concerns with rationalization, updating the concept by coining the term *McDonaldization* and examining its consequences for the individual and society.

CHARACTERISTICS OF BUREAUCRACY

Weber ([1921] 1968, 956–58) details the following characteristics of an ideal bureaucracy, an organization designed for the efficient attainment of goals:

1. *Official positions* with fixed duties and jurisdictional areas (and sometimes the length of service of the office holder), as well as a fixed salary tied to the functions of the office rather than the amount of work performed. Employment and promotion

within the bureaucracy are based upon well-defined qualifications and performance.

2. A *hierarchy* of graded authority, in which authority to give commands required for the operation of the bureaucracy is distributed. This hierarchy is one in which higher offices supervise lower offices, information flows from lower to higher offices, decisions are made in offices in accordance with their jurisdictional areas and competence, and commands flow down the chain.
3. *Written documents* that prescribe rules, laws, or administrative regulations. These prescriptions are both stable and exhaustive, and they define the jurisdiction and duties of offices as well as the sanctions that office holders may invoke to enforce their rule.
4. *Specialization,* as the bureaucracy increasingly requires expert training and credentialing in management or highly specialized training in technical fields.
5. *Professionalism,* which requires the office holders and support staff to attend to the regular and continuous fulfillment of the duties and responsibilities of their office. They must spend a set amount of time performing their official duties and must not mix those duties with their personal lives. This professionalism demands impersonality in the treatment of individuals since a bureaucracy's efficiency rests upon decision making based on rational rules. Professional authority entitles its holder to regulate matters only in the abstract; professionals must not be influenced in their rule by personal privilege, relationship, or favour. Therefore, abstract rules designed to be exhaustive are established to guide the office holder in decision making.
6. *Management* based upon written documentation providing rules and procedures for all routine matters. These rules are more or less stable, although a bureaucracy is always in the state of bureaucratizing, refining its rules and regulations to encompass more and more cases, to improve its efficiency in the attainment of its goals.

As envisioned by Weber, the bureaucratic ethos evolves over time in different places around the world. As one goes back in history, one is struck by its complete absence or, at best, its incomplete character. It attains its purest, most rational form in modern times, although elements of early bureaucracies can be found in ancient Egypt, Rome, and China, and in the Catholic Church of the Middle Ages. However, these bureaucracies, though large and complex, often contained feudal or patrimonial elements such as inheritance of positions (Weber, [1946] 1958, 204). The administration of previous states, religions, and economic enterprises, Weber argues, was done through rulers who exercised their authority through informal ties with trusted friends, table companions, or court servants. Their authority was not always precisely defined, and they were often not guided by rules but by personal relationships or favours; their offices were rarely separated from their personal lives. Monetary support for administration took the form of land, or tithes, rather than a fixed salary. Only with the modern state and in the more advanced institutions of capitalism did bureaucracy appear in its purest form.

Weber's characteristics of bureaucracy are, of course, those of an "ideal type"; they are logically consistent features of a bureaucracy that are not affected by the interests of other institutions or powerful individuals. Anyone who has spent any time working in a bureaucracy (and that includes almost all adults in the modern world) knows of instances when bureaucratic ideals have been ignored—hiring someone without the proper credentials, promoting someone by virtue of relationship rather than performance, ignoring long-established rules when someone of rank makes a serious mistake. Nevertheless, Weber's characteristics are those of an ideal bureaucracy whose participants are striving to achieve its goals with the greatest efficiency; violation of the bureaucratic ethos has a deleterious effect on the efficient attainment of the organization's goals and is viewed by many in modern hyperindustrial societies as an affront to deeply held bureaucratic values. Weber's "ideal type" thus serves as a measuring rod by which we can evaluate real institutions and assess their degree of bureaucratization.[1]

BUREAUCRATIZATION

According to Weber, bureaucracy in its fully articulated form is a relatively recent historical development. Bureaucracy is, in essence, social organization founded on goal-directed rational behaviour, and its rise has had revolutionary effects on every social structure it has touched ([1921] 1968, 1002–3). Bureaucracy proliferated in response to the increasing number and complexity of administrative tasks associated with the evolution of the modern state and the growth of capitalist enterprises. Although bureaucratization can occur in a variety of specific contexts, in early societies where bureaucracy first appeared, it was associated with massive construction activities such as erecting pyramids and temples or building and regulating complex irrigation systems, as well as with training and deploying large standing armies, and with developing public financing systems to support such activities (971–72). But bureaucratic organization is suitable for the attainment of a wide array of goals.

In modern societies, bureaucratization arises from these sources as well as from the increasing complexity of the production, distribution, and consumption of goods and services and from an expanding number of people engaged in an ever more detailed division of labour. A growing population means not only more people but also a geometric growth in the interrelationships among these people, which requires greater coordination and control of their activities. As more and more goods and services become commodified, they stimulate demand for even more varied wants that cannot be satisfied within the confines of the family, the community, or even the local economy. Corporate bureaucracies have grown as more people have become integrated into the capitalist economy as both producers and consumers. The rise of commodification has also stoked the growth of corporate bureaucracy, as a wide variety of goods and services are being introduced into the domestic and international economy. Capital has created new "needs" in food, shelter, entertainment, medicine, and a host of other areas. The production of goods becomes increasingly complex and technologically sophisticated, the distribution

national or global, thus necessitating bureaucracy to coordinate and control the processes. Associated with this is the increasing division of labour, often stretching over continents and encompassing hundreds of specialties, thousands of workers, massive capital machinery, large amounts of raw materials of different types, huge inventories of parts, complex transportation schedules and time tables—all of which requires ever greater bureaucratic organization to coordinate and control its growth. Along with corporate economies, government bureaucracy has grown in order to fulfill many functions: to assist corporate bureaucracies in their expansion of markets, to regulate the highs and lows of the economy, to police both the interactions among companies and the financial system, to regulate trade among states and nations, to provide a criminal justice system for an increasingly complex economic system and a diverse population, and to provide for the nation's military defence and offence (the US Department of Defense is perhaps the largest bureaucratic enterprise on earth). The growth of both private and public bureaucracies is rooted in infrastructural intensification—the growth of population, production, and the division of labour (Weber [1946] 1958, 212–14).

The capitalist system demands that public administration be conducted in accordance with bureaucratic principles of coordination, rational rule making, continuity, and efficiency. For the capitalist, the arbitrary and capricious rule of kings and emperors, with their confiscatory taxes and favour to nobles and friends, is abhorrent. The capitalist desires predictability, calculability, steadiness, and precision. Above all, capitalism requires laws that free labourers to work in response to demand and to protect the rights of property and finance. The expansion of markets requires the expansion of government at all levels to provide the infrastructure for economic activities: roads, railways, canals, mail, electrical grids, airports, sewer and gas lines, bridges, communications systems, and a host of other infrastructural needs (Weber [1921] 1968, 971–73).[2] In this category, Weber also includes higher education, since the corporate economy and the state have come to rely upon bureaucracies for basic research and the training of a specialized workforce (983, 998–1002).

The bureaucratic state is absolutely essential for large-scale capitalism to exist: the two have co-evolved in the West and continue to do so to the present day.[3] The two sectors—public and private bureaucracies—feed off each other. Political scientists Jacob S. Hacker and Paul Pierson (2010, 55) describe this autocatalytic relationship:

> As the great political economist Karl Polanyi famously argued in the 1940s, even the ostensibly freest markets require the extensive exercise of the coercive power of the state—to enforce contracts, to govern the formation of unions, to spell out the rights and obligations of corporations, to shape who has standing to bring legal actions, to define what constitutes an unacceptable conflict of interest, and so on. The libertarian vision of a night-watchman state gently policing an unfettered free market is a philosophical conceit, not a description of reality.
>
> The intertwining of government and markets is nothing new. The frontier was settled because government granted land to the pioneers, killed, drove off, or rounded up Native Americans, created private monopolies to forge a nationwide transportation and industrial network, and linked the land settled with the world's largest postal system. Similarly, the laissez-faire capitalism of the early twentieth century was underpinned by a government that kept unions at bay, created a stable money supply, erected trade barriers that sheltered the new manufacturing giants, protected entrepreneurs from debtors' prison and corporations from liability, and generally made business the business of government.

Governments, then, not only shape and regulate markets; they also promote the growth of the economy, which provides more tax money that can be used for government social services, technological infrastructure expansion, and military defence. As government spending flows to the private sector, corporate growth creates interest groups—managers, workers, stockholders—that then lobby governments for further spending in their areas of interest (defence, military adventure, energy, construction), contribute to

the campaigns of those office seekers who are favourable to their interests, and purchase issue advocacy ads (or whole radio and television networks) to propagandize for issues and candidates who are favourable to their interests.

The system of capitalism itself is one of the primary carriers of bureaucracy, with large capitalist enterprises the closest thing to ideal bureaucracies in the real world.[4] The more complex the production and distribution of goods, the more necessary corporate bureaucracy becomes. Bureaucratic management is needed to assure coordination, precision, speed, and the continuous performance of duties in far-flung operations. Consider the factory floor, as described by Weber ([1921] 1968, 1156):

> No special proof is necessary to show that military discipline is the ideal model for the modern capitalist factory, as it was for the ancient plantation. However, organizational discipline in the factory has a completely rational basis. With the help of suitable methods of measurement, the optimum profitability of the individual worker is calculated like that of any material means of production. On this basis, the American system of "scientific management" triumphantly proceeds with its rational conditioning and training of work performances, thus drawing the ultimate conclusions from the mechanization and discipline of the plant. The psycho-physical apparatus of man is completely adjusted to the demands of the outer world, the tools, the machines—in short, it is functionalized, and the individual is shorn of his natural rhythm as determined by his organism; in line with the demands of the work and procedure, he is attuned to a new rhythm through the functional specialization of muscles and through the creation of an optimal economy of physical effort.

Such discipline, coordination, and focus on efficiency are equally true of corporate management as a whole. Capitalism is organized around the goal of maximizing profit by eliminating considerations of traditions, emotions, and other irrational factors that may detract

from the bottom line (Weber [1921] 1968, 973–74). Because the bottom line is simple and unambiguous, because the whole corporate structure is focused upon this single goal, capitalism is unparalleled in its bureaucratic organization.

Other factors behind the growth of bureaucracy include the need for domestic security and social welfare policies, all of which require intensive administration (971–73, 998–1001). Government bureaucracy has grown to provide social services for the masses, collect taxes, redistribute income, administer law and medical care (at least in most modern societies), and a host of other activities. "The decisive reason for the advance of bureaucratic organization," writes Weber, "has always been its purely technical superiority over any other form of organization. The fully developed bureaucratic mechanism compares with other organizations exactly as does the machine with the non-mechanical modes of production" (973). Bureaucracy grows because it works; no other form of human organization can match its efficiency in attaining whatever goal that is set for it.

One of the primary carriers of bureaucracy, Weber claims, is mass democracy. This is because democracy fosters equality over privilege, the treatment of all on the basis of the rule of law rather than through special treatment or favouritism. To fully understand Weber, though, it must be pointed out that he does not equate "mass democracy" with people actually governing their society. Rather, he means societies in which leaders are selected from competing social circles—say, liberal or conservative parties—who are then able to exert some limited influence upon the bureaucracies of government based on public opinion ([1921] 1968, 984–85).[5] Weber asserts that the bureaucracies, not the people, rule in mass democracies. Therefore, while democracy is as opposed to the "rule" of bureaucracy as it is to the rule of other elites, it finds bureaucracy indispensable in setting up systems of justice, elections, economic regulating agencies, and a host of other governmental activities intended to promote equality.

Weber reserves a special place for the role of communication and transportation technology in the bureaucratization process, calling such technologies "pacemakers" of the process. Communication and

transportation systems—canals, railroads, highways, postal systems, and telegraph and telephone lines, for example—can only be efficiently constructed and maintained through public bureaucracies, and in this respect, they play the same role as the monolithic works in ancient societies. But such communication and transportation systems are also the means of bureaucratic administration and control; the large modern state can only be administered because these systems exist (973).

Yet another reason for the growth of bureaucracies in the modern era is the internal dynamics of bureaucratic organization. Bureaucracies are rarely stable structures; bureaucrats are always in the process of refining their procedures and expanding the reach of the organization. Some of this expansion is due to their individual motivation: corporate managers—anxious for promotion, higher salaries, and other rewards—constantly search for new markets and products to grow the bottom line of the corporation. Government bureaucrats look for promotion or, jealously guarding their authority, look for ways to expand it. And all bureaucrats believe that their particular bureau is the most important within the organization, the key to its continued growth and prosperity, and therefore should be given more resources and expanded accordingly.

Structural characteristics of modern sociocultural systems also promote the growth of bureaucracy, including one focused on by Durkheim and his followers: the decline of primary groups. Kinship networks, communities, churches, neighbourhoods, and even the nuclear family are increasingly losing many of the functions they used to provide individuals in informal networks. Robert Nisbet (1975) and others attribute this decline in primary group functions to the expansion of government services. Government services and transfer payments, they argue, have squeezed out the informal networks that provided these services in the past through kinship, community, and religious ties. Still others attribute the decline of primary groups to the growth of the division of labour and the necessity to move, physically and/or socially, as one pursues job opportunities, thus breaking the ties of family and community (Elwell 1999, 99).[6] It is probable

that both forces are at play, but whatever caused the erosion of primary groups, government and corporate entities, both of which are bureaucratically organized, quickly expanded to fill the vacuum left by the decline. As we will see in chapter 8, the loss of important functions of family and community and other primary groups has consequences for the individual as well.

Another structural characteristic that promotes the growth of bureaucracy is what I call the organizational imperative. In order to deal on a more equal footing with corporate or government bureaucracy, for example, workers form labour unions, which soon become organized along similar bureaucratic lines. To counteract corporate interests, consumers organize interest groups to bring pressure to bear on legislators and regulators. Other groups—involving both individual and corporate "citizens"—organize to lobby state and national regulatory agencies, school boards, zoning commissions, and legislators on behalf of their interests. Weber, of course, anticipated this phenomenon: "When those subject to bureaucratic control seek to escape the influence of existing bureaucratic apparatus, this is normally possible only by creating an organization of their own which is equally subject to the process of bureaucratization" ([1921] 1968, 224). Bureaucracy is a human machine; it is the most efficient way to organize human beings in attaining a goal—whatever that goal might be. It is superior to all other forms of human organization in terms of the scope of operations that can be placed under its command, adaptability to task, and predictability of results. Bureaucracy is an efficient organizational form for any group that wants to attain a goal.

A final characteristic of the sociocultural system that promotes bureaucratization is the rationalization process itself. Rationalization is Weber's term for the increasing dominance of goal-oriented rational behaviour in modern social life. Weber believed that, prior to the modern period, humans were motivated in their behaviour by a combination of values, traditions, emotions, and goal-oriented rationality. But the increasing dominance of bureaucracy—particularly in Western cultures—has promoted goal-oriented behaviour and discouraged and denigrated actions based on emotions, human values,

or traditions. Rationality is the only approved basis of bureaucratic decision making; government and corporate bureaucracies are structured to use a rational calculus in pursuit of their goals. Over time, rationality has increasingly come to dominate our personal thinking as well. We live, work, play, and participate politically in a rationalized society; rationalization has formed the way we view, value, and act upon the world. Institutions and practices that fail to live up to standards of efficiency, calculability, and predictability are subject to rational reform. In the long run, this brings much of social life under the purview of bureaucracy.

DYSFUNCTIONS OF BUREAUCRACY

The dysfunctions of bureaucracy have been written about extensively by both micro- and macrosociologists. Microsociologists, of course, focus upon the impact of bureaucracy on the individual. Much like an assembly line, the division of labour within large bureaucracies demands a highly specialized workforce whose members have little identification with the overall goals of the organization or their role in it. Their actions and decisions in the workplace are controlled by the rules and regulations of the bureaucracy rather than being self-directed. Such work environments create high levels of alienation and psychological pain. People in such situations often work for the money rather than for any intrinsic job satisfaction; they work to live rather than live to work, going through the motions of work in order to sustain themselves and their families but investing their energies in entertainment, leisure, and family.

Another widely commented-upon example of the impact of bureaucracy on the individual is the concept of the "bureaucratic personality," as described by Robert Merton ([1948] 1968, 249–59). Because the bureaucracy puts so much stress on rules and procedures, following the rules can become an end in itself for the bureaucrat, even when the rules get in the way of achieving the goals of the organization. The bureaucrat becomes obsessed with form, unable

to make decisions or exceptions when the situation falls outside of standard categories. One example is the following of a zero-tolerance drug policy in our high schools to such a degree that students are periodically expelled for carrying aspirin or nasal decongestants. As in this example, the bureaucratic personality is often dysfunctional not only for the individual bureaucrat but also for the clients he or she serves, and sometimes even for the organization itself. Another source of dysfunction is bureaucracy's demand for impersonal treatment of both its workers and its clients. While this requirement is meant to assure that people are treated fairly and equitably without prejudice or favour, it can be maddening to those who resent being treated like a number or a category. In the following section, though, we will examine the two major macro dysfunctions of bureaucracy: the problem of oligarchy and what I call the "irrationality factor"—the unavoidable "conflict between formal and substantive rationality of the sort which sociology so often encounters" (Weber [1921] 1968, 225).

THE PROBLEM OF OLIGARCHY

In 1915, Robert Michels, a sociologist and friend of Max Weber, formulated the "iron law of oligarchy." According to this iron law, "It is organization which gives birth to the dominion of the elected over the electors . . . of the delegates over the delegators. Who says organization, says oligarchy" (365). Michels coined this "iron law" after experiencing it first-hand as a member of Germany's Social Democratic Party. He was struck by the fact that although the party espoused a democratic ideology, it was dominated by a few leaders at the top who formed a leadership clique. Michels found that oligarchy stems primarily from the necessity of leadership in all social organizations. Any large-scale organization is faced with problems that can only be solved by creating a bureaucracy, and by design, a bureaucracy is hierarchically organized with enormous power vested in higher offices. To maintain impersonality and efficiency, lower offices are severely constrained in their authority; they are restricted to interpreting rules

and precedents. The efficient functioning of an organization therefore requires the concentration of real power and authority in the hands of a very few people. The problem of oligarchy—a small class of rulers exercising immense authority within the organization—exists within any bureaucracy, whatever its ideology. Within bureaucratic organization, it is codified in its written rules and procedures.

These organizational characteristics of bureaucracy are reinforced by certain characteristics of upper-level bureaucrats. Leaders arise because of their personal qualities of competence and charisma, but they soon become focused not primarily on the organization's goal but on their own interests and authority. People achieve leadership positions within bureaucracies because they have unusual political skills; they are very good at getting their way and at persuading others to agree with their suggestions. Once they attain high office, their power and prestige is significantly enhanced by the authority of the position. As information flows up from all lower offices under their purview, they have access and control over information not available to the lower offices; they control what information flows down the channels of communication. Bureaucrats at all levels are strongly motivated to maintain their positions by continually demonstrating to those above and below them in the hierarchy of the correctness of their decisions and the effectiveness of their leadership. Upper offices within the bureaucracy also have control over very powerful positive sanctions to promote desirable behaviour of those under their authority as well as negative sanctions to discourage behaviour they find harmful to their interests. To summarize with a colourful phrase, bureaucracy teaches the office holder to "kiss up and kick down." In varying degrees according to their position in the hierarchy, bureaucrats have the power to grant or deny raises, assign workloads, and fire, promote, or demote their underlings. Junior officials who share the opinions and attitudes of those in authority tend to be the ones who excel in such organizations; thus, the oligarchy becomes self-perpetuating.[7]

The oligarchy within bureaucracy is also reinforced by certain human characteristics. Stanley Milgram (1974, 123–24) argues that

human beings are hierarchical animals and that organization based on dominance is a key survival strategy in humans.

> The formation of hierarchically organized groupings lends enormous advantage to those so organized in coping with dangers of the physical environment, threats posed by competing species, and potential disruption from within. . . . An evolutionary bias is implied in this viewpoint; behavior, like any other of man's characteristics, has through successive generations been shaped by requirements of survival. Behaviors that did not enhance the chances of survival were successively bred out of the organism because they led to the eventual extinction of the group that displayed them.

Therefore, Milgram argues, we are born with a potential for obedience that interacts with social forces to produce the hierarchies that dominate modern societies. What are these social forces? First, the child grows up in the midst of structures of authority within the family and is subjected to parental regulation that results in the internalization of respect and obedience to authority. While children of all societies are socialized in such family structures, modern societies add the requirement that children submit to the impersonal authority of bureaucratic organization in school. Here, the child learns how to function within a structure of bureaucratic authority subject to the rules and demands of teachers and administrators, a structure in which obedience is rewarded and disobedience is severely punished. Upon graduation, the socialization process continues in college, military service, or the workforce. Workers learn on the job that "although some discreetly expressed dissent is allowable, an underlying posture of submission is required for harmonious functioning with superiors. However much freedom of detail is allowed the individual, the situation is defined as one in which he is to do a job prescribed by someone else" (137). The individual thus learns at a very early age to submit to impersonal authority and is continually confronted with positive and negative sanctions in which obedience is rewarded and failure to obey is punished. This is facilitated by the

respect and gratitude that followers give to leaders and by the general passivity of the masses (Michels 1915, 364–65). By design, the rank and file do not have access to all of the information that is available to upper offices. This lack of access is often used by those who are higher in the hierarchy to stifle debate or to imply that because of their superior positions, they know better.

A final factor in promoting oligarchy, and one that has been intensifying in the past several centuries, is the role of technology. In the past, the size, scope, and centralization of decision making within an organization were limited by the transportation and communication technologies of the time. For effective and efficient coordination and control, upper bureaucratic offices must receive information about day-to-day operations in order to make critical decisions. In addition, these offices must be able to efficiently bring resources to bear when called for. Modern communication and transportation innovations are fundamental in that they have allowed corporate and government bureaucracies to enlarge their scope and centralize their operations far beyond their traditional bureaucratic counterparts. Recent innovations in computer technologies, including increasingly sophisticated software, have given bureaucracies the tools to more effectively centralize, coordinate, and control their internal operations and thus more efficiently achieve their institutional goals.

But the concern about oligarchical tendencies within organizations is dwarfed by concerns about the same tendency in the sociocultural system as a whole. By its nature, bureaucracy generates an enormous degree of economic, political, and social power. Because of its technical superiority over other forms of organization, bureaucracies have proliferated in modern society and greatly enlarged their scope and authority. In a society dominated by large formal organizations, economic, political, and social power become concentrated in the hands of the few people at the top of these organizations. The iron law thus represents a conundrum: democracy is simply not conceivable in large societies without bureaucratic organization to organize and coordinate the various branches of government and to provide for defence, elections, criminal and civil justice, economic

regulation, taxation, education, and welfare. Yet this bureaucracy is the very antithesis of democracy itself.[8] The problem of society-wide oligarchy is compounded by the existence of corporate bureaucracies within nation-states. Like the modern state, capitalism is simply not conceivable on a large scale without bureaucratic organization to organize and coordinate all its necessary functions, often on a worldwide basis. Yet the growth of corporate bureaucracy has created enormous concentrations of wealth and power that form intimate ties with governments and thereby threaten representative democracy.

Coincidental with the centralization of power is its enlargement in the modern world. Leaders within government and corporate bureaucracies have instruments that allow them to have unparalleled influence on the masses. Firms specializing in advertising, public relations, and political propaganda have taken sociological and psychological principles (and, in the process, have co-opted many sociologists and psychologists) and applied them to the manipulation of people. Through such mass media technology as print, radio, television, and the Internet, bureaucracies now have direct access into our homes, schools, offices, factories—into our very lives. Corporate, political, and government bureaucracies use this access to sell us goods and service, political candidates and opinions, entertainment and ideologies. These technological developments significantly strengthen the scope and authority of centralized elites and make their decisions more consequential than ever before.

In the tradition of Weber, C. Wright Mills wrote of increasing elite domination of American society in the 1950s. The power of these elites, according to Mills, was based on the bureaucracies that they controlled. Mills believed that the elite share an outlook and ideology that is partly based on their common social class background, a background that gives them access to the right social circles, wealth, exclusive schools, and private clubs, and provides coordination to their actions. While a significant portion of American leaders have come from the upper classes (the Kennedys, Bushes, and Rockefellers, for example), many have come from more humble beginnings (Reagan, Clinton, and Obama). But Mills did not believe

that the coordination of elites is entirely based upon common social class background; rather, he stressed the mutual self-interests of corporate and government institutions as well as their increasing structural integration:

> As each of these domains becomes enlarged and centralized, the consequences of its activities become greater, and its traffic with the others increases. The decisions of the military establishment rest upon and grievously affect political life as well as the very level of economic activity. The decisions made within the political domain determine economic activities and military programs. There is no longer, on the one hand, an economy, and, on the other hand, a political order containing a military establishment unimportant to the politics and to money-making. There is a political economy linked, in a thousand ways, with military institutions and decisions. . . . There is an ever-increasing interlocking of economic, military, and political structures. If there is government intervention in the corporate economy, so is there corporate intervention in the governmental process. In the structural sense, this triangle of power is the source of the interlocking directorate that is most important for the historical structure of the present. ([1956] 1970, 7–8)

According to Mills, these elites increasingly rule American society, filling "the strategic command posts of the social structure, in which are now centered the effective means of power and wealth and celebrity which they enjoy" (4). Mills divides societal bureaucracies into three broad categories: corporate, government, and military. Many have questioned Mills's inclusion of the military in his elite since this group is constitutionally under civilian-government control. But Mills can perhaps be forgiven for this as he was, after all, writing in the 1950s, when General Eisenhower was president, the country was just coming out of World War II, and the Cold War with the Soviet Union was intensifying. Mills's *Causes of World War Three* (1958) emphasizes the *militarism* of American elites more than *a military elite* that directly dominated sociocultural systems.[9]

Aside from Mills, several contemporary macrosociologists have commented upon the increasing militarism of American society. For example, Robert Nisbet, a sociologist from the other side of the political spectrum, claims that a military cast of mind increasingly dominates American institutions.[10] As evidence for this rise of militarism, he points to the increased size of the military as well as the increasing incidence and intensity of war in the twentieth century (1975, 147–48). The associated spending is, of course, in the interests of the elites. Corporations profit greatly from government spending on the military, not only in the manufacturing of weapons and supplies but also increasingly in support services to the military on the base and in the field; political representatives and their districts benefit from military bases and defence contracts; and universities, private corporations, and think tanks benefit from military research.

The extent of elite power—whether absolute power or only undue influence—is an empirical question whose answer varies across societies and through time. However, all societies have elites, and the foundation of elite power in modern societies is based on corporate and government bureaucratic structures. According to Mills, these bureaucratic structures are enlarging and are subjecting more and more of social life to their authority. Furthermore, authority structures within these bureaucracies are becoming more centralized and have access to more technologically sophisticated levers of power and manipulation. Thus, the decisions of a few elites in modern societies are becoming increasingly consequential.

Thomas Dye provides significant evidence of the growing enlargement and centralization of corporate bureaucracies in the United States. Beginning in 1976, Dye wrote a series of books (one every four years or so) that attempt to empirically gauge the concentration of power in American society and that document the astounding growth and centralization of American bureaucracies. "Economic power in America is highly concentrated," he writes. "Indeed, only about 4,300 individuals—two one-thousandths of 1 percent of the population—exercise formal authority over more than one half of the nation's industrial assets, two thirds of all banking assets, one

half of all assets in communication and utilities, and more than two thirds of all insurance assets. . . . The reason for this concentration of power in the hands of so few people is found in the concentration of industrial and financial assets in a small number of giant corporations" (2000, 15). For example, of the more than five million corporations that file US tax returns each year, the largest five hundred take in about 60 percent of all corporate revenues, or over $7 trillion (2002, 13–14). "In brief, the central feature of the American and world economy is the concentration of resources in relatively few large corporations. . . . In recent years concentration has continued to increase, although at a slower rate than earlier in the twentieth century. It is clear that society is not going to return to the small, romanticized, perhaps mythical world of individual enterprise" (Dye 2000, 23). This growing enlargement and concentration of economic power in the United States and in the world is a fact of life.

And what is this growing concentration of economic power used for? Private corporations use their economic power to dominate markets so as to limit competition and maximize profit. A further benefit of economic power is that it can be converted into political and social power and used to shape the marketplace in a way that advances the corporation's interests. Through donations to political campaigns, investments in lobbying, sponsorship of the radio and television shows of political pundits, support for think tanks and "grassroots" movements favourable to their interests (so widespread today that it is called "astroturfing"),[11] outright purchase of television networks, and now the unlimited purchase of anonymous advocacy ads, corporations seek to influence the policies of nation-states. Always with an eye to maximizing profit, they seek to influence (1) government environmental, safety, and financial regulations to benefit corporate interests; (2) tax policy to benefit corporations, managers, and stockholders; (3) the granting of government contracts; (4) foreign policy (especially trade and military) that is favourable to corporate interests; (5) elections to ensure that politicians favorable to their interests are elected and corporate friendly judges are appointed; and (6) public opinion in order to promote corporate influence in the political process.

Governments throughout the world have also been growing in size and scope in the modern era. In the twenty-first century, the list of all government functions, services, and responsibilities is a long one. Examples include protection of property and individual liberty; defence and military offence; taxation; social security for the aged; unemployment; regulation of health care; education (all levels); military, medical, industrial, and scientific research; mail delivery; job training; parks and recreation; creation and maintenance of infrastructure; regulation of business and finance—the list goes on. In the opening years of the twenty-first century, the various levels of government in the United States account for about 35 percent of the gross national product, with the federal government alone accounting for 23 percent (Dye 2000, 57–58). Real power, according to Dye, is even more concentrated in the US government than it is in the corporations; in the three branches of the federal government, the power is concentrated in only a handful of positions.

Politicians and government officials, of course, often have their own goals: winning the next election, promoting their ideology or values, personal financial security, and, perhaps, securing their place in history. The modern state is not a mere tool of corporations; the oligarchy is not a conscious, conspiratorial phenomenon, nor does it depend upon common class background, interlocking directorates, revolving doors between corporations and governments, or other forms of explicit coordination, though all of these methods of explicit coordination are useful in advancing elite interests. Rather, because the dominant economic institutions in modern societies are private corporations, the nation-state must follow corporate priorities, as political scientist Michael Harrington (1976, 307) emphasizes: "The welfare-state government is not itself the initiator of most production within the economy. The corporations do that. However, that same government is increasingly charged with arranging the preconditions for profitable production. Its funds, its power, its political survival depend on private sector performance. So do the jobs of most workers. The state's interest in perpetuating its own rule is thus, in economic fact, identified with the health of the capitalist economy."

There is, in fact, a structured bias of government and corporate elites toward one another's interests, a political economy in which the decisions of government and the corporate elite come together in consensus to achieve their goals. John Kenneth Galbraith ([1967] 1972, 316) states these goals succinctly:

> The state is strongly concerned with the stability of the economy. And with its expansion and growth. And with education. And with technical and scientific advance. And, most notably, with the national defense. These are *the* national goals; they are sufficiently trite so that one has a reassuring sense of the obvious in articulating them. All have their counterpart in the needs and goals of the techno-structure. It requires stability for its planning. Growth brings promotion and prestige. It requires trained manpower. It needs government underwriting of research and development. Military and other technical procurement support its most developed form of planning. At each point the government has goals with which the techno-structure can identify itself.

These goals may seem "trite" and "obvious," but that is precisely what one would expect as the elites' goals become the nation's goals. They are the default positions for American politics, the background to all political debate. Weber himself ([1904] 1930, 16) summed up the extent of bureaucratic domination concisely: "The most important functions of the everyday life of society have come to be in the hands of technically, commercially, and above all legally trained government officials."

THE IRRATIONALITY FACTOR: TECHNOCRATIC THINKING WITHOUT CRITICAL THINKING

In his writing, Weber distinguishes between *Zweckrational,* or "formal rationality," and *Wertrational,* or "substantive rationality." "Formal rationality" refers to simple means-ends calculations. You have a goal,

and you take rational steps—steps based on past experience, observation, logic, or science—to attain that goal. The concept of "substantive rationality" refers to goal-oriented rational action pursued within the context of ultimate ends or values. (The German noun *Wert* means "value" or "worth," whereas *Zweck* means "purpose" or "aim.") The term *Wertrational* "is full of ambiguities," notes Weber ([1921] 1968, 85–86). "It conveys only one element common to all 'substantive' analyses: namely, that they do not restrict themselves to note the purely formal and (relatively) unambiguous fact that an action is based on 'goal-oriented' rational calculation with the technically most adequate available methods, but apply certain criteria of ultimate ends, whether they be ethical, political, utilitarian, hedonistic, feudal (*ständisch*), egalitarian, or whatever, and measure the results of the economic action, however formally 'rational' in the sense of correct calculation they may be against these scales of 'value rationality' or 'substantive goal rationality.'" Substantive rationality is holistic thinking focused upon problem solving within a system of values, as opposed to the specialized, technical thinking that dominates the age. Bureaucratic organizations, whether of the corporate or the government variety, are largely based on formal rationality, their hierarchically ranked offices filled by officers of narrow specialty and authority guided in their decision making and actions by rules and precedent.

The terminology that Weber used to describe the rationalization process does not translate smoothly into English. What Weber means by *rationalization* is often confused with the term's more familiar meaning of providing superficially plausible reasons or excuses for your behaviour that serve to cover up the real causes. The German term *Zweckrational,* or goal-oriented rational behaviour based on observation and logic, does not have a good English equivalent. The same goes for *Wertrational*, or goal-oriented rational action in relation to values or ultimate ends. Weber also used the somewhat simpler terms "formal" and "substantive" rationality to get at the same contrast in modes of thought.

In translating *Zweckrational* and *Wertrational,* some sociologists (including myself) adopt Weber's distinction between "formal" and

"substantive" rationality. C. Wright Mills tried a different course. Ignoring Weber's German terminology, Mills (1959) makes a simple distinction between rationality and reason. He explains that when participating in bureaucratic organizations, individuals lose their ability to control their own actions and are forced to submit to the rational rules of the organization. They are therefore guided not by their conscious reason—with all its attendant human emotions, social traditions, and conflicting values—but rather by the prescribed rationalized rules and procedures of the organization itself. "In the extreme development," writes Mills, "the chance to reason of most men is destroyed, as rationality increases and its locus, its control, is moved from the individual to the big-scale organization. There is then rationality without reason. Such rationality is not commensurate with freedom but the destroyer of it" (170). While the effort to find a relatively simple way to transpose Weber's ideas into English seems valuable to me, I do not find Mills's distinction between rationality and reason especially helpful. There is, I think, a better way to express Weber's theory of the irrationality of rationalization in English.

Although the precision and punch of Weber's rationalization theory often seems to be lost in translation, I suggest translating *Zweckrational*, or formal rationality, as *technocratic thinking*, and *Wertrational*, or substantive rationality, as *critical thinking*. According to Weber's rationalization theory, then, modernity promotes the growing dominance of technocratic thinking at the expense of critical thinking. As bureaucracy increasingly characterizes modern society, it becomes the dominant motivating force—a mode of thought embedded in our social structure and, through our participation in that structure, in our very being. Furthermore, Weber maintains that even though a bureaucracy is highly rational in the formal sense of technical efficiency, it does not follow that it is also rational in the substantive sense of the moral acceptability of its goals or the means used to achieve them. Nor does an exclusive focus on the goals of the organization necessarily coincide with the broader goals of society as a whole. In fact, the single-minded pursuit of practical goals can actually undermine the foundations of the organization or even of

the social order. What is good for the bureaucracy in the short term is not always good for the society as a whole—and often, in the long term, it is not even good for the bureaucracy. As bureaucracy grows in power and scope within a society and the social world becomes ever more subject to formal rationality, the role of substantive rationality decreases in human affairs.

Higher education is fond of claiming that one of its major goals is teaching critical thinking. Critical thinking, though, is one of those qualities that, while you may know it when you see it, is difficult to put into words. I once attended a workshop on critical thinking for which a big-name philosophy professor from a prominent university was brought in. All faculty members were required to show up for the workshop. The professor offered several definitions of critical thinking, none of which I really understood. (He was a philosopher, after all). Finally, I asked him for an example of critical thinking, and this is what he told us: "A man out in California invented a tomato picker. The picker was designed to cut tomato vines, shake the tomatoes loose, spray-wash them, and place them on a conveyor belt, where the poorer quality tomatoes would be removed by hand; the conveyor belt would then drop them into a wagon. However, there was a problem: to clear the machine, the tomatoes had to withstand an impact of fifteen miles an hour when dropped into the wagon. They tried several adjustments to the machine but just could not solve the problem. Finally, a critical thinker came along with the solution: he developed a tomato that could withstand a fifteen-mile-an-hour impact." Even at the time, I thought that this was a poor example. The professor's anecdote seemed to me to be an example of problem solving, or what many would call "technocratic thinking," rather than of critical thinking.

With a little research, I discovered that the perfecting of the tomato picker, more accurately called a "tomato harvester," involved a series of problem-solving steps—what I would call "technocratic thinking." In fact, the mechanical harvester was the result of work by "a team made up of an engineering group and a horticultural group," who "with advice and assistance from agronomists and irrigation

specialists developed suitable plants and an efficient harvester at the same time" (Rasmussen 1968, 532–33). First, to accommodate the mechanical harvester, the technologists had to develop a tomato that not only could withstand a fifteen-mile-an-hour impact but also was resistant to bruising. Second, although traditional fields were harvested by hand several times as the tomatoes ripened, when harvested mechanically, all the tomatoes in the field had to ripen at about the same time because the machine cut the vines below the ground and killed the plant. Third, the technologists had to develop a variety that could easily be shaken loose. And finally, for tomatoes that were to be eaten fresh rather than used for canning or sauces, there were additional problems. Because they were to be shipped all over the country from California, they had to be picked green and then gassed in the packing plant so that they would turn red during shipping.

All this problem solving had a large ripple effect, creating major problems for both traditional tomato producers and consumers. Because mechanical harvesters replaced a lot of manual labour, thousands lost their jobs. Because the machine required large fields and economies of scale (a mechanical tomato harvester is a huge investment), many growers had to sell out or go under. Finally, because California could now supply fresh tomatoes year-round for millions of people, the growers entered into long-term contracts with grocery stores throughout the country, thus creating national producers and closing markets for local producers who could supply tomatoes only in season. In other words, problem solving without considering the larger context led to the production of year-round tomatoes, which caused extreme hardship for a large number of farmers and workers, destroyed many local markets, and sacrificed the tenderness and taste of the tomato itself. Other than that, it has been a complete success.[12]

While problem solving is invaluable, when it is not done in a context of values, traditions, and emotions, it can have unintended negative effects. Critical thinking, unlike technocratic thinking, attempts to analyze situations and solve problems within the context of the

whole system. Critical thinking is not something parents, educators, or religious leaders can teach directly; it has to be modelled, encouraged, and developed over time and with experience. However, since critical thinking is not conducive to the smooth operation of bureaucracies, it is not widespread in hyperindustrial societies.

Wendell Berry (1977) illustrates how the pursuit of technocratic rationality can often undermine the very goals of the bureaucracy itself. Agriculture, Berry writes, has become an extractive industry in which values of productivity and profit have replaced maintenance and care for the land and animals. Farms have progressively become rationalized operations throughout the twentieth century. In crop production, this rationalization includes a high degree of specialization of farms to the production of a single crop; the use of oversized and ever more specialized mechanical equipment that tills, sows, irrigates, and harvests thousands of acres of land; the application of chemical fertilizers, pesticides, herbicides, and fungicides to increase productivity; the use of large amounts of water for irrigation; and the scientific manipulation of seeds for resistance against disease and pests and for attributes that will increase yield as well as the profits of the seed companies. For example, "terminator seeds" have been genetically altered so as to grow plants that produce sterile seeds, thus preventing farmers from growing their own "seed grain." This technology was developed by multinational agribusiness companies such as Monsanto on the basis of research that was often funded by the US government. The marketing and widespread use of terminator seeds worldwide is making farmers increasingly dependent upon agribusiness.

Over the past thirty or forty years, rationalization of agriculture has been extended into the area of animal husbandry. Animals are specially bred for desirable characteristics such as rapid maturity, heavy weight and large breasts on turkeys and chickens, or resistance to disease and pests. These animals are raised in large CAFOs—Concentrated Animal Feeding Operations—in poultry barns, intensive hog operations, and cattle feedlots. The process is aided by mechanized feeding and waste removal and by the liberal

administration of drugs to prevent the spread of disease. Further rationalization of agricultural practices can be expected as genetic engineering continues to advance.

This rationalization of agriculture has been done at the expense of farm families and their communities, as well as the wider society. Based on huge amounts of capital for machinery, land, chemicals, seeds, and fuel, industrial agriculture promotes the growing concentration of farmland in order to achieve economies of scale. As a result, those working the land have become a tiny percentage of the population of industrial societies, and many small towns that once served the surrounding farming community have become ghost towns. The driving force behind this concentration has not been the individual farmer but rather the collaboration of agribusinesses, government bureaucrats, and agricultural scientists. Those who have benefited from maximum productivity of the farm include manufacturers, oil producers, seed distributors, chemical companies, food processors, academic careerists, and bureaucrats.

It is the agricultural universities that perhaps best illustrate how the irrationality factor—the conflict between technocratic thinking and critical thinking—can sometimes undermine the very purpose of the organization itself. Wendell Berry (1977, 155) points out that the Morrill Land-Grant College Act was specifically created to assist the farmer: "The land-grant acts gave to the colleges not just government funds and a commission to teach and do research, but also a purpose which may be generally stated as the preservation of agriculture and rural life." However, university agriculture departments single-mindedly pursued the goal of increased productivity above all else. In doing so, these institutions actually destroyed the very clients whom they were created to help.

Capitalism, particularly in the age of scarce resources and high unemployment, is the epitome of formal rationality or technocratic thinking. A capitalist enterprise's entire reason for being is to maximize profit. To achieve this, its owners seek to constantly improve, through technological development, the productivity of the labour they employ. Economist Harry Braverman ([1974] 1998, 142)

describes the process: "The drive for increased productivity inheres in each capitalist firm by virtue of its purpose as an organization for the expansion of capital; it is moreover enforced upon laggards by the threats of national and international competition. In this setting, the development of technology takes the form of a headlong rush in which social effects are largely disregarded, priorities are set only by the criteria of profitability, and the equitable spread, reasonable assimilation, and selective appropriation of the fruits of science, considered from the social point of view, remain the visions of helpless idealists." Thus, we have the mechanical tomato harvester and countless other agricultural innovations that have destroyed the family farm. We also have manufacturing companies that automate, deskill workers, or simply move jobs offshore in order to exploit their workforce more efficiently. All are examples of irrationality brought on by the pursuit of profit above all else.

By established law, the corporation is a legally defined institution whose purpose is to pursue profit for its shareholders. The corporation separates ownership from management, thus opening the door to industrial growth and abuse. "The genius of the corporation as a business form, and the reason for its remarkable rise over the last three centuries," explains law professor Joel Bakan (2004, 6), "was—and is—its capacity to combine the capital and thus the economic power, of unlimited numbers of people. Joint-stock companies emerged in the sixteenth century, by which time it was clear that partnerships, limited to drawing capital from the relatively few people who could practicably run a business together, were inadequate for financing the new, though still rare, large-scale enterprises of nascent industrialization." From its beginnings in sixteenth-century England, the corporate form evolved in scope and power. By the middle of the nineteenth century, stockholders were granted "limited liability" in England and the United States, meaning that their liability for corporate debts was limited to the amount they had invested in the company (11). By the end of that century, the US Supreme Court ruled that corporations were "persons," entitled to the due process and equal protection of the laws of the United States (16). In the early twentieth century, the

courts established that "managers and directors have a legal duty to put shareholders' interest above all others and no legal authority to serve any other interest—what has come to be known as 'the best interests of the corporations' principle" (36). Thus, the profit motive was legally enshrined as the primary goal of all corporate action. While managers and directors have some latitude for charitable and socially responsible action, all such actions must be connected with and subordinate to the bottom line of the corporation.

Government bureaucracies, though perhaps in not quite so single-minded fashion, are similarly structured. Educational bureaucracies, for example, in their attempts to balance budgets and meet calculable measures of credit-hour production, persistence, and graduation rates lower academic standards and sidestep traditions. Social service bureaucracies, in their attempts to balance their budgets and apply their eligibility rules, routinely deny services to those in need. National security agencies, mandated with providing security to the nation, routinely violate individual civil rights and privacy. These are examples of what I call the irrationality factor, a concept that we will expand in the chapters ahead.

As Weber ([1921] 1968, 980) points out, both capital and state are bureaucratically organized: "The bureaucratic structure goes hand in hand with the concentration of the material means of management in the hands of the master. This concentration occurs, for instance, in a well-known and typical fashion in the development of big capitalist enterprises, which find their essential characteristics in this process. A corresponding process occurs in public organizations." But despite this similarity in bureaucratic organization, capital and state have unique environments, characteristics, and goals. We will now examine the role of capital in modern society; this is followed by a similar exploration of the state. In the discussions that follow, however, we must always keep in mind that capital and state are inextricably intertwined and that thus combined, they confront the individual with overwhelming force.

Capital

The worst error of all is to suppose that capitalism is simply an economic system. — FERNAND BRAUDEL

There is no doubt among macrosociologists that capitalism is one of the major social forces in the world today. This is not because sociologists are all Marxists (although that accusation has been made). What most sociologists find compelling in Marx is not his predictions of a future communist society, for that is all rather speculative and not entirely consistent with the thrust of his analysis. Rather, Marx's true intellectual legacy to sociology is his study of the origins, structure, and functioning of capitalist society; in this, he is second to none (Kumar 1978, 61).[1] Capital plays a major role in the theories not only of those writing in the tradition of Marx but also of theorists following the traditions of Weber, Spencer, and even Durkheim. It is capitalism and its institutions that colour the attitudes and beliefs—in private property, profit, consumerism, and free enterprise, for example—of the vast majority of people in Western societies. Capitalism and its drive for economic growth has been linked to environmental depletion and pollution (John Bellamy

Foster); an increasing division of labour and a growing underclass (Harry Braverman and C. Wright Mills); expropriation of surplus from poorer countries to richer countries (Immanuel Wallerstein and Stephen Sanderson); growth in the size and power of institutions and the concentration of power at the top of these organizations (Mills and Marvin Harris); the commodification of social life (Mills, Braverman, and George Ritzer); the decline in the importance and functions of primary groups (Robert Nisbet); rising anomie (Émile Durkheim and Stjepan Meštrović); and an increase in alienation and rationalization among individuals (Ritzer).

Before going further, it is important to define capitalism as an economic-political system. Most North Americans have an idealized image of capitalism that consists of thousands of companies in competition for the consumer's dollar. This competition forces companies to produce the best possible product at the lowest possible price. According to this image, the government remains laissez faire: that is, it does not interfere in economic affairs. The reality, of course, has always been far from this ideal; in fact, capitalism today is almost its direct opposite. Modern capitalism consists of corporations that seek to produce goods and services for sale in a market for profit; these corporations have a strong drive to constantly accumulate capital through the maximization of profit (Wallerstein 1999, 78; 2000, 84–85). Since competition produces winners and losers and since international production and distribution processes favour economies of scale, many of these corporations have grown huge. In accordance with their drive to maximize profit, corporations seek, through monopoly or collusion, to limit competition with other corporations in their markets; from government, they seek contracts, market protections, subsidies, and basic and applied research, as well as favourable labour, tax, environmental, and other regulatory laws. And they constantly strive to increase their political power to more effectively pursue their interests.

ORIGINS OF CAPITALISM

Most macrosociologists have tried to explain the rise of capitalism, a process that began in Western Europe during the fifteenth century. This rise is considered critical in bringing about the modern era. Of course, capitalism was not suddenly invented: the pursuit of profit through enterprise and trade existed in many societies long before this time. Starting in the 1400s, however, capitalism began to expand rapidly in some Western European societies, and the interests of merchants and those who organized the production of goods and services began to take more of a central role in the affairs of state. Their power and influence increased, and the many checks on their accumulation of wealth and political power were gradually removed (Sanderson and Alderson 2005, 6). What is of interest to macrosociologists is why Western Europe (and over time, the world) became dominated by this economic-political system. Many factors behind the rise of capitalism have been put forward by macro theorists; here, we will highlight the major causes that have been identified and order them in accordance with materialist principles.

The most significant factor in the rise of capitalism is the failure of the previous economic-political system of Western Europe in providing for its populations, referred to as "the crisis of feudalism." Feudalism is an economic system based upon hundreds of small manor-based production units in which most of the surplus is taken by the lord of the manor. Sociologist and world-systems analyst Immanuel Wallerstein (1974, 37) describes the beginnings of that system's demise: "From about 1150 to 1300, there was an expansion in Europe within the framework of the feudal mode of production, an expansion at once geographic, commercial, and demographic. From about 1300 to 1450, what expanded contracted, again at the three levels of geography, commerce, and demography."[2] Wallerstein and others identify three main reasons for the crisis of feudalism. First, the Little Ice Age, a cooling of Western Europe's temperatures beginning around 1300, affected food production and, consequently, increased hunger and epidemics throughout Europe. Second, a point

of diminishing returns was reached in which increases in productivity of the land were no longer possible given the level of technology and the lack of support for technological development in food production. Technological development slowed, Wallerstein argues, because, on the one hand, there was no structural motivation for the peasantry to innovate—any increase in surplus would merely be appropriated by the lords. The lords, on the other hand, had no real knowledge of the land or practical experience in production. And third, after a thousand years of feudal domination, the peasantry could no longer afford to support an aristocracy growing in number and in expenditures; the ruling class was becoming more and more of a burden on the peasantry (15–63).

According to materialist principles, people make productive and reproductive decisions based on costs and benefits. As the feudal crisis intensified, many lords took some of their land out of food production to raise sheep for the wool trade, thus supplementing their income. To maximize their economic interests, they enclosed ever more land in order to raise more sheep and sell more wool. This reduced the amount of land available for peasants and their crops, and the peasants, responding to the marginal lands available to them at the manor, increasingly left the land for the towns. Many lived by begging and thieving, while others became wage labourers in the growing trade and manufacturing of the era (Marx [1867] 1915, 790–92).[3] The price of wheat, the primary staple food of Europe, nearly tripled from the twelfth to the fourteenth century (although the English export of wool rose by 40 percent). This resulted in economic and political chaos in the last days of the feudal era in Europe, chaos manifested in increases in infanticide, malnourishment, plague, peasant revolts, and social unrest (as evidenced by the Reformation and Inquisition), as well as seemingly endless wars (Harris 1977, 257–58). Population levels went through wide swings throughout the crisis of feudalism, rising and falling with economic conditions. However, population appears to have expanded rapidly with capitalist development, which led to a large pool of available urban labour, a spur for further economic development, as well as

growing markets for goods (Sanderson and Alderson 2005, 99). Weber ([1923] 2003, 352) remarks on this increase in population but argues that while the growth of population in Europe favoured the development of capitalism by creating the necessary labour force, it did not by itself cause this development. Of course, because Weber had a pronounced systems view, he would never identify a single factor as outweighing all others.

In addition to the crisis of feudalism, geography appears to have played a significant role in the rise of capitalism. Sociologist Stephen Sanderson (1999, 161–72) points out that capitalism did not arise in Europe alone but also in Japan several hundred years later, despite no significant European contact. Among the similarities between the societies of Western Europe and Japan that could well be related to the rise of capitalism are their small geographical size and their locations on the periphery of the Eurasian landmass, providing access to oceans. Weber ([1923] 2003, 353–54) remarks on this factor as well, proposing that being small minimizes the need for investment in transportation and communication networks within the society's borders, thus promoting trade between regions. European access to oceans and the Mediterranean, and abundant interconnections through rivers would cause the societies to focus upon maritime trade as opposed to more costly overland routes. While Weber urges that it not be overestimated (of course), he argues that Europe's geography was a central factor in the rise of capitalism.

Although technological innovation in navigation and ship building gave Western Europe the tools for the age of exploration that began in the fifteenth century, the initial thrust was due to the crisis of feudalism. It was the need for food and fuel rather than luxuries, according to Wallerstein, that lay behind the expansion of Europe's political economy. "What western Europe needed in the fourteenth and fifteenth centuries," Wallerstein (1974, 42) contends, "was food (more calories and a better distribution of food values) and fuel. Expansion into Mediterranean and Atlantic islands, then to North and West Africa and across the Atlantic, as well as expansion into eastern Europe, the Russian steppes and eventually Central Asia

provided food and fuel. It expanded the territorial base of European consumption by constructing a political economy in which the resource base was unequally consumed, disproportionately by western Europe." This exploration—thanks to concurrent improvements in military technology, as well as the diseases that Europeans brought to the Americas—eventually gave Europe access to the extensive raw materials, slaves, gold, and land upon which to grow crops. This rapid expansion of markets vastly increased the money supply and strengthened the merchants and their state sponsors while weakening the old landed aristocracy. This wealth was then used to sponsor new technologies in agriculture and industry, and to tighten the exploitive economic relationships between Western Europe and its colonies: Europe now had the resources for the political-economic domination of large parts of the world and, because of its political and economic power, was able to enter into trade agreements favourable to the interests of its economic and political elites.[4]

The political-economic structure of feudalism also played a significant role in the rise of capitalism. In previous societies, the interests of the merchant and manufacturing strata were kept in check by elites, whose wealth was based on the land. China, for example, developed many of the features of a capitalist society, including banks and markets for its agricultural products and manufactured goods. China also developed the navigation and ship-building technology for ocean-going trade—even engaging in extensive exploration in the early fifteenth century. But commercial interests were always dependent upon the extensive Chinese bureaucracy, a support that proved both arbitrary and capricious. In contrast, Western European societies were organized along feudal lines, with power divided among the king, local lords, town, and church—rulers were never absolute (Harris 1977, 262–63).[5] Sanderson (1999, 161–72) maintains that a true feudal structure was a major contributor to the independent rise of capitalism in both Western Europe and Japan. Its political decentralization meant that trade could not be stifled by large bureaucracies through heavy taxation or the confiscation of wealth and profits. "Large centrally organized empires tend to stifle mercantile activity

because it is a threat to the mode of surplus extraction used by rulers and the governing classes" (Sanderson and Alderson 2005, 99–100). The merchants of agrarian societies had little status or social or political power, but they gradually became indispensable in the exchange of goods and services within and between feudal societies. The cities and towns in Europe came to be dominated by merchants, who steadily came to enjoy more independence (88–89). The political decentralization of feudal society also allowed the bourgeoisie to form temporary alliances with kings and nobility, which enabled them to more freely pursue their interests. "Gradually their economic power grew," writes Sanderson, "until some 4,500 years after the origins of the first states and quite probably the first genuine merchants, they were able to conquer and subdue the very kind of society that gave them birth" (1999, 175).

Nation-states, relatively weak during the feudal era, began to strengthen their authority in response to the peasant revolts and general unrest of the continent. Playing the rising merchants off of the landed nobility, the princes gradually rationalized their taxes on the economy and used the increased revenues to fund ever larger and more efficient state bureaucracies. These more efficient bureaucracies were in turn used to fund larger and better-equipped standing armies to quell the unrest. Innovations in the technology and practice of war—longbows, gunpowder, cannons, cavalry, and infantry tactics—called for large standing armies and strict military discipline. "All this meant that the cost of war increased, the number of men required rose, and the desirability of a standing army over ad hoc formations became ever more clear" (Wallerstein 1974, 28–29). Well-equipped, large standing armies could only be maintained by a centralized authority with access to adequate resources. By the fifteenth century, the states of Western Europe were strong enough to restore internal order, and, relying on the efficient taxation of a growing trade as well as credit extended by private banks, they continued to centralize and enlarge their authority.[6] And this symbiotic relationship between capital and state, Wallerstein argues, has continued to the present day (136).

The concurrent development of the Western European nation-state is a critical factor in the rise and eventual domination of capitalism. According to Weber, it was the nation-state that took steps to rationalize civil and tax laws that made capital much less subject to the arbitrary and capricious whim of rulers. Although Weber is widely portrayed as an idealist who ascribes the beginnings of capitalism to the Protestant ethic, Randal Collins (1980, 932) summarizes Weber's more mature and nuanced view of the origins of capitalism as it appears in his later (and more "mature") *General Economic History* (1923):

> Only the West developed the highly bureaucratized state, based on specialized professional administrators and on a law made and applied by full-time professional jurists for a populace characterized by rights of citizenship. It is this bureaucratic-legal state that broke down feudalism and patrimonialism, freeing land and labor for the capitalist market. It is this state that pacified large territories, eliminated internal market barriers, standardized taxation and currencies. It is this state that provided the basis for a reliable system of banking, investment, property, and contracts, through a rationally calculable and universally applied system of law courts.

It was also the state that created the economic conditions, including transportation systems and standardized monetary systems, that laid the foundations for banking, finance, and investment and enabled capitalists to expand their activities. All of these activities, Weber maintains, were necessary for the development of capitalism. The ability of the nation-state to colonize, to create national banks, to take on debt, to protect property, to develop tax systems, and to set land-use and labour law were all factors that Weber identified as part of the development of capitalism. Marx ([1867] 1915, 823–24) adds a final factor supplied by the state in the rise of capital, the use of force: "These methods depend in part on brute force, e.g., the colonial system. But, they all employ the power of the State, the concentrated and organised force of society, to hasten, hot-house fashion, the process

of transformation of the feudal mode of production into the capitalist mode, and to shorten the transition. Force is the midwife of every old society pregnant with a new one. It is itself an economic power."

Furthermore, it was the state that often invested directly in commercial ventures and served as the capitalist's biggest customer (Wallerstein 1974, 133). A significant factor in the rise of capitalism was the discovery of the New World and the economic and military domination of large parts of Asia and Africa. These state-sponsored enterprises gave Western European elites access and control over unprecedented wealth and quickly transformed the economies of Europe. Marx ([1867] 1915, 823) emphasizes this point: "The discovery of gold and silver in America, the extirpation, enslavement and entombment in mines of the aboriginal population, the beginning of the conquest and looting of the East Indies, the turning of Africa into a warren for the commercial hunting of black-skins, signalised the rosy dawn of the era of capitalist production. These idyllic proceedings are the chief momenta of primitive accumulation. On their heels treads the commercial war of the European nations, with the globe for a theatre."[7] Although the relationship between the state and "private" enterprise was sometimes uneasy, Western European states saw early on the advantages to fostering economic expansion as the road to increasing revenues as well as state authority and military power, and capitalists saw the state as a means of expanding their capital.

Up to this point, we have cited infrastructural and structural causes of the rise of capitalism in Western Europe. Infrastructural factors include the crisis of feudalism brought about by changes in climate, depletion of resources, and the resulting intensification of production and wide swings in population levels. Other infrastructural causes were the development of military and ocean-going technologies and the exploitation of the raw materials, markets, and labour of other continents; these technological developments promoted changes in the division of labour both nationally and internationally, and altered the distribution of resources disproportionately to Western Europe. Structural causes of the origins of capital include the initial feudal organization of Western Europe and the gradual

centralization and bureaucratization of states and their direct and indirect sponsorship of capital development. But what role do cultural superstructures of Western societies play in the rise of capitalism, particularly those values and ideals famously cited by Weber in *The Protestant Ethic and the Spirit of Capitalism*?

For materialists, ideational culture is the most fluid part of the sociocultural system, the least dependent upon material conditions. To paraphrase Marvin Harris (1979, 57), survival as a peasant depends little on whether you believe in a multitude of gods or one god; it depends much on the fertility of the land, the climate, and the agricultural techniques and technologies at your disposal. Complex ideologies and religious beliefs are ever malleable and can be used to justify and advance almost any structural interest (Wallerstein 1974, 62). The Protestant ethic may very well have supplied the ideologies for accumulating wealth, industry, and savings, but so did a rising nationalism, increasing commercial appeals through the printing press, and the Enlightenment itself. There can be little doubt that such ideologies aided in the spread and strengthening of capitalism, but it is doubtful that they played a significant role in its origin. Rather, elements within existing ideational culture are used to buttress and support infrastructural and structural change. Cultural elements that do not fit the new realities are reinterpreted, if possible; if they cannot be so modified, they are abandoned or ignored.[8] New elements are often developed to justify and promote the interests of classes and status groups.

Cultural elements can be critical in the struggle to garner support in movements to promote or extinguish infrastructural and structural changes; they can also be important in dampening or reinforcing the speed of such change. Thus, although they must be considered in any analysis of sociocultural change, they are rarely responsible for the change itself. Without infrastructural and structural support, specific ideas and ideologies never become widespread and are thus nearly powerless as an initiating social force. This is not to say, however, that they are powerless in the world: ideas that garner significant structural support, particularly of elites, can be very powerful indeed.

Capitalism is defined by its rational enterprise in pursuit of a profit.[9] Once such rationalization is fully developed in the growing bureaucracies of private enterprise and of the state, it metastasizes throughout the world and becomes a force to be reckoned with.

THE CAPITALIST WORLD-SYSTEM

From the beginning, Marx saw capitalism as international in scope. It was the development of new markets in the Far East and the colonization of the Americas that provided the stimulus for capitalist development in Europe. "Modern industry has established the world-market, for which the discovery of America paved the way," propose Marx and Engels ([1848] 1954, 11). "This market has given immense development to commerce, to navigation, to communication by land. This development has, in its time, reacted on the extension of industry; and in proportion as industry, commerce, navigation, railways extended, in the same proportion the bourgeoisie developed, increased its capital, and pushed into the background every class handed down from the Middle Ages." This capitalist world-system view is becoming increasingly prominent in modern macrosociology through the work of Immanuel Wallerstein, John Bellamy Foster, Andre Gunder Frank, and Stephen Sanderson. According to this view, the modern nation-state exists within a broad economic, political, and legal framework called a world-system. Just as the behaviour of individuals cannot be fully understood without reference to the society in which those individuals are members, individual societies or nation-states cannot be understood without reference to the world-system in which they are embedded. Modern nation-states are all part of the world-system of capitalism, and it is the origin, operation, and evolution of this world-system that serves as the focus of world-systems analyses.

Capitalism, according to Wallerstein (2000), has evolved beyond national political boundaries: it now operates on a world stage with the freedom to manoeuvre within and between states. The size of the world economy is presently limited only by the level of

communications and transportation technology and has grown to encompass the globe as this technology has advanced. The capitalist world-system entails a division of labour and certain rewards, with an increasing proportion going to "core countries" (the industrialized countries of Western Europe, the United States, Canada, and Japan) and, within these core countries, to owners and managers of capitalist enterprises.

According to world-systems theorists, few societies are isolated from contact with other sociocultural systems. Anthropologists may study small homogeneous societies founded on hunting and gathering, herding, and simple horticulture that are relatively self-contained economic units, but as the world population increased and societies proliferated, more and more societies began to rely on intersocietal trade to fill many of their needs. According to Wallerstein (2000, 75–76), these trade relations are "world-systems" and are of two types. The first, "world-empires," are economies based on the extraction of surplus goods and services from outlying districts. These empires are dominated by political entities at the centre that have developed military power to ensure continued domination and extraction of tribute. Much of this tribute is used to pay for the administrators who extract it and to maintain the military; the rest goes to the political rulers at the head of the empire. Unlike world-empires, the second type, the "world-economy," has no unified political system, nor is its dominance based on military power alone. However, like a world-empire, a world-economy is based on the extraction of surplus from outlying districts to enrich those who rule at the centre. World-economies existed before capitalism, but they tended to be unstable and prone to evolve into or be subsumed by world-empires. The capitalist world-system, however, has proven to be far more durable.

World-systems theorists have demonstrated that, from the start, capitalism has had a division of labour that encompassed several nation-states. The capitalist world-system began in Europe around 1500 and, under the spur of the accumulation of capital, expanded over the next few centuries to cover the entire globe. In the process of this expansion, the capitalist world-system has absorbed small

isolated hunting-and-gathering and simple horticultural societies, horticultural and agrarian societies, world-empires, and competing world-economies. The capitalist world-system was created by establishing long-distance trade in goods and linking production processes worldwide, all of which allowed the significant accumulation of capital in Europe. But these economic relationships were not created between regions in a political vacuum. The modern nation-state was created in Europe along with capitalism to serve and protect capitalist interests. What was in the interests of early European capitalists was the establishment of a world-economy based on an extremely unequal division of labour between European states and the rest of the system. Also in their interests was the establishment of strong European states that had the political and military power to enforce this inequality.

The capitalist world-system is a mechanism of surplus appropriation that is both subtle and efficient. It relies upon the creation of surplus through constantly expanding productivity. It extracts this surplus for the benefit of the elite through the creation of profit. This is much more efficient than the extraction of tribute by force, and it has the added advantage of softening and disguising the exploitive relationship. It becomes difficult for victims to identify their exploiters, or even for exploiters to recognize that they are expropriating surplus. All of it is left to—and defined by—market forces. In such situations, it is difficult to organize and coalesce or to revolt against an enemy. The capitalist world-system is based on a two-fold division of labour in which different classes and status groups are given differential access to resources within nation-states, and different nation-states are given differential access to goods and services on the world market. Both types of markets—those within and those between nation-states—are very much distorted by the power of elites.

The capitalist world-system can be divided into core, semi-peripheral, and peripheral areas. The peripheral areas are the least developed; they are exploited by the core for their cheap labour, raw materials, and agricultural production. The semi-peripheral areas are somewhat intermediate, being exploited by the core but taking

some role in the exploitation of the periphery. In the recent past, semi-peripheral areas have been expanding their manufacturing activities, particularly in areas that are no longer very profitable for core countries. The core states are in geographically advantaged areas of the world such as Europe and North America. These states promote capital accumulation internally through tax policy, government purchasing, sponsorship of research and development, financing infrastructural development (such as sewers, roads, airports—usually publicly financed but privately constructed), and maintaining social order to minimize class struggle.

Core states also promote capital accumulation in the world-economy itself. For historical reasons, these states have the political, economic, and military power to enforce unequal rates of exchange between the core and the periphery. It is this power that allows core states to dump unsafe goods in peripheral nations; pay lower prices for raw materials than would be possible in a truly free market; exploit the periphery for cheap labour; promote lax environmental, consumer, and worker safety laws; erect trade barriers and quotas to their advantage; and establish and enforce patents. It is the economic, political, and military power of the core that allows significant capital to be accumulated in the hands of a few; the capitalist world-system produces and maintains the gross economic and political inequalities within and between nations. As with capitalism within nation-states, world-systems theorists argue, this power is not uncontested: it is the subject of struggle. True to their roots in Marx, world-systems theorists see internal contradictions within the system that cause political and economic instability and social unrest. Eventually, Wallerstein and others predict, a worldwide crisis will be reached and the system will necessarily collapse, opening the way for revolutionary change.

THE "DEEPENING OF CAPITALISM"

From its very beginnings, the capitalist system has been expanding geographically; it now encompasses the entire globe. At the same

time, the logic of capitalist relations—expanding markets into new areas and rationalizing production and distribution with the goal of ever increasing profitability—has been applied to more and more areas of social life, which in turn have adapted to capitalist relations. According to Stephen Sanderson (1999, 184–85), this "deepening of capitalism," as he calls it, is the main "evolutionary process within the capitalist system" and is responsible for most of the sociocultural changes of the modern world.

Capitalists continue to increase profitability in a variety of ways, including (1) continued rationalization of work through automation, increased division of labour, contingency work, offshoring, the coordination of workers and controls on their wages, and the weakening of collective bargaining; (2) the concentration of economic power and the leveraging of that power with governments; and (3) commodification. These actions intensify in an advanced industrial (or hyperindustrial) society as innovations in transportation and communications put industries around the globe into direct competition with each other. All of these actions contribute to the deepening of capitalism around the world.

Corporations worldwide have been streamlining their bureaucracies and automating production and distribution activities in their efforts to expand capital in an increasingly global economy. The reduction in their workforces has been made possible within their bureaucracies by the revolution in office technology through which typing, filing, copying and other routine office tasks have been computerized. Customer service has also been rationalized and largely automated or offshored. Within production and distribution processes, computer technology has again been used to automate systems and replace workers. Downsizing is also achieved through contracting unprofitable manufacturing and service activities either to lower-tier corporations where the work can be done more cheaply through the use of non-union or immigrant labour or to countries where wages are lower and the workers can be more easily exploited. All of this has led to gradually rising unemployment rates in industrialized nations, economic dislocation for many industries, and

"jobless recoveries" in which corporate profits go up while unemployment remains high.

For example, in 2011 as the United States was suffering an average unemployment rate of 9 percent, American companies were enjoying record profits. Shawn Tully, writing in 2012 for CNN Money, provides some figures: "The Fortune 500 generated a total of $824.5 billion in earnings last year, up 16.4% over 2010. That beats the previous record of $785 billion, set in 2006 during a roaring economy. The 2011 profits are outsized based on two key historical metrics. They represent 7% of total sales, vs. an average of 5.14% over the 58-year history of the Fortune 500. Companies are also garnering exceptional returns on their capital. The 500 achieved a return-on-equity of 14.3%, far above the historical norm of 12%."[10] These profits were recorded across the board. Although led by energy companies, Wall Street and the technology sector also set records. Unfortunately, Tully states, such record profit making can't last. "The gravitational pull of the business cycle will eventually end the profit bonanza, in part because many companies carried out brutal layoffs during the recession and will now be forced to hire more workers to maintain their growth. So let's enjoy it as a heroic but fleeting moment, not a durable new age." In addition to corporate profits, executive pay was also up in the United States while millions remained jobless. In May 2012, the *Dallas Morning News* reported, "The head of a typical public company made $9.6 million in 2011, according to an analysis by the Associated Press using data from Equilar, an executive pay research firm. That was up more than 6 percent from the previous year and is the second year in a row of increases. The figure is also the highest since the AP began tracking executive compensation in 2006."[11]

Another indication of the deepening of capitalism through rationalization is the rise of finance as the dominant institutional sector in capitalist societies. In the 1950s, this sector of the US economy (finance, insurance, and real estate) accounted for 13 percent of all US industry profits; by the 1990s, it accounted for 25 percent (Elwell 2006, 97). The financial industry is fully rationalized. Its dominance

provides additional motivation for other industries to further maximize profits; it has increasing influence in the councils of industry and government, and it applies pressure to all to further rationalize operations to maximize the interests of the financial corporations. This was evident for all to see in the US government's generous bailout of Wall Street in 2008; the tough conditions placed on the bailout of automobile manufacturers in 2009, in which the companies were required to downsize and take other steps to rationalize their enterprises; the health care debates in the United States from 2009 to the present; and the rather anemic Wall Street reforms of 2010. The hold of international finance over the actions of governments around the world is also evidenced by the actions of the World Bank and the International Monetary Fund throughout the past few decades.[12]

But efficient and rationalized mass production can only be profitable if there are markets for the goods and services that the system produces. Markets can only expand by incorporating more territories into the system or by creating new products and new "needs"; this latter process, called "commodification," is one of the chief subprocesses of the deepening of capitalist relations. In feudal societies, production took place within the geographic region, and mostly within the immediate family and community. Domestic goods were produced mainly by peasant families performing such tasks as growing food, building shelter, and making clothing; towns grew up to supply manufactured goods and services to the surrounding areas. While trade existed in the feudal era, it was limited; long-distance trade mainly involved luxury goods for the upper classes. In the early stages of capitalism, this began to shift as more and more goods and services were provided through the market and fewer through ties of family and community. Several factors account for this shift: (1) the movement of families from the land to urban environments, where raising crops and livestock is difficult or prohibited; (2) the mass production of goods and the rising income levels of manufacturing jobs that make the purchases of goods more affordable; (3) changes in custom and fashion that denigrate "homemade" and attach prestige to "store bought"; (4) the deterioration of personal

skills needed to engage in growing food or making clothing and shelter; (5) the expansion of capitalist production as it frantically seeks new markets to maintain its high profit margins; and (6) the development of marketing, advertising, and mass media technology, all of which instill in the population a desire for ever more goods and services.[13]

Commodification affects social life, as families, friends, and communities gradually cease to function as providers and distributors of meaningful goods and services. Divorced from such integral functions, these social groups become more brittle and are easily broken. As communities and families weaken, the market economy expands, now providing new goods and services as commodities to be bought and sold—care for the elderly in nursing homes, labour-saving devices for the home, housecleaning services, and daycare for children. Any good or service that *can* be produced and sold will be produced and sold, as long as it has a market and can be provided at a profit.

If a service cannot be provided profitably, the government often subsidizes it or offers it as part of welfare benefits to the poor. However, while the welfare state may soften some of the hard edges of capitalism, it cannot operate counter to the needs of capitalism. While there were no doubt noble reasons behind the creation of the welfare state, including charity and compassion, there were practical reasons as well. As Marx and Engels ([1848] 1954, 46) note, "A part of the bourgeoisie is desirous of redressing social grievances, in order to secure the continued existence of bourgeois society."[14] The working classes are thus allowed to share, at least minimally, in the massive wealth that capital has accumulated simply in order to keep them loyal to the current system, and those who are unable to compete in the labour market are bought off for the same reason. With some government redistribution of income, then, more can participate in the consumer economy, and the "industrial reserve army" can be maintained. But the welfare state is under severe attack in capitalist societies, and economic inequality is growing—a trend that seems likely to continue.

MARX'S CRISIS OF CAPITALISM

Writing *Capital* in the early 1860s, when English society was in the early stages of industrialization, Marx forecast both the immediate course of the development of capitalism and its ultimate end. The crisis of capitalism that Marx predicted is rooted in his comprehensive and detailed analysis of the capitalism of his day, which is captured in his massive work. Marx believed that the coming crisis would result from contradictions within the capitalist system itself, and he predicted that these contradictions would become more and more acute as the capitalist system evolved. Over time, Marx writes, capital takes control over the handcraft production processes and, later, manufacturing where the workers were in control of the work process, centralizing the workers into workshops and factories. Through the process of competing for markets, some firms win and others lose, and capital becomes enlarged and centralized; science and technology are consciously used to improve the productivity of the workplace, thus throwing many out of work while creating new jobs in service to the machines. Unsuccessful capitalists fall into the proletariat, and all productive labour, worldwide, ultimately comes within the capitalist system.[15]

With this centralization and enlargement, other developments take place on an ever increasing scale. The quest for profit leads corporations to adopt ever more sophisticated technology, to reorganize labour into increasingly detailed divisions for the sake of efficient production, and to squeeze wages to maximize profit. Science is more directly harnessed to the production process through the research and development of technologies that will ever more efficiently automate production and distribution processes. Workers are stripped of their skills and, becoming mere commodities, increasingly exploited to maximize capital (Marx [1867] 1915, 504–6).[16] Agriculture, too, is transformed through science to become an exploitive relationship in which the crops and people are treated as commodities; millions are removed from the land as corporate farms replace the family farms of the past. In effect, capital uses science and technology to transform

agri*culture* into agri*business*, in the process not only exploiting the worker but exploiting and ultimately destroying the natural fertility of the land as well (554).[17]

The lack of centralized planning under capitalism results in the overproduction of some goods and the underproduction of others, thus causing economic crises such as inflation and depression; feverish production is followed by market gluts, which bring on contraction of industry. These booms and busts are part of the structure of capitalism itself, as it grows by fits and starts. As the economy booms, labour costs rise and profit margins are squeezed, thus causing periodic crashes. Labour then becomes cheap, industry begins to recover, and the cycle begins anew (495).[18]

In addition to the booms and busts of capitalism that swing wider as capitalism evolves, there is a constant churning of employment as machines replace men in one industry after another, throwing thousands out of work, thus swamping the labour market and lowering the cost of labour (470).[19] In all of this, the labourers suffer. Mass production, machine technology, and economies of scale are increasingly applied to all economic activities; the result is unemployment and misery for many men and women (694–95).[20] As capitalism develops, the system must necessarily create enormous differences in wealth and power. The social problems it creates in its wake of boom and bust—problems of unemployment and underemployment, of poverty amidst affluence—continue to mount. The vast majority of people fall into the lower classes (694).[21]

All of these economic and political transformations and developments are harnessed to the economic interests of the capitalists. The wealthy become richer but ever fewer in number (836). With this growing monopoly of economic, political, and social power, the exploitation of the many for the benefit of the few grows. With its continued development, the contradictions become worse, the cycles of boom and bust more extreme. Since capitalism is international in scale, the people of all nations are part of the capitalist world system, with the industrial centre exploiting much of the world for raw materials, food, and labour. "A new and international division of labour,

a division suited to the requirements of the chief centres of modern industry springs up, and converts one part of the globe into a chiefly agricultural field of production, for supplying the other part which remains a chiefly industrial field" (493).

Over the course of its evolution, capitalism brings into being a working class (the proletariat) consisting of those who have a fundamental antagonism to the owners of capital. The control of the state by the wealthy makes the state ineffective in fundamental reform of the system and leads to the passage of laws favouring the interests of the wealthy and incurring the wrath of a growing number of workers. "The executive of the modern State is but a committee for managing the common affairs of the whole bourgeoisie," declare Marx and Engels ([1848] 1954, 12). Now highly urbanized and thrown together in factories and workplaces by the forces of capital, the workers of the world increasingly recognize that they are being exploited, that their needs are not being met by the present political-economic system. The monopoly of capital is preventing the production of goods and services for the many. Needed social goods and services are not being produced because there is no profit in them for the capitalists, who control the means of production. Exorbitant wealth for the few amid widespread poverty for the many becomes the norm.

As the crisis mounts, Marx argues, the proletariat will become more progressive, though governments will be blocked from providing real structural change because of the dominance of the capitalists and their organization, money, and power. In time, the further development of production will become impossible within a capitalist framework, and this framework will become the target of revolt. Eventually, Marx ([1867] 1915, 836–37) says, these contradictions of capitalism will produce a revolutionary crisis:

> Along with the constantly diminishing number of the magnates of capital, who usurp and monopolize all advantages of this process of transformation, grows the mass of misery, oppression, slavery, degradation, exploitation; but with this too grows the revolt of the working-class, a class always increasing in numbers, and disciplined,

> united, organized by the very mechanism of the process of capitalist production itself. The monopoly of capital becomes a fetter upon the mode of production, which has sprung up and flourished along with, and under it. Centralization of the means of production and socialization of labor at last reach a point where they become incompatible with their capitalist integument [hardened shell]. This integument is burst asunder. The knell of capitalist private property sounds. The expropriators are expropriated.

With the revolution, the production processes that were developed under the spur of capital accumulation will be harnessed to serve broad human needs rather than the needs of a few capitalists.[22] In *The Communist Manifesto*, Marx and Engels ([1848] 1954, 35–36) write: "We have seen above, that the first step in the revolution by the working class, is to raise the proletariat to the position of ruling class, to win the battle of democracy. The proletariat will use its political supremacy to wrest, by degrees, all capital from the bourgeoisie, to centralize all instruments of production in the hands of the State, i.e., of the proletariat organized as the ruling class; and to increase the total of productive forces as rapidly as possible."

The revolution will first establish a democratic constitution and, through this form of government, will begin to exercise increasing control over the economy. Measures advocated by Engels ([1847] 1999, 13–14) include limitations on private property through progressive taxation and inheritance taxes, purchase by the state of existing economic enterprises, the organization of labour, centralization of money and credit in the hands of the nation, increases in productive forces in proportion to the available capital and labour forces available to the nation, universal education for all at national cost, and concentration of all means of transportation in the hands of the nation.[23] The beginnings of the revolution will occur—indeed, can only occur—in the advanced capitalist states that have developed productive forces to the limits of the profit system. True revolutions cannot be made arbitrarily or through the intentions of individuals or even entire classes; they can only occur when objective conditions

are met (12). But because advanced capitalist states are tightly integrated with one another, once the revolution begins in one, it will spread to others and, through their global markets, to the rest of the world. By freeing the production of goods and services from the constraint of profit, the proletarian revolution will radically alter the course of economic development so that it serves people rather than narrow capitalist interests.[24]

Before discussing what Marx and Engels got wrong, it is suitable to focus upon what they got right. That capitalist enterprise would increasingly use science and technology in a conscious process to increase productivity and efficiency has been borne out. Compared to the inventions of eighteenth-century tinkers and amateurs, science has been far more systematically employed to increase productivity through technological development in all areas of industry. Marx's prediction that capitalism would continue to enlarge and centralize was also certainly correct. Consequential economic activity, increasingly, is large-scale and complex; a handful of corporations dominate the economic activities of the world, spanning the globe and employing thousands. Along with this centralization, there has been an increase in the rationalization of operations, all with an eye toward reducing costs and increasing profitability. As Marx forecasted, capitalism has deepened its worldwide presence, more and more people are being integrated into the capitalist world economy, and the division of labour within and between societies has markedly increased.

In the agricultural sphere, Marx was perhaps too timid in his predictions of capitalism's thrust toward industrial farming and the destruction of the yeoman farmer's way of life. As he predicted, corporate farming has become increasingly dominant in many societies, with attendant corporate exploitation of land and biological life, and the removal of large parts of the rural population into urban areas. Corporations have moved into the industrial production of milk, eggs, and meat, using the latest in science and technology, as well as engaging in the economic exploitation of previously independent farmers, in an effort to increase farm productivity and thereby maximize their profit.

The constant churning of employment as industries rise and fall and as automation is adopted unevenly throughout the world economy is also apparent. While Marx was essentially correct in his prediction that the division of labour between societies would be exploitive, he failed to foresee the possibility that many non-core countries could also be exploited for their cheap manufacturing labour as well as their agriculture. In the never-ending search for profits, capitalists have frantically thrust themselves into any area of economic activity that can be profitable—even those activities previously reserved for the non-profit public sectors, such as parks, education, military activity, and security services. They have also invented goods and services that, largely through the magic of advertising, have become necessities in modern life. In efforts to increase their share of the market, capitalists have developed technologies for factories, offices, services, and the professions, technologies that have replaced millions of workers while increasing the productivity of those that remain. In truth, much of what Marx foresaw regarding the future of capitalism has come to pass with a vengeance.

But the heart of Marx's critique of capitalism and eventual revolution beats in his analysis of the effect of the capitalist mode of production on the class structure of societies. Look at the underlying contradictions of the capitalist system that Marx forecasted: (1) that extreme wealth and poverty can co-exist; (2) that capital must necessarily go through booms and busts, and that these swings will grow deeper and more frequent as capital evolves; (3) that the working class will grow ever greater in number and, under capital's continuing rule, will become ever more unskilled and exploited; (4) that capitalism produces an economy thriving on a large underclass of unemployed and underemployed workers growing more numerous as the contradictions of the capitalist system become more pronounced; and (5) that a crisis will eventually be reached as the working class become more progressive and, eventually, revolutionary.

How are these predictions holding up? In the concluding chapters, we will examine more closely Marx's assertion that inequality must necessarily grow as capitalism evolves. That the cycles of boom and

bust become more extreme as capitalism develops seems to have held true through the Great Depression, but since that time, these swings have been moderated through government action. However, as we will see, the moderating forces on these cycles may well be weakening as a result of the further development of capitalism itself. The prediction that the working classes will become more progressive, disaffected, and revolutionary has certainly not yet been fulfilled—at least not in the core nation-states. Finally, Marx's prediction that the working class, as well as the numbers of unemployed and underemployed, will grow over the course of capitalism's evolution has been empirically tested, and it is to this test that we now turn.

A TEST OF MARX

The economic-political system known as capitalism is perhaps found at its most advanced and powerful within the United States. Both Wallerstein and Foster—two of the sociological heirs of Marx—identify the US as the dominant member of the core societies (the "hegemon"); international economic data indicate that the United States is indeed the largest economy on earth and among the most profitable as well. Harry Braverman ([1974] 1998, 262) tested Marx's prediction that the overwhelming majority of people in capitalist societies will end up in the working class by examining employment in the United States from 1900 to 1970. Braverman defines the working class as people who essentially work with their hands, in jobs that demand relatively little skill or education and offer little by way of autonomy or decent compensation. To calculate the percentage of the workforce engaged in essentially rote manual occupations, he divides the US workforce according to census categories and adds up the number of people classified as "operatives and laborers," "craftsmen," "clerical workers," and "service and retail sales workers" for each census year from 1900 to 1970.[25] He finds that the working class has been growing each decade since the turn of the century. Beginning in 1900 at slightly over 50 percent of the labour force,

the working class had grown to 69 percent of the total workforce by 1970.[26] An advanced capitalist society, one supposedly based on scientific technology and higher education, seems to be predicated on the exploitation of a significant proportion of its working population.

However, a number of changes have occurred in the structure of the US workforce since Braverman wrote in the 1970s. In a follow-up study, I added up the numbers in Braverman's working-class categories for 1983 and 2001 and computed their percentage of the workforce (Elwell 2009a, 91). According to my calculations, while the working class has continued to grow in terms of absolute numbers, going from 80 million workers in 1970 to 100 million in 1983 and 135 million in 2002, as a percentage of the total US labour force the working class has declined over these years, dropping from Braverman's computed high of 69.1 percent in 1970 to 66 percent in 1983 and then to 60 percent in 2001. So, for the first seventy years of the twentieth century, the US workforce engaged in essentially rote manual and clerical occupations grew each decade. However, this trend reversed in the last third of the century. Although even in 2001 the working class was still a majority (60 percent) of the employed population, the trend now seems to be moving in the opposite direction.

What might account for these changes? It appears that the proportional decline of the working class is primarily due to the relatively slow growth in the number of manufacturing jobs in the United States. Manufacturing jobs have been in proportional decline since 1970, accounting for 34 percent of the total US workforce in 1970, 28 percent in 1983, and only 24 percent in 2001. This decline is due largely to automation and offshoring, both of which have caused many manufacturing jobs to be eliminated. With regard to offshoring, only the location of the exploitation of workers has changed. Sweatshops in peripheral countries, where workers are compensated pennies on the dollar and environmental and worker safety laws are minimal, are now the basis of profit of many manufacturing companies.

What has replaced these jobs in the modern economy? Some have been replaced by low-level clerical, service, and sales workers, although the proportionate growth in these areas has not been great

enough to offset manufacturing declines. Compared to manufacturing, it is much more difficult to automate most personal service work. Besides, it is seldom economical to replace a small number of minimum wage unskilled labourers in a single location with technology. Compared to goods-producing jobs, it is also more difficult to ship many of these jobs overseas to cheaper labour markets (although by no means impossible with some of these occupations, like that of telephone service representative). And this is what accounts for much of the growth in immigration, both legal and illegal: if you cannot have the services provided from cheaper overseas labour markets, another option is to import cheaper foreign labourers.

Contrary to the predictions of Marx (and Braverman)—but consistent with the predictions of Weber—the bulk of the recent growth in jobs is mainly attributable to the rapid growth of "managerial and professional specialty" occupations. Braverman ([1974] 1998, 279) estimated that in 1970, some 20 percent of the American workforce was engaged in managerial, executive, and professional specialties. By 2001, these occupations had ballooned to 31 percent of the employed population.[27] Add to this figure the "technical and sales occupations" (workers who, because of their income and educational attainment, Braverman counts as middle class) and the figures go to 39 percent of the workforce for 2001.[28] Clearly, this middle level of employment has grown dramatically since Braverman's time. Within this broad category, the fastest growth was experienced among "executive, administrative, and managerial" (EAM) occupations and the "professional specialty" areas. EAM grew from 11 percent of the workforce in 1983 to 15 percent in 2001. This can be attributed to the growth of large bureaucratic organizations that have expanded employment even beyond the labour-saving adoption of office machinery, communications, and computer technology. The "professional specialty" category grew from 13 percent of the total workforce in 1983 to 16 percent in 2001. The professional specialties include such occupations as health diagnosing occupations (physicians and dentists), college teachers, librarians, lawyers, entertainers, and athletes (the latter three being very uneven in terms of prestige, pay, and benefits). The proportions

within the occupations of this group stayed remarkably stable through the 1980s and 1990s. Teaching (at all levels) is by far the largest professional specialty area, with approximately 30 percent of all professional specialty employment within this category, and health care occupations (including registered nurses, pharmacists, therapists, and physician assistants) is second, with approximately 20 percent.

Braverman ([1974] 1998, 166) estimates that only 3 percent of the 1970 workforce consisted of technical specialists such as engineers, architects, draftsmen, designers, natural scientists, and technicians. A similar computation of occupational data for 1983 and 2001 shows a slight growth in the concentration of technical expertise. In 1983, about 3.5 million individuals held such occupations (3.5 percent of the total workforce). By 2001, this number had climbed to 7.3 million (4.7 percent) (US Department of Commerce 2012b). Interestingly, computer scientists accounted for the bulk of this growth, computer science being a technical expertise almost unknown in the 1970 census. Excluding the computer scientists, the proportion of technical specialists for both 1983 and 2001 is at Braverman's estimate of about 3 percent of the labour force.

That the new computer specialties should account for the bulk of the growth in the category of technical specialist in the past twenty to thirty years is interesting because the application of computing technology in the factory and office is widely credited with an enormous boost in productivity. Computerization is a tremendous aid in extending the reach of supervisory personnel as well as professionals; it has had an astonishing impact in precision technology and in the routinization of tasks. Millions have lost jobs or never been hired due to the increasing application of computer technology in the factory, the office, and professions. Millions more have had their skill requirements—and their pay—lowered because of the application of this technology. For all this, the real technical expertise of the computer industry is in the hands of about 2.75 million computer scientists and programmers, or about 2 percent of the total labour force.

By rising to numerical prominence in the middle of the twentieth century, white-collar and professional workers upset the Marxist

expectations that society would be divided largely between a small, extremely wealthy capitalist class and a proletarian mass. As is necessary for a more complex technological infrastructure and a more bureaucratic structure, there is a higher proportion of executives, managers, and professionals in the workforce than one would expect from Marx's theory. He was wrong; the theory needs to be modified. Advanced industrial societies seemingly require a large professional and managerial class for managing the organizations, providing sophisticated services for the elite and for this professional class, and educating and training future generations to take their role in a hyperindustrial society. Some of these positions, no doubt, allow a high degree of latitude and freedom to those who fill them; some are highly paid and prestigious as well.

However, as Mills ([1951] 1973) showed us in his brilliant study of white-collar Americans, most of these positions are not the autonomous professions of old. Their existence is largely dependent on private and public bureaucracies for their livelihood (xv). Modern white-collar workers and professionals are not free to exercise professional judgment and control; rather, they are subject to the rules, manipulations, and control of the organizations for which they work. And with the increasing calls for accountability, transparency, and efficiency, this coordination and control is much more pronounced today than in Mills's time. For example, health insurance companies routinely examine the health care decisions of those in the medical professions; governments, professional organizations, and accrediting bodies demand reams of data from higher education to assure compliance with their standards; and computer and information technologies have greatly strengthened the decision-making authority of those at the top of the corporate structure. Analogous to Wallerstein's semi-peripheral states, modern professionals and white-collar workers are intermediate between the working classes and the elites, and, like those states, they serve to soften the harshness of the class system. They are given more compensation and privileges than the working class, but they are essentially powerless.

Regardless of the existence of this middle class, the core economies still depend on large working-class populations. The bulk of these working-class jobs are unskilled or semi-skilled occupations, with an increasing proportion in sales and personal services, which tend to pay lower wages than old-line manufacturing. The unemployed and the underemployed—the industrial reserve army of Marx—are all still very much with us.

But this is only a partial view, looking as it does only at the division of labour within a single core nation. Recall that according to Marx (and others), capitalism is a world-system, with an increasing division of labour both within and between nation-states. The specifics of the division of labour within American society are largely determined by its position at the core of the capitalist world economy. Since the United States is a core nation, one would expect a large proportion of its employed population in managerial and executive positions, with a large cadre of professionals to provide services for these managers and the elite. The working classes that support the wealth and power of capital located in the United States extends well beyond American shores.

As indicated above, the final piece of Marx's analysis, that the working classes will eventually become more progressive and ultimately revolutionary, cannot be tested with this data, nor can his vision of the eventual establishment of a socialist society that solves capitalism's contradictions. I suspect, though, that Marx overestimated the power of the proletariat and underestimated the power of elites—particularly the ever more sophisticated methods of manipulation and control that the elite can bring to bear to enforce order. Nevertheless, I think the evidence is overwhelming that the capitalist system does have inherent contradictions that have led to change in the past (the creation of the welfare state and economic regulation comes readily to mind) and that will continue to provoke change in the system. Whether capitalism ultimately falls or "peacefully" evolves into a system that fully addresses these contradictions simply cannot be known, nor can we know the timing of such change. However, I find Marx's prediction that socialism will be the

economic-political system to replace capitalism even more speculative and ultimately utopian, perhaps more influenced by his ideology, hopes, and dreams than by his sociological and economic theories.

THE IRRATIONALITY FACTOR: INTERNAL CONTRADICTIONS OF CAPITALISM

The more recent predictions of the end of capitalism due to its internal contradictions are consistent with Marx. Immanuel Wallerstein (1999), a world-systems theorist greatly influenced by Marx, sees growing capitalist exploitation of earth, workers, and consumers. He forecasts growing disparities in wealth and power as nation-states are increasingly unable to address the disorder because they are dominated by capitalist elites and are losing legitimacy in the eyes of their citizens. Wallerstein posits three features of the capitalist system that are essential to its continuation: (1) the system must constantly expand production, bringing new markets and workers into the system; (2) it must externalize many of its costs by shifting much of the cost of production (for example, pollution cleanup and securing needed resources) to the nation-state; and (3) the nation-state and the inter-state system must remain strong (74–78). It is these three features of the system that have been at the root of capital accumulation, yet the very success of the system has led to forces that are undermining this foundation.

As it expands throughout the world, capitalism is rapidly losing the easily exploitable portion of its labour market (Wallerstein 1999, 30–31). Workers in formerly peripheral areas are increasingly demanding living wages, decent working hours, and a higher standard of living. The threat to the capitalist world system, according to Wallerstein (2000, 386), is the spread of democracy: "The demands for income, health care and education, in particular, seem to be insatiable. To the extent that there is democratization, people insist not merely on having these three, but on regularly raising the minimal threshold for each. But having these three, at the level that people

are demanding each day, is incredibly expensive, even for the wealthy countries not to speak of for Russia, China, and India. The only way everyone can really have more of these is to have a radically different system of distribution of the world's resources than we have today." Mass media and the newer social media, of course, serve as stimuli for democratization as do demands for consumer goods throughout the capitalist world-system.

Another threat facing capitalism, argues Wallerstein (1999, 78), is the "ecological crisis" caused by development. "What we mean by historical capitalism," he explains, "is a system in which the institutions that were constructed made it possible for capitalist values to take priority, such that the world-economy was set upon the path of the commodification of everything in order that there be ceaseless accumulation of capital for its own sake." When environmental issues get in the way of profits, it is the accumulation of capital that rules. Companies that deplete the environment or pollute air, water, and land through their production processes are able to minimize their costs by ignoring the environmental havoc they create, leaving governments to bear the cleanup costs and thus spreading the costs to the population as a whole. The profits, of course, go to the corporations. The fact that corporations can externalize these costs means that there is no incentive to factor ecology into corporate decisions (85).

The ecological crisis must necessarily intensify, Wallerstein (1999, 76–82) explains, as corporations expand their markets and more people around the world are integrated into consumer culture. As the crisis intensifies, the budgets of national governments are increasingly stretched to provide for the cleanup. This, Wallerstein predicts, will cause governments to try to force companies to internalize these costs, which will cut deeply into their capital accumulation (31). The increasing costs for labour and for environmental cleanup cannot simply be passed on to the consumer in the form of higher prices: "The 'market' constrains the sales price, in that, at a certain point, the price becomes so high that the total sales profit is less than if the sales price were lower" (79). Thus, the need to pay

more for labour and environmental cleanup seriously erodes capital accumulation (81).[29]

A third threat to the capitalist world-system is the decline in the power of the state. As Wallerstein (and others) have argued, state power has been essential for the capitalist world-system ever since its inception. The state keeps order at home, sponsors monopolies, monitors and responds to military threats, and ensures favourable trade agreements with peripheral and semi-peripheral areas. The state also supports profits through purchasing and creating tax policies favourable to capital, as well as through building roads, sewers, airports, and other supports for capital. Furthermore, it acts to "soften discontent of the dangerous classes" through the establishment of welfare (Wallerstein 1999, 63–74). But the state, according to Wallerstein, is rapidly losing legitimacy as liberal reform fails to fundamentally address poverty, depletion, pollution, structural unemployment, and a host of other social problems. The system is in terminal crisis, Wallerstein argues, because all of the avenues of significant capital accumulation are narrowing; capital accumulation no longer has free reign, nor can the state easily lift the restrictions (80–85).

The coming decades, Wallerstein (2000, 431) predicts, will see the disorder continue to mount. "Capitalists will seek support from state structures as they have in the past. States will compete with other states to be the major loci of the accumulation of capital." More and more aspects of social life will be commodified, the polarization of wealth and power will become even more extreme, and states will find it increasingly difficult to maintain order internally and internationally. Terrorism will intensify as the wealthy core countries will increasingly be called to account for past exploitation (414–15). The United States will lose its hegemonic status as its economy slows dramatically and weapons of mass destruction proliferate. The capitalist world-system will slip into chaos, and a new order will eventually emerge after much struggle within and between nations (431). Unlike Marx, Wallerstein does not predict precisely what this new world order will be. There is no inevitability

of something better or worse. What emerges, he suggests, will very much depend upon the ongoing struggle between repressive and progressive forces (413).

To these three internal contradictions of capitalism I would add a fourth: the expansion of the capitalist system and the resulting centralization of corporate and state power is undermining the very foundations of that system. For example, the welfare state was established in an earlier era despite bitter opposition of capital. In many societies, welfare services began to be provided in the late nineteenth and early twentieth century; in the United States, they were not established until the Great Depression in 1930s, and then only in a very weak form to check the most egregious human suffering. In the past thirty years, even this basic safety net has been under relentless attack in the United States as the reforms of Johnson's Great Society and, increasingly, the New Deal itself are being rolled back. Despite recession, government spending is being curtailed, and government jobs at all levels—including teachers, police, and firefighters—are being eliminated. A neoliberal ideology has arisen that perfectly mirrors the rationalization process in justifying these cuts: government is always inefficient and wasteful; private industry is always efficient. Anxious to expand capital in areas previously closed to them, and now more powerful in the United States than ever before, corporations are pushing to "privatize" many government services such as education, parks management, the provision of water, firefighting, prisons, social security, and health insurance so that these services "pay tribute to profit," as Braverman ([1974] 1998, 191) aptly puts it. "The idea that some areas of society and life are too precious, vulnerable, sacred, or important for the public interest to be subject to commercial exploitation seems to be losing influence," notes Joel Bakan (2004, 138). "Indeed, the very notion that there is a public interest, a common good that transcends our individual self-interest, is slipping away."

In their attempts to expand capital, corporations and their allies have pushed to minimize government regulation of corporate activity in their treatment of the environment, workers, and consumers.

Through such processes as deregulation, regulatory capture (whereby agencies are staffed by former industry executives), and underfunding the regulatory agencies that remain, capital has been largely freed of external constraints (Bakan 2004, 139–61). Since the corporation puts profit above all other values, this deregulation has been a disaster. Bakan asserts that if corporations are indeed people, they can best be likened to psychopaths with their obsessive focus on profits and total lack of concern for the welfare of others; such institutions will exploit the environment, workers, and consumers as long as they and their shareholders profit (58, 60–61). This focus on the bottom line to the exclusion of concerns for tradition, values, and human emotions makes the corporation the personification of rationalization itself.

While it was fashionable in the 1950s and 1960s to assert that modern economics had largely moderated capital swings of booms and busts, the wild inflation of the 1970s and the near worldwide economic collapse of 2008 showed that this is not so.[30] In dealing with the resulting financial crisis of 2008, it was capital interests that were served—US government largesse bailed out the banks rather than the debtors. The executives of financial institutions denied that they were responsible for the crash, blaming bad luck, a perfect storm of circumstances, their victims (poor people and the middle class), or the government. When the federal government attempted modest financial reform to prevent future crisis, financial institutions put up fierce and continuous resistance to gut any meaningful regulation that would hurt their short-term profitability.[31]

The power and reach of capital only continues to grow. With the 2010 Citizens United decision, the US Supreme Court held that the federal government may not restrict political spending by corporations. The proliferation of Political Action Committees, or PACs, and Super PACs has meant that elections at all levels are awash in cash. PACs and Super PACs push both candidates and political-economic positions—often with the guarantee of anonymity for corporations or individual donors. Now more than ever, access to big money is the only way to win elections. We are at the point

where all political action is constrained by the need to accommodate capital interests.

The power of the capitalist class is such that they can no longer restrain themselves, nor will they allow their government to impose external constraints, even when these limitations would clearly be in the long-term interests of all. Severely limiting the welfare state and the regulations that previously functioned to address (if not solve) some of the fundamental contradictions or "irrationalities" of capitalism may well hasten the revolution that Marx and Wallerstein predict. Under these conditions, the booms and busts of capital are likely to become more pronounced and the system less able to meet the needs of more and more people.

These contradictions in the system are but another example of the irrationality factor. To use Weber's terms, capitalism is a political-economic system of formal rationality and substantive irrationality. And the main irrationality of the capitalist system is this: capitalism places the social production of goods and services in private hands whose material interests are not in the quality, utility, social desirability, or even the production of the goods and services themselves but in maximizing the profit in their production.[32] Harry Braverman ([1974] 1998, 142), a student of Marx, echoes Weber in summarizing capitalism's underlying contradiction: "The most advanced methods of science and rational calculation in the hands of a social system that is at odds with human needs produce nothing but irrationality; the more advanced the science and the more rational the calculation, the more swiftly and calamitously is this irrationality engendered. Like Captain Ahab, the capitalist can say, 'All my means are sane, my motives and object mad.'" The result is that we have bankers (or "banksters," as many detractors now call them) who knowingly market fraudulent default credit swaps or trade on inside information.[33] We have manufacturers who market cigarettes to children, prescription drugs to those living on the street, and unsafe cars, DDT, and other unsafe products to underdeveloped nations. We have a financial system that uses its wealth and influence to minimize financial regulations that served to protect both the social whole and

the financial system itself. As Marx asserted, the capitalist system, through its frantic search for ever greater profits, must eventually undermine its very foundation.

Because they are embedded in a capitalist world-system, core nation-states are organized around and infused by capitalism's need for expansion. It is this drive that is behind the ever more detailed division of labour, the adoption of computers and other technologies to replace workers, the economic squeezing of the working and middle classes, globalization and outsourcing, immigration policy, the commodification of social life, the degradation of work and workers, the economic, political, and cultural polarization within and between societies, and the rising tide of alienation and anomie. However, capitalism is not the only force at work causing these changes. Capitalism is an economic-political system that has a prominent place in the sociocultural web in which population, technology, environment, bureaucracy, the state, primary groups, and such cultural elements as science, rationalization, nationalism, and human values, traditions, and beliefs evolve. These forces—never alone but always in interaction with one another (sometimes reinforcing, sometimes contradicting)—are the principle concerns of macrosociology.

The State

7

The marriage between democracy and capitalism is over. — SLAVOJ ŽIŽEK

A state is a self-governing political entity consisting of multiple communities and their surroundings with a centralized government that has exclusive rights within this territory to employ military force, collect taxes, and enforce order (Carneiro 1970, 733). The power and scope of the state, one of the primary carriers of bureaucracy, has been expanding rapidly in the modern era. Many early sociologists focused upon this growth, believing it to be caused by growth in population, the complexity of production processes, and the necessity to regulate proliferating groups and organizations in societies. Modern sociologists have posited that, in addition to these causes, the state has recently expanded to foster capital development, conduct war and project military power, and provide for limited redistribution in the form of welfare for those left out of the capitalist economy. In this chapter, we will look at the origin of the state as well as the modern state's relation to capital, military power, and the prospects of democracy.

THE ORIGIN OF THE STATE

The state emerged as a separate institution about six thousand years ago. Unlike earlier chiefdoms, which were confined to small village societies and ruled through kinship ties, the state develops an elaborate bureaucracy and, along with it, the capacity to require obedience to its rule. Rulers are no longer constrained by strong kinship ties with those they rule; ever greater numbers of unrelated individuals can be exploited without mitigation. The state establishes a "monopoly of force" within its territorial control, as well as administrative structures to expropriate any surplus produced by its subjects. Early states, which generally consisted of several cities and their surrounding areas, acted to intensify the production activities of their subjects so as to increase this surplus to maximize the wealth of the rulers and to strengthen and extend their power. As states evolved, power became more and more centralized and the bureaucracies more elaborate. Power often became concentrated in the hands of a single individual, which most often evolved into a hereditary monarchy. Ideologies were fashioned to legitimate the monarch, with early states often using religion to justify the divine right of the monarch to rule. The geographic size of states is primarily limited by the features of its geographical location and the level of its communication and transportation technologies.

Marvin Harris (1977, 101–2) characterizes life before the evolution of the state as close to idyllic. Life in village societies, he writes, was a life of unparalleled political and economic freedom for the vast majority of men and women. Men could decide for themselves whether or not to work, and if they decided to work, they could choose the task and the way they would do it. Necessity and desire were the only spurs: there were no foremen or administrators to tell them how to work, to measure their productivity, or to take from their catch. Nor was there anyone to deny them access to the fields and forests that surrounded their village. Women, too, according to Harris, were relatively free. They had few routines and set their own schedules and pace of work. Their work was light, their necessities

readily available and communally owned. While their life was simple, they paid no taxes or tribute, no rent or mortgage. They lived in economic and political freedom.

With the evolution of the state, says Harris, this idyllic life was exchanged for life as a member of the servile class. Now access to needed resources had to be sought from rulers, and taxes and tribute paid for the privilege of this access:

> The weapons and techniques of war and organized aggression were taken away from them and turned over to specialist-soldiers and policemen controlled by military, religious, and civil bureaucrats. For the first time there appeared on earth kings, dictators, high priests, emperors, prime ministers, presidents, governors, mayors, generals, admirals, police chiefs, judges, lawyers, and jailers, along with dungeons, jails, penitentiaries, and concentration camps. Under the tutelage of the state, human beings learned for the first time how to bow, grovel, kneel, and kowtow. In many ways the rise of the state was the descent of the world from freedom to slavery. (102)

Why would people give up their economic, social, and political freedom for a life of toil and drudgery at the behest of a small ruling class?

"Pristine states" are early states that evolved from village societies without contact with other state societies to act as a model or stimulus. Harris reports that archaeological evidence points to as many as eight such pristine state developments in the following areas: Mesopotamia, Peru, Mesoamerica, Egypt, the Indus Valley, the Yellow River Basin, and probably Crete and the Lake Region of East Africa (103). Many scholars see the growth of the state as part of a natural outgrowth of the development of agriculture and the creation of a surplus of food. These developments, it is hypothesized, freed an increasing number of people from direct agricultural production and allowed a division of labour of tool makers, potters, priests, and eventually soldiers and politicians. But Robert Carneiro (1970) claims that the development of agriculture does not automatically create a food surplus; while the technology for creating a surplus of

food was present in early agriculture, there was no social stimulus to do so. Most early agriculturalists produced little surplus; states evolve, Carneiro argues, only under specific environmental conditions (733–34).

In addition to the natural development theory of the state, another voluntaristic theory posits that several villages voluntarily banded together, giving up their individual sovereignties in exchange for security or for purposes of constructing irrigations systems. "This and all other voluntaristic theories," notes Carneiro (1970, 734), "founder on the same rock: the demonstrated inability of autonomous political units to relinquish their sovereignty in the absence of overriding external constraints. We see this inability manifested again and again by political units ranging from tiny villages to great empires." Theories of such natural state development ignore the fact that the vast majority of village societies did not make the transition to state level unless there are strong external pressures to do so. Therefore, states are not simply a natural development; they are not the result of a fortuitous accident, a voluntary surrender of village autonomy, or a genius with an idea. Carneiro argues instead that an identifiable evolutionary process of pristine state formation has occurred in different places and times around the world when certain material conditions existed. What are these conditions?

Carneiro proposes a coercive theory of pristine state formation, a theory based on military force and war as the evolutionary mechanism by which autonomous villages were wielded into states. The archaeological evidence is overwhelming that war was prevalent during the formative period of all pristine state development. But war cannot be the only factor, for war is fairly common among village societies and yet pristine states have evolved only in a few areas. There must be other specific conditions under which warfare gives rise to the state. By comparing areas of the world in which pristine states evolved and looking for common factors, Carneiro attempts to identify these conditions. He finds that in all areas in which pristine states evolved—"areas such as the Nile, Tigris-Euphrates, and Indus valleys in the Old World and the Valley of Mexico and the mountain

and coastal valleys of Peru in the New"—agricultural land was surrounded by mountains, seas, deserts, or other geographical features unsuitable for cultivation (1970, 734). In such "circumscribed" agricultural lands, warfare took on a different character from warfare between agrarian people in areas of open forests or savannah.

In most areas of the world, warfare among village societies was common for reasons of revenge, establishing prestige, or the taking of women. Where there is no shortage of arable land, there is no warfare over land. In such cases, when a village was defeated, the inhabitants were not driven from the land; they were not enslaved or forced to pay tribute. As Carneiro (1970, 735) notes, "This would have been difficult to accomplish in any case, since there was no effective way to prevent the losers from fleeing to a distant part of the forest. Indeed, defeated villages often chose to do just this, not so much to avoid subjugation as to avoid further attack." In areas of circumscribed agriculture, this option disappears.

Under low population levels, circumscribed areas presented similar conditions as did open areas for village life. As populations grew, villages would split and multiply, spreading throughout the available area. Warfare was common, but it was of the type that predominates in village societies around the world. Once all of the available land was occupied, however, further population growth would lead to both more intensive use of the available land and warfare over that land. "And, as the causes of war became predominantly economic," explains Carneiro (1970, 735), "the frequency, intensity, and importance of war increased."

Under such conditions, a village that lost a war with a rival would face severe consequences: the villagers could be exterminated, enslaved, forced to pay tribute, or face outright incorporation into the rule of the conquerors. The need to pay tribute or taxes would be a sharp incentive to intensify agricultural production beyond subsistence levels; eventually, production would have to increase to such a degree as to support legions of tax collectors, warriors, and other administrators of the state. Through this process, the size of political units gradually increased from village society to chiefdoms of several

villages, with continued warfare eventually leading to political units of sufficient size and complexity to be called states. "How well does the theory of environmental circumscription and impaction accord with the evidence?" asks Marvin Harris (1977, 117). "The six most likely regions of pristine state development certainly do possess markedly circumscribed zones of production. As Malcolm Webb has pointed out, all of these regions contain fertile cores surrounded by zones of sharply reduced agricultural potential. They are, in fact, river valleys or lake systems surrounded by desert or at least very dry zones. . . . All of these regions present special difficulties to villages that might have sought to escape from the growing concentration of power in the hands of overly aggressive redistributor war chiefs."

Harris also notes that these same areas were scenes of rapid population growth before the states emerged and that weaponry and fortifications consistent with wars of conquest predominated. Furthermore, in response to pristine state development, secondary states often formed in order to defend themselves against their technologically advanced and aggressive neighbours or as a means of preying upon existing states (121). As with most social evolutionary processes, such as the domestication of plants and animals or the Industrial Revolution, state formation is an unconscious process. "The participants in this enormous transformation seem not to have known what they were creating," writes Harris. "By imperceptible shifts in the redistributive balance from one generation to the next, the human species bound itself over into a form of social life in which the many debased themselves on behalf of the exalted few" (122). States arose, then, in response to specific demographic and environmental conditions, mainly population growth within a circumscribed fertile area. In such conditions, war over needed resources became likely: fertile land was scarce and villages that were unsuccessful at warfare had nowhere to relocate and were exterminated, enslaved, or incorporated into the new political unit. War became an economic tool to acquire land or, alternatively, tribute from conquered peoples. The military was central in state formation, and it retains this central role in the capitalist world-system of societies today.

The internal structure of states evolved along with their growth in size and territory, maintains Carneiro (1970, 736): "The expansion of successful states brought within their borders conquered peoples and territory which had to be administered. And it was the individuals who had distinguished themselves in war who were generally appointed to political office and assigned the task of carrying on this administration. Besides maintaining law and order and collecting taxes, the functions of this burgeoning class of administrators included mobilizing labor for building irrigation works, roads, fortresses, palaces, and temples. Thus, their functions helped to weld an assorted collection of petty states into a single integrated and centralized political unit." And it was these people who became the elites in early states, gradually growing in number and in their demands on the lower classes. Conquered peoples became the slaves, serfs, servants, and beggars under the rule of these elites. Harsh treatment of conquered people was now possible because they had nowhere to run, nowhere else to live. In state societies, ever greater surpluses were demanded to support the elite in wealth and luxury, a situation that was not to be reversed until modern times. Whether that reversal is permanent is yet to be determined.

THE STATE AND CAPITAL

As we saw in the previous chapter, many social historians view the centralization and the extension of the power of the state, along with the weakening of primary groups, as one of the main factors behind the growth of capitalism. The literature is rife with arguments over the balance between capital and state power; many question the degree of independence the state has from economic interests. Some, such as Robert Nisbet, claim considerable independence, asserting that the state truly dominates sociocultural systems, sometimes to the detriment of capital. At the other extreme are those writing in the tradition of Marx, who claim that the collaboration between state and capital is so close that they are almost indistinguishable. Finally,

between these two extremes are followers of Weber, who posit that the state has some distinct interests that separate it from the interests of capital and that what happens when these interests collide is an empirical question.

The degree to which capital and the state operate independently varies from one society to another and, over time, within the same society. The independence of the state and capital depends largely upon two factors. Perhaps the most important factor is the scale and concentration of economic wealth within a society and in the world-system of which it is a part. Excessive wealth is often translated into political power. As we have seen, corporate wealth has grown tremendously since World War II and has become concentrated into large corporate entities. Since the dominant economic institutions in modern societies are private corporations, the institutions of government, even when not under the direct influence of corporations or their money, will often follow corporate interests. But it must also be noted that governments are often directly influenced by corporate interests.

A second factor determining the degree of corporate influence over the state is whether there exists within the state a constitutional and legal structure that severely restricts corporate power. In the United States, this structure is rapidly eroding. The money spent on federal elections (presidential and congressional) has risen dramatically in each election cycle since World War II. Looking at presidential years only, the total amount of money spent on federal elections in 2000 was slightly over $3 billion dollars. In 2004, it was a little over $4 billion, and, in 2008, $5 billion. In the 2012 presidential race alone, the Obama and Romney campaigns each spent well over a billion dollars.[1]

But contributing to a campaign is not the only way for organizations and individuals to influence the state. Every year, corporations, labour unions, and other interest groups spend billions of dollars to lobby Congress and federal agencies. Some of these organizations have in-house personnel whose job it is to lobby members of government; others hire lobbying firms. The amount of money spent on

TABLE 1 US Government Lobbying (2010)

Sector	*Total Spent on Lobbying ($US)*
Miscellaneous business	$603,295,063
Health	$523,660,838
Finance, insurance, and real estate	$479,293,686
Energy and natural resources	$453,218,387
Communications and electronics	$371,535,923
Other	$269,984,782
Transportation	$246,951,694
Ideological and single-issue interests	$157,607,346
Defence	$146,388,348
Agribusiness	$122,403,977
Construction	$53,232,608
Labour	$45,918,926
Lawyers and lobbyists	$33,664,036

SOURCE: The Center for Responsive Politics, http://www.opensecrets.org/lobby/top.php?showYear=2010&indexType=c. Accessed 16 March 2013.

lobbying the US federal government has more than doubled since 1998, going from $1.44 billion to $3.47 billion in 2010. Table 1 presents the amount of money spent by each of thirteen broad sectors of influence monitored by the Center for Responsive Politics, a research group that tracks money in US politics and its impact on elections and public policy. As the table reveals, the bulk of lobbying money in American politics comes from corporate interests. The categories that represent non-business interests are Labour, Ideological and single-issue interests, and Other (which includes education, religious organizations, civil service, and non-profit institutions). These non-business groups together spent $473,511,054 on lobbying in 2010, or about 13.5 percent of the total spent by all groups on lobbying the federal government in that year; the rest came from corporate sources.

While funding for federal campaigns comes from many different sources, corporations and those who work for them are again the

major contributors by far. For example, the insurance industry was one of the biggest donors to federal campaigns in 2008, contributing over $46 million to federal parties and candidates. In the 2009–10 election cycle, the top insurance contributors to federal campaigns were New York Life Insurance (over $2 million), AFLAC ($1.8 million), and Blue Cross/Blue Shield ($1.8 million). Not surprisingly, as a group, insurance companies opposed the public option in the health care reform proposals of 2009–10 and supported mandates requiring individuals to buy health care coverage. In addition to providing campaign contributions to candidates, the industry also spends a tremendous amount of money to lobby Congress and federal agencies. In 2010 alone, the insurance lobby spent over $156 million on its lobbying efforts. Blue Cross/Blue Shield tops the client list, spending over $12 million dollars in 2010, followed by America's Health Insurance Plans ($9.3 million) and Prudential Financial ($8.7 million).

The 2008 collapse of many commercial banks put the relationship between Wall Street and the state much in the news, particularly regarding the government's bailout of these banks and the subsequent efforts at regulatory reform. In total, the banking industry gave almost $19 million to federal candidates in the 2010 campaign cycle, with the American Bankers Association topping the list (over $2.9 million), followed by JP Morgan Chase ($1.68 million) and Bank of America ($1.5 million). In addition to contributing directly and indirectly to campaigns, commercial banks spent over $56 million on lobbying in 2010, led by the American Bankers Association ($7.49 million), JP Morgan Chase ($7.41 million), Wells Fargo ($5.41 million), and Citigroup Inc. ($5.38 million).

What does this money buy? Under the headline "Sponsors of Anti-Consumer Amendments to U.S. House Financial Reform Bill Received $3.8 Million from Financial Sector in 2009," Consumer Watchdog reported that the thirty-eight members of the House who offered amendments to weaken the consumer protections in the financial reform package received an average of $111,000 each from the financial sector for their campaigns in 2009.[2] They further

reported that the financial sector gave some $28 million to the campaigns of all members of the House in that year.

In the 2010 election cycle, the oil and gas industry—consisting of producers, refiners, pipeline companies, service stations, and fuel oil dealers—contributed $27.58 million to federal campaigns. Unlike most American industries, which contribute roughly equal amounts to Republicans and Democrats, 75 percent of oil and gas political contributions go to Republicans. (Labour union contributions go almost exclusively to Democrats.) After facing huge budget deficits for more than ten years, the House of Representatives, led by Republicans, pushed for large cuts in federal spending—mostly cuts to the social safety net—to begin to move toward a balanced budget. In March of 2011, a motion was made in the House to stop taxpayer-funded subsidies to large oil companies—the most profitable corporations in the world. These subsidies amount to billions of dollars every year. The motion was defeated by a vote of 176 to 249, with 236 Republicans and 13 Democrats voting against the motion. (The 176 "yes" votes all came from Democrats: see http://clerk.house.gov/evs/2011/roll153.xml.)

Top oil and gas campaign contributors in the 2010 cycle included Koch Industries ($1.91 million), Exxon Mobil ($1.33 million), and Chief Oil and Gas ($1.19 million). In addition to campaign contributions, the industry spent over $146 million on lobbying efforts in 2010, with ConocoPhillips topping the list at $19.62 million, followed by Chevron ($12.89 million) and Exxon Mobil (12.40 million). British Petroleum, much in the news in 2010 for the oil disaster in the Gulf of Mexico, was sixth on the list with $7.3 million in lobbying. The industry as a whole lobbies for expansion of drilling offshore and in the Arctic and for tax breaks and subsidies for the industry; it lobbies against cap-and-trade and other climate change legislation.

The defence industry consists of defence aerospace and electronics firms, shipbuilders, arms manufacturers, military contractors, and research and development firms. Although the industry does not spend nearly as much on politics as many other sectors (it ranked ninth in terms of lobbying monies spent in 2010), it is widely

known as one of the most powerful lobbies in the United States, perhaps because the influence of the military in American life goes well beyond spending. Military power and its projection overseas are widely recognized to be in the broad interests of both business and government elites. Key military bases and defence plants located in a variety of states and congressional districts also assure support from senators and House representatives. Furthermore, a mixture of pride in their society's military power and fear of the outside world has kept the American people as a whole receptive to exorbitant military spending.

In addition to lobbying, political action committees (PACs) and individuals associated with the defence industry contributed almost $24 million to political candidates in the 2008 election cycle. Contributions tend to go to whoever is in power. The industry is, of course, highly dependent upon American military spending and lobbies not only Congress but also the Departments of Defense and Homeland Security. The industry spent a reported $138.7 million in lobbying Congress and various agencies of the executive branch in 2010. Over a thousand lobbyists (67.5 percent of whom are former government employees, many with the Pentagon) lobbied on behalf of 324 defence clients, often directly for a piece of the $700 billion defence budget. Top industries contributing to the lobbying effort included Boeing ($17.8 million), Northrop Grumman ($15.7 million), United Technologies ($14.5 million), Lockheed Martin ($12.7 million), and General Dynamics ($10.7 million).

On January 20, 2010, the Supreme Court of the United States ruled in the Citizens United case that the federal government may not restrict political spending by corporations in elections. The five-to-four decision (along the conservative-liberal lines of the justices) was based on the First Amendment's principle of free speech; the court ruled that the government cannot regulate the political speech of corporations, that it must treat corporate speech in the same way as that of human beings. The ruling held that while the US government can continue to restrict direct contributions to candidates, it cannot restrict independent expenditures for either candidates or

issues. In a White House press release issued the day after the ruling, President Obama called the decision "a major victory for big oil, Wall Street banks, health insurance companies and other powerful interests that marshal their power every day in Washington to drown out the voices of everyday Americans." He took the unprecedented step of directly criticizing the decision in his State of the Union (2010) message later that month: "With all due deference to separation of powers, last week the Supreme Court reversed a century of law that I believe will open the floodgates for special interests—including foreign corporations—to spend without limit in our elections. I don't think American elections should be bankrolled by America's most powerful interests, or worse, by foreign entities. They should be decided by the American people. And I'd urge Democrats and Republicans to pass a bill that helps to correct some of these problems."[3] Congress, however, did not act. Corporate influence over government has been a growing concern of many who believe that the state must act to counterbalance corporate power. The Citizens United decision further weakens the separation between corporations and the state.

In addition to the influence of corporate money in government, there is the issue of personal influence as represented by the revolving door between government service and industry lobbying. Individuals often go from government service to K Street lobbyist, and "former" lobbyists often take jobs at the White House or on Capitol Hill. According to the Center for Responsive Politics, in 2010 there were 348 former members of Congress (from both the House and Senate) who were actively engaged in lobbying their former colleagues. In addition, hundreds of former congressional staffers are employed by lobbying firms and interest groups, often to lobby the government on issues that they helped to shape.[4] Finally, thousands of former employees of the various federal agencies of the executive branch are employed as lobbyists, capitalizing on their connections and expertise gained in public service. As the Center for Responsive Politics notes on its website, "An Environmental Protection Agency administrator may go on to lobby his former

colleagues on environmental issues, and a White House staffer can tap her West Wing connections when she starts a new job on K Street. The White House is traditionally the executive branch's largest supplier of fresh lobbyists; the office of the president employs a large team of staffers of varying seniority. But public servants switching to careers as lobbyists (and back again) come from agencies as varied as the Department of Defense, NASA and the Smithsonian Institution."[5] Lobbying firms and interest groups can usually offer former government employees better salaries than those paid by the federal government; in return, they get employees who are knowledgeable about key issues and, more importantly, have personal connections to government officials.

There are numerous examples of how the modern state formulates social policies that benefit corporate America, often worsening (or creating) problems that the government then deplores. For example, agriculture is a sector dominated by large agribusinesses. While most US farms are family owned, agriculture is a highly concentrated business. Sociologist Gwen Sharp provides some figures: "In the U.S., the total number of farms has fallen from an all-time high of over 6.3 million to just over 2.2 million. Meanwhile, the average size per farm nearly tripled between 1900 and 2007, from 147 to 418 acres. . . . Small-scale family farms (defined as operator-owned farms with less than $250,000 in sales—which does *not* mean $250,000 in profit, of course) make up 88.3% of all farms in the U.S., while large-scale family farms (operator-owned farms with sales over $250,000) are 9.3%. . . . Large-scale family farms account for 66 percent of production."[6] These large-scale farms receive tens of billions of dollars in federal subsidies, allowing corporate agriculture to replace the small independent farmer at enormous taxpayer expense. It makes good political sense to fashion agricultural policy so as to benefit organizations with economic and political power. Even without direct contact with agribusiness elites, the state will follow corporate priorities in establishing farm policy. A similar corporate bias can be found in government policies concerning highways, energy, urban affairs, and housing.

According to Michael Harrington (1976), the state promotes the corporate economy through four actions. First, the state allows the formation of oligopolies, cartels, and multinationals to promote managerial planning and eliminate the vagaries of the market. Second, the government subsidizes technological innovation to create new needs and markets. Third, the government subsidizes many private industries through massive defence spending. And finally, the state engages in direct intervention in the economy to offset inflation and recession-depression.

Harrington is quick to point out that elites, even those in capitalist societies, do have some limits on their power. Certainly, the history and constitutional structure of a given society constrain, to some extent, the power of elites. But in a society dominated by large corporations, policies of the federal government cannot run counter to the interest of the corporate sector "unless they have the support of a determined mass movement willing to fight for structural change" (Harrington 1976, 223). At times, Harrington claims, when opposition is tightly organized, when the masses are sufficiently aroused, corporate elites must grant some reform. But the interest of the public is often fleeting, while the interest of capital endures. Also, since national governments are held accountable for the health of their economies, the modern state cannot consistently act counter to the fundamental interests of private corporations.

Three primary factors, then, are responsible for growing corporate influence over government: (1) economic wealth is ever greater and more concentrated; (2) constitutional structures restricting corporate power are eroding; and (3) techniques and technology of manipulation are constantly improving.

THE IRRATIONALITY FACTOR: DEFENDING DEMOCRACY

After serving as Allied Commander in World War II, followed by eight years in the presidency, US president Dwight D. Eisenhower,

in his 1961 televised farewell address to the nation, warned his fellow Americans of the unwarranted influence of the military-industrial complex. Today, large segments of the US population consider it unpatriotic to criticize American militarism. If anything is sacred in the United States (an open question), it is the military. I quote extensively from Eisenhower's speech here since it is a powerful warning:

> A vital element in keeping the peace is our military establishment. Our arms must be mighty, ready for instant action, so that no potential aggressor may be tempted to risk his own destruction.
>
> Our military organization today bears little relation to that known by any of my predecessors in peacetime, or indeed by the fighting men of World War II or Korea. Until the latest of our world conflicts, the United States had no armaments industry. American makers of plowshares could, with time and as required, make swords as well. But now we can no longer risk emergency improvisation of national defense; we have been compelled to create a permanent armaments industry of vast proportions. Added to this, three and a half million men and women are directly engaged in the defense establishment. We annually spend on military security more than the net income of all United States corporations.
>
> This conjunction of an immense military establishment and a large arms industry is new in the American experience. *The total influence—economic, political, even spiritual—is felt in every city, every Statehouse, every office of the federal government. We recognize the imperative need for this development. Yet we must not fail to comprehend its grave implications. Our toil, resources and livelihood are all involved; so is the very structure of our society.*
>
> In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. *The potential for the disastrous rise of misplaced power exists and will persist.*
>
> We must never let the weight of this combination endanger our liberties or democratic processes. We should take nothing for granted. Only an alert and knowledgeable citizenry can compel

> the proper meshing of the huge industrial and military machinery of defense with our peaceful methods and goals, so that security and liberty may prosper together.[7]

The "military-industrial complex" that Eisenhower spoke of means that research universities and institutes, corporations, the military, and government leaders all have a vested interest in a large military, sophisticated weapons systems, and war. "War in our time is a war of machines," wrote Weber ([1921] 1968, 981) four decades earlier, "and this makes centralized provisioning technically necessary, just as the dominance of the machine in industry promotes the concentration of the means of production and management." In this section, we will examine the influence of the military-industrial complex on American policy since World War II.

Six social trends have skewed American policy toward militarism since Eisenhower's warning: (1) perceived threats to the American way of life; (2) the consequent build-up of a huge military establishment that is instantly ready for war; (3) an economy increasingly dependent upon military spending; (4) increasing reliance upon volatile areas of the world for essential raw materials; (5) a government elite who lack moral vision, courage, and competence, and who simply rely upon military force in their foreign policy decisions; and (6) the apathy, "moral insensibility," and "suffocation of mind" of the American people, particularly on the part of intellectuals who have abdicated their role in democratic governance. Support for the last assertion comes from two opposite ends of the political spectrum: C. Wright Mills used the phrase "moral insensibility," while "suffocation of mind" is from Robert Nisbet (see Mills 1958, 85–87; Nisbet 1975, 147–53).

In C. Wright Mills's time, the perceived threat was from communism, particularly by the Soviet Union. Like Mills before him, Robert Nisbet (1975) maintains that the military cast of mind increasingly dominates the US government. When Nisbet was writing in the 1970s, nearly two decades after Mills, the threat was still from the Soviet Union and China, but he perceived a new threat on the

horizon: "There is, on the sober judgment of scientists and officials alike, every reason to expect constant rises in the rate and incidence of terror in the modern world—with the exception of the military totalitarianism where, in effect, terror is monopolized by the government. Terror is now a way of life for certain groups in the world, and we may be certain their number will go up constantly" (1975, 63). In fact, Nisbet asserts that if terrorism continues to increase in the coming decades as rapidly as it had in the decade previous to his writing, he could not conceive of representative democracy surviving. It is not that he predicted that the terrorists would win but rather that the United States would feel compelled to abandon its Bill of Rights. In societies threatened by terror, he predicts, people will be attracted to military-style governments and will exchange their freedoms for security. "If terror, as manifested by such groups as the PLO [Palestinian Liberation Organization] and the IRA [Irish Republican Army], increases by the same rate during the next decade as it has during the past decade, it is impossible to conceive of liberal, representative democracy continuing, with its crippling processes of due process and its historic endowments of immunity before, or protection by, the legal process" (147). Nisbet's predicted increase in the amount of terrorism is based on the centralization and enlargement of power in Western (and other) governments. Because of this centralization, revolution from disaffected groups is now virtually impossible. This makes it "probable that the vacuum left by receding revolutionary hope is being filled by mindless, purposeless terror as an end in itself" (63).

As further evidence for the rise of militarism, Nisbet points to the increased incidence and intensity of war in the twentieth century and the increase in the "size, reach, and sheer functional importance of the military" in modern times. To claim that such an institution growing rapidly in our midst has not had serious impacts on other parts of the sociocultural system is ludicrous. Indeed, Nisbet concludes that such a military establishment will necessarily have a significant and continuous effect upon the entire sociocultural system: "Given this immensity it is inconceivable that the military's influence would not

mount steadily in all spheres—political, civil, cultural, and social as well as economic. To imagine that the military's annual budget of just under a hundred billion dollars does not have significant effect upon the economy is of course absurd, and it may be assumed that with respect to the military as with any other institution, beginning with the family, what affects the economic sphere also affects in due time other spheres of life" (147–48).[8] By 1988, Nisbet was calling the United States an "imperial power" similar to Great Britain in the eighteenth century. Like Mills before him, Nisbet sees the militarism of the American government as one of the greatest threats to freedom in both the US and abroad (1988, 1).

Nisbet (1975) cites a $100 billion figure for the US's annual military budget. In 2010, many experts placed annual American military spending—the Defense Department budget, war supplemental, and the Department of Energy's nuclear weapons program—at $722 billion. American defence spending grew by 67 percent between 2001 and 2010. In 2009, it accounted for 46.9 percent of the world's total spending on defence; the closest competitor, China, spends 6.6 percent of the world's share (Olson 2010). In terms of the federal budgets, defence spending ranks third behind Social Security and Medicare. And some argue that the US defence budget underestimates actual military spending since it excludes a host of defence-related expenses such as homeland security, FBI counter-terrorism, NASA satellites, veteran's programs, and interest on debt incurred in past wars. These critics place the true annual cost of defence spending in the US at well over $1 trillion dollars. If this is true, then the United States spends more on defence than do all the rest of the nations of the world combined. No nation, Nisbet (1988, 39) warns, has ever managed to retain its "representative character" along with a massive military establishment; the United States will not be an exception.

One of the major effects of globalization is to make the economies of the world interdependent, reliant upon one another for trade in resources and goods. Several resources that are vital for the US economy can only be obtained in volatile regions of the world, the

most infamous, of course, being oil. The vast majority of proven oil reserves are not in the hands of corporations but under the control of nation-states, and many of these are in the Middle East (US Energy Information Agency 2012). In January 1980, President Carter announced that the United States would use force, if necessary, to protect its vital interests in the Persian Gulf against outside force. President Reagan reaffirmed this commitment and added that the United States would also use force to combat internal threats to these interests, such as regional wars, revolutions, or terrorism. The US General Accounting Office estimated that between 1980 and 1990 the United States, in honouring these commitments, spent a total of $366 billion to protect the oil supplies in the Middle East (1991).[9] Unfortunately, the American government has not given a more recent estimate of the military costs of oil; if, however, we add to the cost of maintaining security for the region even a portion of the costs of the first and second Gulf Wars and Afghanistan, as well as the costs of dealing with the resulting terrorism due in large part to US presence in the region, the military cost of securing supplies of oil is staggering—and it is a cost borne by American taxpayers rather than the oil companies themselves.

For corporate elites, the rise of the military state creates an enormous market for aerospace, electronics, munitions, military service contracts, and supplies for a large military establishment. As a massive subsidy to the American economy, heavy defence spending has become integral to the health of the economy and thus an essential concern of government. In addition, the projection of military power around the world has secured new markets for American goods and access to raw materials to feed the industrial machine of the US and other core countries. Some call it the "New Imperialism," although others insist that it is simply the old imperialism in a new bottle. John Bellamy Foster (2006, 13–14) describes the imperialistic relationship between the core and the periphery:

> The objective of the imperialist system of today as in the past is to open up peripheral economies to investment from the core capitalist

> countries, thus ensuring both a continual supply of raw materials at low prices, and a net outflow of economic surplus from the periphery to the center of the world system. In addition, the third world is viewed as a source of cheap labor, constituting a global reserve army of labor. Economies of the periphery are structured to meet the external needs of the United States and the other core capitalist countries rather than their own internal needs. This has resulted (with a few notable exceptions) in conditions of unending dependency and debt peonage in the poorer regions of the world.

Most US citizens interpret the foreign policy of their nation through the eyes of a people committed to their image of themselves: a kind and generous people who love peace and economic and political freedom. Many around the world have a very different image.

In the realm of American politics, the existence of a powerful military establishment makes it far more likely that military solutions will be considered and implemented—that US military power will be used, either as an implied or overt threat or in actual conflict. The military cast of mind is partly responsible for the tremendous centralization of government and the economy, and it makes war far more likely (Nisbet 1975, 56, 154).[10] It is irrational to single-mindedly pursue defence through military means. A great military machine cries out to be used.

Both Mills and Nisbet see the intellectual class as complicit in their support of the military state. Under Wilson and, later, Roosevelt, intellectuals were brought into US government service and gave their full support to the centralization of power in the federal government (and, increasingly, the executive branch) to address the economic inequalities of capitalism during the twentieth century; they have also supported the militarization of that power in world wars, the Cold War, and, more recently, the so-called war on terror. Aside from designing the programs, staffing the upper levels of the bureaucracies, creating the strategies, and setting foreign and domestic policies, the intellectual class creates the ideologies and slogans that motivate the citizenry, spin the moralizing and propaganda necessary

for war, and devise the policies and strategies to meet crises and conflict (Nisbet 1975, 190). Few intellectuals have the independence of mind or the will to oppose either state centralization or militarization. Confronted with threats at home and abroad, they lent support to the militarization of state power. The founders of sociology were all extremely skeptical of centralization of the state, but modern practitioners of the social sciences, almost without exception, look to the centralization and enlargement of the state as if it were part of the natural order of sociocultural systems (249).[11] In addition, confronted with the growth in the reach and power of corporations, many intellectuals have lent support to the state in an effort to counterbalance that power and to provide a safety net for those exploited by the capitalist economy. But centralization and a large military establishment are antithetical to democracy. As early as 1787, James Madison, in his speech at the American Constitutional Convention, warned that "a standing military force, with an overgrown Executive will not long be safe companions to liberty. The means of defence against foreign danger have been always the instruments of tyranny at home."[12] A democracy that fosters militarism and centralization could serve as the very definition of irrationality.

THE PROSPECTS FOR FREEDOM

Social evolutionary theory is not well known among the American people (nor, sadly, is biological evolution), but two social-evolutionary ideas are very popular in the West. One is the idea of material progress. Although the faith of many in the benefits of science and technology has been shaken of late, there is still a widespread belief that we can live better through chemistry, biology, and computer electronics. The other is the view of history as the unceasing march of humanity toward ever greater democracy and freedom from the constraints of the state. Aside from the frightening chord struck by George Orwell in *1984,* we almost take the march toward freedom for granted. With the bankruptcy of totalitarian regimes in Eastern

Europe and the recent Arab Spring, our faith in the march of democracy and freedom has been strengthened. But Marvin Harris (1977, 264) detects a very different evolutionary trend. "In anthropological perspective, the emergence of bourgeois parliamentary democracies in seventeenth- and eighteenth-century Europe was a rare reversal of that descent from freedom to slavery which had been the main characteristic of the evolution of the state for 6,000 years." Indeed, many social scientists believe that democracy and freedom are threatened by the continuing intensification of the industrial mode of production, population growth, and increasing militarism, and the consequent growth of public and private bureaucracy.

One of the chief reasons for the rise of bureaucratic control is the headlong rush toward industrial growth around the world. Industrialism, under the auspices of capital, is firmly committed to growth. Economic growth serves two main functions for the social system. First, it dramatically increases the wealth of elites, thereby rewarding those who dominate the system. Second, it provides a mechanism by which the income of the masses can be increased without seriously threatening the existing class system. With economic growth, there is no need for the government to play Robin Hood, taking from the rich to give to the poor; economic growth provides the necessary resources to keep the masses pacified. Growth is the mechanism by which capitalist society increases the absolute income to all classes with the possibility of leaving the relative shares undisturbed (although in the past thirty years, it seems the share of the elite has grown substantially in many industrial nations).

As we have seen, there is a strong relationship between economic growth and bureaucracy. Max Weber ([1946] 1958, 212–13) argues that bureaucracy necessarily grows with the complexity of the economy. This enlargement of bureaucratic administration by the state includes the management of public works, taxation, war, foreign relations, justice, and an increasingly complex economy. Economic growth also causes the expansion of private bureaucracies. Capitalism and the state, then, have acted in an alliance through which bureaucracy inexorably advances. Moreover, according to

Weber, as the economy and the state become increasingly interdependent and coordinated through bureaucratic organization, so, too, does the population come to rely on the smooth functioning of this bureaucracy:

> The ruled, for their part, cannot dispense with or replace the bureaucratic apparatus of authority once it exists. For this bureaucracy rests upon expert training, a functional specialization of work, and an attitude set for habitual and virtuoso-like mastery of single yet methodically integrated functions. If the official stops working, or if his work is forcefully interrupted, chaos results, and it is difficult to improvise replacements from among the governed who are fit to master such chaos. *This holds for public administration as well as for private economic management. More and more the material fate of the masses depends upon the steady and correct functioning of the increasingly bureaucratic organizations of private capitalism.* The idea of eliminating these organizations becomes more and more utopian. (229; emphasis added)

Both state and capitalist bureaucracies become enlarged and centralized as the economy expands and population grows, becoming increasingly entangled as they grow in scope and power. There is also a strong relationship between the growth of the military and bureaucracy. Not only does war or threat of terrorism lead to tighter coordination of the economy and people under the name of national security, but the existence of a vast complex military machine consisting of industries, government bureaus, universities, research institutes, and think tanks necessitates bureaucratic growth.

These bureaucracies, as demonstrated by countless sociologists, are antithetical to democracy.[13] By design, bureaucracy puts inordinate power in the hands of a few people at the top of the hierarchy; as a society becomes increasingly dominated by both public and private bureaucracies—economically, politically, socially—the masses of people necessarily lose power and voice. Beginning with military power, it is the state's subsequent absorption of economic

and social welfare functions—in the name of the people but more often in the interests of elites—that has led to the decline of freedom and democracy.

Power in a bureaucratized society is largely based on manipulation rather than force. It becomes "invisible," removed first from family and community to elected office and then increasingly placed in the hands of elites who coordinate social existence through private and public bureaucracies—government, politics, economy, educational institutions, medical facilities. This power has become invisible for two reasons. First, it is done in the name of humanitarian goals, with the government cast as protector and friend and the corporation as the provider of employment, products, and wealth. Nisbet (1975, 197), of course, focuses on the state: "In the name of education, welfare, taxation, safety, health, and the environment, to mention but a few of the laudable ends involved, the new despotism confronts us at every turn." But this does not account for the influence of capital on the state. Increasingly in the United States, government power is but the public face of the corporate state. This is not to say that corporate interests completely control the US government, only that they have a controlling interest in the enterprise.[14] The second reason for the invisibility of power is that modern techniques of manipulation have "softened" this power, placing the velvet glove over the iron fist of the state and making state and corporate power much more difficult to detect or oppose. The state and corporate bureaucracies manipulate the media, educational systems, even the smallest details of life so that the interests of the elite are made to seem the national interest and are consequently internalized by the lower classes. Nisbet (1975, 226–27) writes of the power of such manipulation: "The greatest power is that which shapes not merely individual conduct but also the mind behind the conduct. Power that can, through technological or other means, penetrate the recesses of culture, of the smaller unions of social life, and then of the mind itself, is manifestly more dangerous to human freedom than the kind of power that for all its physical brutality, reaches only the body."

In the words of Marx and Engels ([1848] 1954, 13), "The ruling ideas of each age have ever been the ideas of its ruling class." Now more than ever, the rule of elites is no longer based on terror or external force, although the police powers of the state ultimately undergird its authority. Human organization that depends on the constant use of force and intimidation to discipline its members is inefficient and ultimately ineffective. A system based solely on force must expend too much energy policing its members; it stifles initiative and it provides an obvious target for rallying opposition. Rather, the rule of present-day elites is founded upon the ever more sophisticated methods of control given us by science (including social science) and technology: it is based on manipulation. Government power is much greater today than it ever was, but it is much more indirect and impersonal, and it is based on manipulation rather than brute force. Using technologies of mass media, advertising, and propaganda, the goal of the state is to control its population, to get them to mobilize, believe, buy, and act in accordance with the interests of the ruling classes. And these interests increasingly centre upon maximizing corporate profit (and thus personal wealth) through less government regulation, less taxation, and a robust military. Well-known journalist Chris Hedges (2009, 142) minces no words in describing the situation:

> The words *consent of the governed* have become an empty phrase. Our textbooks on political science and economics are obsolete. Our nation has been hijacked by oligarchs, corporations, and a narrow, selfish, political, and economic elite, a small and privileged group that governs, and often steals, on behalf of moneyed interests. This elite, in the name of patriotism and democracy, in the name of all the values that were once part of the American system and defined the Protestant work ethic, has systematically destroyed our manufacturing sector, looted the treasury, corrupted our democracy, and trashed the financial system. During the plundering we remained passive, mesmerized by the enticing shadows on the wall, assured our tickets to success, prosperity, and happiness were waiting around the corner.

The quaint old forms and trappings of democracy—elections, Supreme Courts, Congress, and the Constitution—will continue to remain in place. The traditional names and slogans will continue to be called upon and broadcast; freedom and democracy will continue to be the theme of presidential speeches and media editorials. And certain freedoms will reign. "There are, after all," writes Nisbet (1975, 229), "certain freedoms which are like circuses. Their very existence, so long as they are individual and enjoyed chiefly individually as by spectators, diverts men's minds from the loss of other, more fundamental, social and economic and political rights." But this is simply an illusion of freedom, yet another way of softening power. It is democracy and freedom in a trivial sense, unimportant and subject to the manipulation of the ruling classes. As in the past, political scientists and sociologists will continue to debate the existence of the power elite or the extent and influence of the military-industrial complex as the iron cage of bureaucracy slowly closes.

But this is not the end; all things must pass.[15] In accordance with both human experience and evolutionary theory, environmental change and sociocultural adaptation are constant. It is worth repeating what Weber intimated at the close of *The Protestant Ethic*—that the entire sociocultural system rests on our infrastructural relationships to our environment: "This order is now bound to the technical and economic conditions of machine production which to-day determine the lives of all individuals who are born into this mechanism, not only those directly concerned with economic acquisition, with irresistible force. *Perhaps it will so determine them until the last ton of fossilized coal is burnt*" ([1904] 1930, 181; emphasis added). After only two hundred years of ever intensifying industrialism, environmental limits are being reached. Peak oil is predicted sometime in the next thirty years or so; fresh water is already in short supply in many areas of the world, as is food; and as world population continues to climb and more people are integrated into consumer culture, demand on already stretched resources will certainly increase.

In addition, we are increasingly feeling the impact of pollution on our societies. The Exxon Valdez oil spill in Alaska (1989), the British

Petroleum oil disaster in the Gulf of Mexico (2010), and the nuclear meltdowns in Japan (2011) are all signs that our present technologies cannot be sustained in the long term. Global climate change, mass extinctions, deforestation, and desertification are signs that the present configurations of corporate and state structures have their limits. As these environmental limits continue to exert their influence on the infrastructures of sociocultural systems, we can expect adaptation and change. In the short term, corporate and state entities may well exert increased military, economic, and political power to advance elite interests, but this world, like all others, is limited and ultimately, as the result of struggle between competing interests, new structures, ideas, and ideologies will evolve and become ascendant. What these structures, ideas, and ideologies will be is beyond the powers of social science to predict with any degree of accuracy.

Rationalization

The practical, divorced from the disciplines of value, tends to be defined by the immediate interests of the practitioner, and so becomes destructive of value, practical and otherwise. — WENDELL BERRY

This chapter addresses the third set of questions asked by C. Wright Mills (1959, 6–7) and cited in the opening chapter: "What varieties of men and women now prevail in this society and in this period? And what varieties are coming to prevail? In what ways are they selected and formed, liberated and repressed, made sensitive and blunted? What kinds of 'human nature' are revealed in the conduct and character we observe in this society in this period? And what is the meaning for 'human nature' of each and every feature of the society we are examining." What are the impacts on human values, character, or "human nature" of the material, structural, and evolutionary forces we have identified—growing population, ever more detailed division of labour, intensifying technology, bureaucratization, capitalism, government growth, militarism, and decline in the functional importance of primary groups?

In *The Division of Labor in Society,* Émile Durkheim provides an answer. As a society grows in population and its production processes become necessarily more complex, individuals play more specialized roles and become increasingly dissimilar in their social experiences, material interests, values, and beliefs. Individuals within such a sociocultural system have less in common; however, they must become more dependent upon each other for their very survival. The growth of individualism is an inevitable result of the increasing division of labour, and this individualism can develop only at the expense of the common values, beliefs, and normative rules of society—the sentiments and beliefs that are held in common by all. With the loosening of these common rules and values, we also lose our sense of community or identity with the group. The social bond is thereby weakened, and social values and beliefs no longer provide us with coherent, consistent, or insistent moral guidance.

While this weakening of the social bond is a persistent theme of Durkheim, it is also expressed in the theories of other founders and of modern macro theorists. This chapter explores the congruence between Durkheim's anomie, Marx's alienation, and Weber's rationalization of social life. All of these ideal phenomena are caused by changes in material and structural conditions—and all of them then interact with structural and material conditions by reinforcing or otherwise contributing to changes in these conditions.

Durkheim saw an increasing division of labour as being part of the evolutionary process, a process fueled primarily by an increase in population. As population grows and becomes denser, the division of labour intensifies, producing not only a greater quantity of goods and services but also a greater variety. Civilization itself, Durkheim maintains, is a consequence of these changes. Art, science, and economic activity all develop as a result. As our numbers increase, we can only maintain ourselves by greater specialization and harder work, and from this we develop a higher degree of culture. Civilization and economic advance is not a goal that we strive for, Durkheim ([1893] 1997, 336–37) insists; "It is not the pole towards which historic development is moving and to which men seek to get nearer in order to

be happier or better, for neither happiness nor morality necessarily increases with the intensity of life. They move because they must move, and what determines the speed of this march is the more or less strong pressure which they exercise upon one another, according to their numbers." Following Durkheim, many sociologists posit that the increasing division of labour weakens the social bond between individuals within a society. In more primitive societies, the social bond is based on similarities between people. The division of labour is slight; there are some basic distinctions based on age and sex, but because nearly all participate in the common life of the society, experiences, interests, values, and norms are shared by all. With the continuing development of the division of labour, this traditional bond begins to weaken. The division of labour leads to different material interests, experiences, and, ultimately, values on the part of the individuals who make up a society.

Whether someone is a priest, an artisan, a merchant, or a peasant, the role is varied enough that the individual must perform a variety of mental and physical tasks to do his or her job. In modern times, the intensifying division of labour has led to more and more specialization in the professions, multiple layers and specialized offices in bureaucracy, and an ever more detailed division of labour in service, office, and production occupations. This has led to a narrowing of interests and values on the part of the population. Through the course of sociocultural evolution, the breakdown of tasks into ever more detailed parts has also led to stratification, unequal access to wealth and power, and, ultimately, decreased social cohesion and solidarity.

The division of labour takes place even in areas far removed from manufacturing or the provision of services. Wherever possible, jobs are continually broken up into ever simpler tasks, and machines are used to set the pace and, in the case of computers, to extend authority to a few individuals. The division of labour is one of the major characteristics of bureaucracy, and the growth of bureaucracy is very much part of the spread of the division of labour. Jobs and tasks that used to be performed by a single individual are now broken up in terms of

functions and parceled out to several. Even many executives and professionals are becoming less autonomous on the job and are permitted less initiative and control at work. Because of centralization, brought on by the thrust toward greater efficiency and the new technologies of communication and transportation, decision making increasingly becomes the application of bureaucratic rules. As detailed in chapter 5, many characteristics of the sociocultural system promote the growth of bureaucracies; the intensification of the infrastructure—population, production, and the division of labour—is simply the beginning. The spread of bureaucracy within the structure of society acts to reinforce the intensification process itself.

While the detailed division of labour is most advanced in the direct production of goods and services, bureaucratization applies the division of labour to the work of the "mind" as well: that is, to those tasks that initiate, organize, coordinate, and control the activities of people. It is this characteristic of the division of labour that has the most damaging effects on human beings. While it begins with the separation of the conception and execution of task between the factory worker and the manager of the office, it continues within the office itself. Unskilled and semi-skilled jobs continue to proliferate in hyperindustrial bureaucratic societies: labourers, clerical workers, and lower-level service and sales workers constitute well over half of all occupational categories today. Workers in such occupations have little control over the form or pace of work. Moreover, the compensation is meagre and the working conditions often poor.

But the division of labour does not stop there. As it increases, it reaches ever higher into the labour force, separating mind and body increasingly among professionals and bureaucrats. Autonomy is removed from many positions as decision making is reduced to the application of formal rules and procedures. In the process, mid-level executives and professionals become administrators of rules and procedures devised and revised further up the chain of command. "Accountability" has become the watchword in the middle levels of bureaucracy, whether in education, medicine, government, or the corporate world. Performance must be constantly monitored,

measured, and evaluated to make sure that institutional standards are maintained. Personal initiative and creativity is discouraged in the name of standardization, predictability, and efficiency. Administrators and executives become less autonomous, more subject to rules and supervision, and are thus permitted less latitude and initiative on the job. Complex tasks and procedures are broken down into discrete steps and parcelled out to lower-level functionaries guided by written rules of conduct. A similar process is occurring within the professions. Increasingly relying upon massive private and government bureaucracies for employment, modern professionals are being far more closely monitored than previously, with their decision making becoming more restricted and their expertise, the mere application of fixed rules.

HUMAN NATURE

Like many sociologists, I have a very plastic view of human nature. I find the incredible variety of human behaviours, beliefs, and attitudes virtually impossible to account for under any hard-and-fast, narrow conception of human nature. I cringe inwardly when a student tells me that all humans are naturally greedy and therefore capitalism is the only viable economic system possible. Hominid history covers some four million years; during that time, many offshoots of hominids have appeared, and all save *Homo sapiens* lived exclusively in hunting-and-gathering societies, which are widely noted for their social equality, sharing (generalized reciprocity), and simple material culture. Any account of the nature of human beings must take into account this long period of development in these simple societies.

Homo sapiens, the first modern humans, evolved as a distinct species some 200,000 years ago. Only in the past 12,000 years or so—the last 6 percent of the time that modern humans have been on this earth—have other types of societies (horticultural, pastoral, fishing, agrarian, industrial, and hyperindustrial) evolved. Industrial

society—with its massive technologies, use of fossil fuels, huge population, and detailed division of labour—is a recent innovation, at most two hundred years old, but two hundred years ago was only the beginning. It took considerable time (in human terms) to evolve to its present structure and strength, and it will continue to evolve in the future. Humans have also experienced a variety of different economic-political systems, from true communal sharing to total slavery for the masses with a tiny ruling class, from state socialism to state capitalism and everything in between. Modern humans have existed under a variety of material conditions; they thrive and multiply under a variety of social structures. Any conception of the nature of human beings must encompass their plasticity; it must allow significant latitude for sociocultural influence in forming individual character.

Durkheim had a conception of human nature that I believe has much merit. He considered humans to be "homo duplex," or of two minds.[1] The first, which he called "will," was the id-like nature that each individual is born with. Centred on bodily needs and drives, it pushes the individual to act in ways to satisfy their needs, wants, and desires without consideration of the needs and desires of others. The unchecked will can be seen in infants, whose wants are centred on their bodily needs and desires. Left unchecked (or weakly checked) through a lifetime, the will leads to individuals using one another in their quest to satisfy the self; their desires are unlimited, and the constant seeking to slake these desires leads to unhappiness and despair.

The other part of human nature, which Durkheim calls the "collective conscience," is social in origin.[2] This collective conscience serves as a check on the will; it is a moral system made up of ethical codes, values, ideologies, and ideas. The collective conscience is formed through the socialization process by which the individual internalizes the codes, norms, and ethical values of the society. It is the collective conscience that disciplines the individual will, limiting the potentially unlimited desires and drives of the individual. However, according to Durkheim, the collective conscience cannot be instilled in the individual through rational means. True internalization of moral restraint can only be instilled through ties of love

and affection to the group: that is, through social bonds. Without these close primary-group bonds, the individual fails to fully internalize the moral codes of the society and the will is left unchecked. Lacking full integration into the norms and values of the group, the will is left free to engage in exploitive behaviour to satisfy the individual's desires at the expense of others. There is always a tension between our human appetites and our socially instilled moral life. In societies in which the collective conscience is weak—in which, in other words, there is a failure to fully integrate many individuals—exploitive behaviour becomes more common. In societies where integration is exceedingly strong, the individual's human senses and desires are constantly being denied.

Durkheim posits an evolutionary view of the collective conscience. As we have seen, he argues that simpler societies—ones dominated by kinship and community ties—were strongly integrated. In such societies, tasks are distributed primarily on the basis of gender and age group, and the division of labour remains relatively weak. Although, to some degree, specific duties differ—with men responsible for hunting, for example, and women for cooking and child care—for the most part the members of the society all engage in similar tasks, rituals, and daily activities: their life experiences do not radically diverge, nor do their fundamental attitudes and beliefs. Rules and norms, as embodied in rudimentary institutions and figures of authority, are universal; they are not subject to discussion and are generally obeyed without question. In these simple societies, mechanical solidarity—"the solidarity that derives from similarities" ([1893] 1997, 84)—prevails. Individual consciousness is so far overwhelmed by the collective conscience that little scope, or desire, exists for deviance or the exercise of personal will (228–29).

Durkheim believed that a complex division of labour weakens the collective conscience—the internalized beliefs and values of the society that restrain the will—by weakening the traditional institutions such as church, family, and community that serve to integrate the individual into the broader values of the group. As a society becomes more complex, individuals play more specialized roles and become

increasingly dissimilar in their social experiences, material interests, values, and beliefs. Durkheim used the term *anomie* with reference to a social structure that only weakly binds an individual into the social whole. Highly anomic societies are characterized by weak primary-group ties—family, church, community, and other such groups. An increasing division of labour weakens the social bond of the wider community and thus the integration of the individual into the moral universe of the society, integration that is needed for truly social behaviour. This leads to high rates of deviance, exploitation, and social disintegration. Durkheim was not a straight-line evolutionary theorist, however. He believed that the weakening of primary groups is of such harm to the individual and to the social order that it necessitates the emergence of new primary groups to bind the individual to the social whole.

Another possible outcome, apparently not considered by Durkheim, is that the processes undermining the collective conscience will continue unchecked. Stjepan Meštrović ([1988] 1993), who has studied Durkheim extensively, believes that the moral system of the West is rapidly eroding due to the growth of governments, corporations, and other bureaucratic organizations along with the weakening of traditional primary groups based on kinship and community. In order for individuals to internalize the moral code of a group, an emotional bond must exist among them; the creation of rational bureaucratic institutions (schools, social service agencies, media programs) simply cannot be effective in instilling this needed morality (47). Without a comprehensive system of morality, individuals are left without internal restraint on the will, leaving only external constraints to limit egoistic, self-aggrandizing individual behaviour.

Because by definition they lack any sense of mutuality or wholeness, our specializations subsist on conflict with one another. "The rule is never to cooperate," writes cultural critic Wendell Berry (1977, 22), "but rather to follow one's own interest as far as possible. Checks and balances are all applied externally, by opposition, never by self-restraint. Labor, management, the military, the government, etc., never forbear until their excesses arouse enough opposition to *force*

them to do so. The good of the whole of Creation, the world and all its creatures together, is never a consideration because it is never thought of; our culture now simply lacks the means for thinking of it." This weakening of internal constraint may well be yet another causal factor in the rise of bureaucracy with its constant rule making and monitoring of performance. Without effective internal controls, human beings must increasingly be limited by external forces, controls that are not only expensive in terms of both time and money but are also relatively ineffective. This ineffectiveness has resulted in such phenomena as crime and deviance, economic exploitation, and the unfettered use of government to further the interests of the wealthy at the expense of the nation-state as a whole.

Meštrović (1993) characterizes the Western world as living simultaneously at the height of civilization and in the depths of barbarism. Our civilization has accomplished rapid transportation and instant communication to all parts of the earth, an unparalleled ability to produce and distribute goods and services around the world, widespread literacy and access to education, and an ongoing program of scientific research that promises ever greater understanding of the natural world. At the same time, we have weapons that threaten human life itself, democratic governments that engage in torture, and corporations that exploit nature, workers, and consumers. We experience extensive drug use and abuse, as well as widespread corruption and disillusionment in our political systems. Both barbarism and civilization advance by the day, Meštrović asserts. The two are indivisible.

Both Durkheim and Meštrović argue that the weakening of the collective conscience is due to the decline in the functions and importance of the traditional primary groups of family, community, and religious organizations, together with the increasing functional importance of the formal organizations of government and corporations. Many claim that it is the expansion of capital and/or the state that has caused this decline in the functional importance of primary groups. Robert Nisbet ([1953] 1990, 43–44), for example, maintains that the expansion of the state has weakened primary groups,

although he occasionally concedes that the expansion of capital and technology has had some role in the process. Mills ([1956] 1970, 6) is much more forthright, asserting that the centralization and enlargement of both state and capital have not only replaced many of the functions of primary groups but have turned "these lesser institutions into means for their ends." Whatever the cause, the functional importance of primary groups is clearly weakening in modern life, while private and public bureaucracies become ever more pervasive and powerful, and this is affecting the character of the men and women who inhabit the societies in which this is happening.

While Durkheim was primarily concerned with the effects of these structural changes on the internalized moral guidance of the individual, other classical sociologists had broader concerns about the impact of these changes on individual actors. Marx writes of the process of alienation, in which the individual becomes estranged from work, from the community at large, and from the self. Believing that humans are above all "man the maker," Marx roots alienation in the capitalist mode of production. Under capitalism, he claims, work becomes an enforced activity done at the behest of others for a paycheque. Forced into the detailed division of labour that characterizes the modern economy, workers lose autonomy and control; thus, physical activity is separated from mental life. The workers, assigned a specific task, do not set the pace, determine the actions, or own the tools of the job. They become alienated from the products of their labour and from the production process itself. Marx writes:

> All these consequences follow from the fact that the worker is related to the *product of his labour* as to an *alien* object. For it is clear on this presupposition that the more the worker expends himself in work the more powerful becomes the world of objects which he creates in face of himself, the poorer he becomes in his inner life, and the less he belongs to himself. . . .
>
> However, alienation appears not merely in the result but also in the *process of production*, within *productive activity* itself. . . . If the product of labor is alienation, production itself must be active

> alienation—the alienation of activity and the activity of alienation. The alienation of the object of labor merely summarizes the alienation in the work activity itself.
>
> This is the relationship of the worker to his own activity as something alien, not belonging to him, activity as suffering (passivity), strength as powerlessness, creation as emasculation, the *personal* physical and mental energy of the worker, his personal life (for what is life but activity?), as an activity which is directed against himself, independent of him and not belonging to him. (1964, 122, 124, 126)

Finally, by becoming alienated from the product and production process, the individual becomes alienated from the self and from society. Since humans are, above all else, creative beings who realize their potential through work, alienation from work leads to alienation from the self, from fellow human beings, and, finally, from life itself. "What is true of man's relationship to his work, to the product of his work and to himself," claims Marx (1964, 129), "is also true of his relationship to other men. . . . In general, the statement that man is alienated from his species-life means that each man is alienated from others, and that each of the others is likewise alienated from human life." The more time workers spend on the job, the poorer their inner mental life, and the less human they become.

What is it about capitalism that leads to alienation? In a passage that evokes the rationalization process of Weber, Marx contends that the frantic drive to increase profits has led capitalism to associate itself with the advancement of science and the application of technology in creating new products and production processes:

> Modern Industry rent the veil that concealed from men their own social process of production, and that turned the various, spontaneously divided branches of production into so many riddles, not only to outsiders, but even to the initiated. The principle which it pursued, of resolving each process into its constituent movements, without any regard to their possible execution by the hand of man, created the new modern science of technology. . . .

> Modern Industry never looks upon and treats the existing form of a process as final. The technical basis of that industry is therefore revolutionary, while all earlier modes of production were essentially conservative. *By means of machinery, chemical processes and other methods, it is continually causing changes not only in the technical basis of production, but also in the functions of the labourer, and in the social combinations of the labour-process.* At the same time, it thereby also revolutionises the division of labour within the society, and incessantly launches masses of capital and of workpeople from one branch of production to another. ([1867] 1915, 532–33; emphasis added)

Capitalism thus becomes committed to science and technology in order to extract resources from the environment, develop new products, increase production, and replace workers and divide labour into ever simpler tasks. In Weber's terminology, capitalism becomes committed to rationalization in exploiting its environment, fashioning its tools and machinery, and organizing its workforce and corporate structures. Rationalization—the increasing use of science, logic, and observation—becomes the main tool of capitalism to maximize profits. In committing itself to rationalization, capitalism necessarily alienates people from the production process, from social life, and, ultimately, from life itself.

Weber's concern is broader still and focuses on the entire range of motivation for human behaviour. Rationalization results in a condition that, like anomie, afflicts the social structure and weakens traditional primary group ties. Like alienation, rationalization is carried forward by a population's growth in numbers, by the ever more sophisticated and complex technology needed to sustain human life, and by an increasingly detailed division of labour. Weber characterizes rationalization as the increasing incidence of goal-oriented rational behaviour and the decline of behaviours based on broader human values, emotions, or traditions. Dependent on logic, science, and observation, rationalization seeks the most efficient solution to problems of human organization, production, or reproduction

without regard to broader human values, traditions, or emotional ties. These four motivators of human action—values, emotions, traditions, and goal-oriented rational behaviour—define our very humanity. When infrastructural and structural change consistently promote and instill goal-oriented rational behaviour over behaviours that are guided by values, traditions, and emotions, the resulting sociocultural system promotes the very definition of alienation—the cutting off of individuals from themselves, from their fellow humans, and from a part of their own humanity.

When applied to social structure, rationalization is characterized by bureaucratization with its focus on the efficient attainment of organizational goals without context or concern for the interests of others or of the whole. Not only are these formal bureaucracies organized along rational lines; they are also designed to promote further rationalization of the sociocultural system. Science—a supremely rationalized system of thought—is used to fashion technology to extract and process materials from our environment. Science and social science are used to divide the labour force along rationalized lines and to develop technology and incentives to control human fertility. Rationalization is a mode of thought that increasingly dominates modern social life: it is through rationalized eyes that we as individuals view and value our world.[3]

THE IRRATIONALITY FACTOR: THE CONTRADICTIONS OF BUREAUCRACIES

Why is it that as technocratic thinking increases, the irrational grows in intensity? Why the irrationality factor? The short answer is that because modern societies are dominated by bureaucracies that are firmly based on formal, technocratic thinking, enormous organizational power is often used to achieve ends that are counter to the interests and needs of the social whole. This Weberian explanation parallels both Durkheim's and Meštrović's assertion that the growth of civilization leads to the growth of barbarism and Marx's position that capitalism and its

"frantic" search to increase profit margins necessarily leads to enslaving humans to a system out of human control. But irrationality is also promoted by certain characteristics of bureaucracies.

Bureaucracies act irrationally for three interrelated reasons. First, the detailed division of labour means that necessary expertise, authority, and operational knowledge are often missing when key decisions are being made. Leaders of a bureaucratic organization rarely have day-to-day operating knowledge of the organization itself, intimate knowledge of the products or services they produce, or the authority to challenge organizational decisions. The division of labour within a bureaucracy is such that all mid-level officers have narrow expertise and authority. For most of these employees, their continued employment and opportunities for promotion within the organization depend on following orders and not raising ethical or moral concerns that are beyond the scope of their office or even their consciousness. The emphasis is upon getting the job done in the most efficient manner. Members are not encouraged to question the goals of the organization or the impact that the organization's actions might have on other workers, consumers, the environment, or society as a whole.

This problem is further compounded by the decline of many traditional institutions such as the family, community, and religion, which served to bind pre-industrial individuals to the interests of the group. Rationalization causes the weakening of the social bond and of traditional and religious moral authority (a process referred to as secularization). The internalization of moral and ethical standards of behaviour is thereby undermined; the efficient attainment of goals loses all counterweight. John DeLorean, a former General Motors executive (and famous for many things), muses over business morality: "It seemed to me, and still does, that the system of American business often produces wrong, immoral and irresponsible decisions, even though the personal morality of the people running the business is often above reproach. The system has a different morality as a group than the people do as individuals, which permits it to willfully produce ineffective or dangerous products, deal dictatorially and often unfairly with suppliers, pay bribes for business, abrogate

the rights of employees by demanding blind loyalty to management or tamper with the democratic process of government through illegal political contributions" (quoted in Wright 1979, 61–62). DeLorean goes on to speculate that this immorality is connected to the impersonal character of business organization. Morality, he says, has to do with people. "If an action is viewed primarily from the perspective of its effect on people, it is put into the moral realm. . . . Never once while I was in General Motors management did I hear substantial social concern raised about the impact of our business on America, its consumers or the economy" (62–63).

A second reason for the irrationality factor operating in bureaucracies is that technocratic thinking is focused upon immediate measurable results with little consideration for the long-term impact on the environment or on human beings. Economic organizations attempt, at every turn, to "externalize" the costs of doing business, to shift to the wider society the burden of dealing with the social and environmental problems they create. Joel Bakan (2004) tells the story of the Chevrolet Malibu. He first details the tragic story of Patricia Anderson and her four children, who were rear-ended while stopped at a red light after attending midnight mass on Christmas Eve, 1993. Anderson's car burst into flames, severely injuring her and her children. (The drunk driver of the other car, as is all too typical, escaped with only minor injuries.) Anderson sued General Motors, arguing that the car was poorly designed as the fuel tank was too close to the rear bumper. "After a lengthy trial the jury found that GM had dangerously positioned the fuel tank to save costs, and Los Angeles Superior Court Judge Ernest G. Williams later upheld its verdict (though it reduced the damages). 'The court finds that clear and convincing evidence demonstrated that defendants' fuel tank was placed behind the axle on automobiles of the make and model here in order to maximize profits—to the disregard of public safety,' he wrote, which put GM in breach of applicable laws" (62). Evidence at the trial showed that in the early 1970s, GM management had commissioned a cost-benefit report on the problem from one of its engineers, Edward C. Ivey:

> In the report, Ivey multiplied the five hundred fuel-fed fire fatalities that occurred each year in GM vehicles by $200,000, his estimate of the cost to GM in legal damages for each potential fatality, and then divided that figure by 41 million, the number of GM vehicles operating on U.S. highways at the time. He concluded that each fuel-fed fatality cost GM $2.40 per automobile. . . . The cost to General Motors of ensuring that fuel tanks did not explode in crashes, estimated by the company to be $8.59 per automobile, meant the company could save $6.19 ($8.59 minus $2.40) per automobile if it allowed people to die in fuel-fed fires rather than alter the design of vehicles to avoid such fires. (63)

The company, of course, chose to serve its bottom line. Such cost-benefit analyses are not uncommon in either corporate or government bureaucracy; they are the very embodiment of rationalization.

In chapter 6, we saw how the rationalization of capitalism through such practices as automation, the deskilling of jobs through the detailed division of labour, the rise of contingency work, the tightening of wages, and offshoring significantly cuts costs and thus raises profits for corporations. As these practices become more widespread, they destroy the buying power of the very markets that these corporations depend upon. Corporations are not structured to make such broad analyses since they are focused solely upon the annual profits of their organization; how could such a corporation forego greater profitability by refusing to automate, ship jobs overseas, or take other rationalizing steps? Only a national government could take such a wider social context into account and take steps to counter such trends. But as discussed previously, in an effort to maximize their profits, many corporations effectively block governments from taking such steps to regulate their industries for the good of the social whole.

A third cause of the growing irrationality within bureaucracies relates to the overall goals of bureaucratic organizations. Although bureaucracies are technically designed for the efficient attainment of institutional goals, there is no mechanism to ensure that the goal of the organization itself is rational in any sense of the term. Thus,

businesses can pursue profit through the marketing of child safety seats or violent video games; with either product, the bureaucracy will work to maximize its profit. In the corporate realm, leaders focus on profit rather than community, workers, consumers, morality, or the environment. Government bureaucracies are equally susceptible to following the orders of those at the top, whether or not those orders are ethical. In the government realm, leaders are often focused on the next election, campaign contributions, lobbies, defence, or simply the overall economy. Thus, some agencies of the American federal government violate civil liberties and legal procedures in the name of national security. Long-standing democratic principles and procedures are sometimes abrogated in the name of efficiency. Military arms proliferate in search of security and the build-up makes us less secure; military action is taken to advance the "national" interests but in fact creates significant blowback to the national interest. We have government tax policies that are designed to redistribute wealth and income to the wealthiest 1 percent and government regulation of the economy that fails to address the growing exploitation of the environment, workers, or consumers. In sum, our most sacred traditions and cherished values, as well as our livelihoods and our very lives, are violated through the rationalization process.

On an even more horrific scale, we have the great atrocities of our time (and because of the efficiency of bureaucracy, of any other time): Hitler's extermination camps, Stalin's gulag and purges, and Pol Pot's "killing fields." In the case of Nazi Germany, it was first thought that the mass killings were the work of a few hard-core SS officers. As William L. Shirer (1960, 972–73) points out, however, "the records of the courts leave no doubt of the complicity of a number of German businessmen, not only the Krupps and the directors of I. G. Farben chemical trust but smaller entrepreneurs who outwardly must have seemed to be the most prosaic and decent of men, pillars—like good businessmen everywhere—of their communities." C. Wright Mills (1958, 88–89) analyzes these modern atrocities:

> It is not the number of victims or the degree of cruelty that is distinctive; it is the fact that the acts committed and the acts that nobody protests are split from the consciousness of men in an uncanny, even a schizophrenic manner. The atrocities of our time are done by men as "functions" of social machinery—men possessed by an abstracted view that hides from them the human beings who are their victims and, as well, their own humanity. They are inhuman acts because they are impersonal. They are not sadistic but merely businesslike; they are not aggressive but merely efficient; they are not emotional at all but technically clean-cut.

In summary, bureaucratic structures combine three features to achieve their goals: (1) a narrow scope of authority, expertise, and knowledge on the part of individual officers within the organization, (2) an obsessive focus on immediate and measurable results for the organization rather than its long-term impact on the organization or the wider society, and (3) the arbitrary nature of bureaucratic goals. The domination of bureaucratic organization over the social structure of the world's industrial societies has led to the height of both civilization and barbarism; the rational pursuit of the irrational is now built into the very structure of societies.

The System

Modes of production establish constraints with which humanity must come to terms, and the constraints of the industrial mode of production are peculiarly demanding. . . . Industrial production . . . confronts men with machines that embody "imperatives" if they are to be used at all, and these imperatives lead easily to the organization of work, of life, even of thought, in ways that accommodate men to machines rather than the much more difficult alternative. — ROBERT L. HEILBRONER

This chapter constitutes a materialist's summary of the overall structure and dynamics of sociocultural systems. Almost all macrosociological theories worthy of the name are materialistic, systemic, and evolutionary. All place great emphasis on the centrality of either production or population—more often, both—on sociocultural evolution. All tend to focus upon changes in human groups and organizations in response to the intensification of population and production, and, in true systemic fashion, these theories go on to examine the reciprocal effects of these structural changes on other parts of the system. Finally, all see human nature as being strongly influenced, if not determined, by the prevailing social structure. It is with this last point that we begin.

TO BE HUMAN

Karl Marx perceived human nature to be highly flexible and very much subject to the society into which the individual was socialized. We are all creatures of our society, he maintained, though we are the creators of that society as well. Social human beings transform nature through work and, in the process, transform themselves. In Marx's theory, therefore, individuals are simply "personifications" of their class; their behaviour and ideals are molded by their material class interests. According to Marx, people are not born either good or evil; rather, they are subject to the interests of the class system into which they are born. In the preface to the first edition of *Capital*, Marx ([1867] 1915, 15) writes: "To prevent possible misunderstanding, a word. I paint the capitalist and the landlord in no sense *couleur de rose* [rosy colours]. But here individuals are dealt with only in so far as they are the personifications of economic categories, embodiments of particular class-relations and class-interests. My stand-point, from which the evolution of the economic formation of society is viewed as a process of natural history, can less than any other make the individual responsible for relations whose creature he socially remains, however much he may subjectively raise himself above them." According to Marx, good and evil are the products of social institutions—in particular, social institutions rooted in the private ownership of the means of production.

Durkheim's ([1893] 1997) view of human nature is equally reliant upon the influence of social institutions in determining that nature, but it is a much subtler view. As discussed in the previous chapter, for Durkheim, human beings are of two natures, the egoistic "will," which is centred on the gratification of the individual's needs and desires, and the socially internalized "collective conscience": "There are in each of us, as we have said, two consciences: one which is common to our group in its entirety which, consequently, is not ourself, but society living and acting within us; the other, on the contrary, represents that in us which is personal and distinct, that which makes us an individual" (129–30). The "will" is similar to Freud's

"id" and is very much focused upon the satisfaction of bodily wants and desires; the "collective conscience" is much like Freud's "superego," although Durkheim roots the collective conscience much more firmly in society.[1] It is society, or the social groups into which the individual is integrated, that imparts meaning, values, and moral guidelines for behaviour. Only through strong integration into groups—that is, strong identification with groups based on powerful bonds of love and commitment—can individuals internalize these moral guidelines. Without this bond, the "will" is set loose upon the world, allowing individuals to freely exploit their fellow human beings. Furthermore, these bonds can only be formed through warm, human relationships, which in turn are only possible in small, intimate primary groups. In a society organized through secondary, bureaucratic organizations in which we spend growing amounts of time, the individual "will" is increasingly left without moral guidance and society necessarily becomes a collection of individuals without a moral centre. Durkheim ([1897] 1951, 208) argued that this lack of moral guidance on the will has devastating consequences for the individual: "If nothing external can restrain this capacity, it can only be a source of torment to itself. Unlimited desires are insatiable by definition and insatiability is rightly considered a sign of morbidity. Being unlimited, they cannot be quenched. Inextinguishable thirst is constantly renewed torture. It has been claimed, indeed, that human activity naturally aspires beyond assignable limits and sets itself unattainable goals. But how can such an undetermined state be any more reconciled with the conditions of mental life than with the demands of physical life?"

This necessary morality, according to Durkheim, cannot come from a rational source. It can only be imparted to individuals through a social bond capable of fully integrating them into the group to keep the will in check. Love and commitment to members of the group are critical in this integration; lacking this, individuals are left to their own devices and engage in activities that are often exploitive of others in order to satisfy the will. This conflict between our egoistic drive to satisfy our senses and appetites and our socially instilled

collective conscience is ongoing and can never be fully resolved. In fact, Durkheim claims, it must necessarily get worse as society evolves (cited in Meštrović [1988] 1993, 74).

Anthropologist Walter Goldschmidt (1990) argues that the human need for bonding with others has a biological basis. Citing empirical studies on primate and human infants, he concludes that affection from others is critical for both psychological and physical health. This need for affection, beginning in infancy, is the central mechanism in the socialization process through which the individual internalizes the values, norms, and belief systems of the group. In adult life, Goldschmidt writes, this need for affection from others is satisfied by acquiring social prestige within the group. Over and above the issue that Durkheim raises with regard to integrating individuals into the collective conscience, Goldschmidt writes of how this drive for prestige shapes overall behaviour:

> As I am using the term here, it [prestige] is a quality a person has; a quality that is conferred upon him by others by virtue of his attributes, actions, competence, comportment and the like. It is not, of course, a finite quantity; one can have more or less of it; one can acquire some or lose a bit through performance or circumstances. *In this definition, prestige adheres to the individual as a result of the evaluations made by the community, by his public; it does not inhere in the qualities or acts themselves.* It is something the individual seeks, for having prestige conferred upon him serves his self-esteem, satisfies that need for positive affect that I see as so central an element in human sociality. Having achieved it by whatever means, an individual is most likely to want to advertise the fact, hence status symbols. (31–32; emphasis added)

While the need for prestige is universal, the qualities or actions that are given prestige vary between cultures or in the same culture over time. It is this need for social approval, or prestige, that keeps individuals committed to their community. Individuals pursue a "career," Goldschmidt maintains, in an effort to satisfy both the

self (will) and the social expectations placed upon their behaviour: "The individual career is the lifetime pursuit of satisfactions, both physical and social. *The central feature of a career is a person's contribution to the production, protection and reproduction necessary for the community's continued existence,* but it includes other valued activities that help to define the self in the context of the existing social order" (3; emphasis added). Individuals continually strive to satisfy their egoistic drives while seeking to maintain or increase their allotted social prestige by contributing to the production, protection, reproduction, and continuance of the group and its values.

Materialists agree that human behaviour is strongly motivated by the satisfaction of these biological, psychological, and social drives, which include the need for food, shelter, sexual expression, love, affection, and social prestige. Rather than relying upon instinctual behaviour, the individual learns, through the socialization process, a range of socially acceptable and unacceptable behaviours in satisfying these drives. We meet our needs through interaction with others, through sociocultural systems. All human beings (and other primates) share these needs—they are universal. Socially approved ways of satisfying these needs, however, vary across societies and across subgroups within societies. The entire sociocultural system rests on the way in which a society exploits its environment to meet the biological, psychological, and social needs of its population. All members of a society are dependent on the satisfaction of these needs, at least at minimum levels, to sustain life. Therefore, a society's population and production systems—which together determine the amount and types of resources required to sustain that system—are critical in understanding the entire sociocultural system.

POPULATION AND PRODUCTION

As Thomas Robert Malthus pointed out over two hundred years ago, our ability to produce children is far more powerful than our ability to produce sustenance for their survival. We therefore must

adapt our population size to the energy, particularly in the form of food, that we can extract from our environment. Whether consciously or not, individuals make decisions about how many children to have based on their calculation of the costs of having a child (food, clothing, child care, number of children already in the household, probabilities of survival, family wealth and income) and the benefits (possible labour contributions to the household, security in old age, and, most important in hyperindustrial societies, the affective bond between parent and child). To control their fertility, some (although few) individuals practice celibacy until they can afford children. But since the expression of sexuality is very much a part of our animal nature, celibacy is perhaps more widespread in societies and subcultures where religious or ideological reinforcement for this behaviour is strong. Individuals are more likely to control their fertility through non-procreative sexual behaviour or the use of contraception. Should children be conceived who cannot be adequately cared for, many societies practice abortion or infanticide. Failing that, there is malnutrition, disease, and neglect. While the preventive check of birth control is more effective and widely available today, the positive check of premature death is still very much with us.

While it is the individual—often in consultation with a partner—who makes the cost-benefit decision about whether and when to have children, the decision is affected by societal forces such as general economic conditions and the gradual establishment of norms in response to these conditions. For example, as Malthus pointed out over two hundred years ago, when a society is populated up to the level it can support at its accepted standard of living, the age of women at first marriage tends to be high. The cost of raising a child in such a fully populated society becomes higher: as food, clothing, and shelter becomes more expensive, the cost-benefit equation changes and people respond accordingly. In societies that are relatively underpopulated, such as the colonizing societies in the New World, the average age for women at first marriage tends to be considerably lower. Malthus (1798, 18) elaborates on these relationships:

> If I find that at a certain period in ancient history, the encouragements to have a family were great, that early marriages were consequently very prevalent, and that few persons remained single, I should infer with certainty that population was rapidly increasing, but by no means that it was then actually very great, rather; indeed, the contrary, that it was then thin and that there was room and food for a much greater number. On the other hand, if I find that at this period the difficulties attending a family were very great, that, consequently, few early marriages took place, and that a great number of both sexes remained single, I infer with certainty that population was at a stand, and, probably, because the actual population was very great in proportion to the fertility of the land and that there was scarcely room and food for more.

Similar relationships exist for norms and values regarding sexuality. In underpopulated societies, one would expect severe restrictions on non-procreative sexual behaviours; in societies that are closer to full population level (given the existing relationships between production technology and the environment), we would expect less stringent norms regarding such behaviours as masturbation, oral sex, homosexuality, and other forms of non-procreative sex. Malthus again makes this very point in an oft-misunderstood passage on the double standard of premarital sexual behaviour for women. The origin of the "superior disgrace" attached to a "breach of chastity in the woman than in the man," he writes, lies with population pressures (65–66). If a woman becomes pregnant and gives birth to a child without having the father's support in raising that child, the burden falls not only on her but on the community of which she is a part. The paternity, of course, is not as easy to ascertain as the maternity: hence the "superior disgrace." It is no accident that this "superior disgrace" is now rapidly diminishing, as are the prohibitions on birth control, abortion, and many non-procreative sexual practices, including gay relationships. It is not growing immorality, moral enlightenment, the death of God, the decline of religion, or gay political pressure alone that are causing the change in North America's sexual morality. The sexual practices

listed above would not take hold in a society that was underpopulated; they would not gain widespread acceptance if they were not compatible with infrastructural conditions.

Consistent with intensification, humans have applied science and technology to bring greater conscious control over their decisions regarding reproduction with ever more efficient forms of birth control. In addition, consistent with bureaucratization and rationalization, governments have increasingly moved to explicitly affect the personal decisions of reproduction with tax incentives, educational programs, access to contraception information and technology, propaganda, and other pressures on individuals to either stimulate or dampen their decisions to reproduce. Similarly, social developments have paralleled industrialization in dampening the birth rate, some examples being the decline in infant mortality, the decline of agricultural labour, an educated workforce, child labour laws, increasing commodification and consumerism, and the establishment of government social security. It is all a matter of individual cost-benefit decisions: change this calculation—lessen the costs of child rearing or increase the benefits—and population level will rise; increase the costs or lower the benefits and population level will slowly decline. And these individual cost-benefit decisions are dependent upon the relation of the sociocultural system to its environment.

Another mechanism by which a sociocultural system regulates the amount and type of energy needed from its environment is the mode of production—technologies that extract raw materials and energy from the environment and fashion them into useful human products. These technologies consist of the capital machinery we commonly envision—dynamos, factories, production lines, farm machinery, and computers, as well as chemicals and biotechnologies. The mode of production also includes the division of labour necessary to employ these technologies and to research and develop new technologies so as to intensify production processes further, to offset resource depletion, to manage the resulting pollution, and to provide for growth in production per capita.

In the past, the growth or intensification of production processes was a matter of happenstance: accidental discovery driven by necessity, contact with other societies, or individual invention or discovery. Early industrial technological inventions such as the steam engine, for example, were largely the products of mechanics and tinkerers. As industrial society matured, however, the process of intensification became more deliberate and rationalized, stimulated by governments in an effort to secure vibrant national economies or by corporations seeking to maximize their profitability. Research and development became institutionalized, increasingly employing science and engineering to develop new productive technologies or to improve the productivity of existing technologies and refine the division of labour. Nation-states also stimulated technological development in order to create war machines of unparalleled scope and power. Using such mechanisms as grants to industry, tax incentives, investing in infrastructure (in terms of railroads, mass transit, highways, electrical grids, and the like), subsidies, and direct sponsorship of basic scientific research, governments seek to bring to bear rational means to intensify production processes.

As production and population continue to intensify throughout the world-system of societies, we are experiencing a growing depletion of resources (characterized by rising energy and commodity prices) and pollution.[2] Government and non-governmental agencies alike point to a growing concern about population control, particularly in the Global South, where the direct impact of overpopulation in a particular region is readily apparent by signs of malnutrition, starvation, and disease. Some success in controlling world population growth has been achieved, and if present trends continue, population growth will continue to slow, with levels projected to reach some ten billion people by the end of this century.[3] But as production processes continue to intensify around the world—a more serious issue for core countries than in the Global South—the demands on the environment will surely continue to increase, and the consumer lifestyles recently or soon to be attained will become ever more difficult to maintain for vast numbers of people.

STRUCTURED INEQUALITY

In this work, I have devoted several chapters to detailing the changes in social structure caused by the growth of population, ever more powerful technologies, and an increasingly detailed division of labour. I have written about the rise of both public and private bureaucracies and their effects on political and economic freedom, as well as their tendency toward irrational actions. These bureaucracies have grown in order to coordinate and control the actions (and thoughts) of huge numbers of people, as well as production and distribution processes that continue to grow in complexity. We then turned to the rise of the state and capitalism and their symbiotic relationship with one another through their co-evolution. Not only are these two secondary group structures brought into being by intensification of population and production, but they also serve to stimulate further intensification. Finally, we explored the impact that the growth of the state and the corporation has on primary group functions and the importance of these groups in the lives of their members. As governments and corporations expand and centralize their coordination and control over production and distribution processes, primary groups such as kinship and community lose important productive and distribution functions, become more fragile, and begin to break down; as a result, they become less important in enculturating the individual. Without significant integration into these primary groups, individuals do not fully internalize the moral guidance necessary for social behaviour, and government and corporations rely more and more upon external rules and manipulation to maintain order. This external regulation has grown in efficiency in recent times through "advances" in the techniques and technology of surveillance, propaganda, and bureaucratic management. Implements of war and force always undergird the state; employment, salary, and promotion provide the foundation for the power of the corporation over its employees. But both the state and the corporation—as well as political parties, interest groups, and not-for-profit organizations—use ever more pervasive media, propaganda, distraction, and spin to influence the masses as well.

In this, the final chapter, I discuss the inequality that exists in all sociocultural systems, although the degree of inequality varies greatly between societies and, through time, within individual societies. Theories of inequality have been a constant feature of macro social theory. In 1966, Gerhard Lenski authored a theory of the evolution of inequality that sets the stage for my discussion. For Lenski, human nature closely mirrors Durkheim's conception of duality. According to Lenski, most human actions are, at base, motivated by self-interest or the interest of partisan groups (kinship, community) in which we are embedded. Because individuals are compelled to co-operate with others for both survival and the satisfaction of the vast majority of human needs and desires, they are bound together in "antagonistic co-operation." Since valuable goods and services are in short supply, there is competition for scarce resources in every human society. Humans, however, are unequally endowed by nature and by their society to carry on this struggle for resources. Inequality is the outcome of this tension between the need for co-operation and the more narrowly defined self-interest of elites.

According to Lenski (1966), the social structure distributes the goods and services produced by a society on the basis of both need and power. Through enlightened self-interest on the part of all, there is a fairly equitable distribution of basic goods and services to productive classes. This enlightened self-interest is the widespread knowledge that some distribution of basic goods and services to productive classes is essential for the survival and continued productivity of those classes. Indeed, this distribution will ensure the prosperity of the elite themselves. However, Lenski hypothesizes that any surplus over and above the basic goods and services necessary to keep productive classes alive and producing will be distributed on the basis of economic and political power. Therefore, in the simplest societies, which have little technology or division of labour, one would expect little surplus and, consequently, little inequality (46). And, of course, this is what we find in hunting-and-gathering societies, which are generally the most egalitarian societies on earth.

As technology and the division of labour increases, Lenski predicts, a significant portion of the new goods will go to feed a growing population but a larger surplus of goods will also be produced; thus, an increasing portion of goods and services will be distributed on the basis of economic or political power (46). In this manner, Lenski arrives at the following causal chain: the more powerful the technology and the more detailed the division of labour, the greater the surplus of goods and services produced; the greater the surplus, the more goods and services will be distributed on the basis of power. To put it in slightly different terms, the social evolutionary process leads to greater inequality.

Of course, Lenski is no single-cause theorist. He is fully aware that there are other factors that will influence the amount of inequality within sociocultural systems. For example, he sees the environment as a significant factor in the productivity of any society. Specifically, a society with access to significant natural resources—say, oil—will achieve greater surpluses and consequently will experience greater inequality. Lenski posits structural factors that may serve to mitigate the degree of inequality within a society—constitutional government, military participation rates, and labour unions, for instance—but he asserts that the relationship between the amount of surplus and inequality will hold throughout the evolutionary process. So the question is, Has the degree of inequality increased over the course of sociocultural evolution?

Lenski tests his theory by examining the ethnographies and histories of societies from the hunting-and-gathering era through the technological societies of mid-twentieth century United States and the Soviet Union. He discovers increasing levels of inequality throughout most of the evolutionary process, finding each successive mode of production producing larger surpluses and, consequently, increasing levels of inequality between those at the top of the stratified system and those at the bottom. This holds from hunting-and-gathering, to simple horticulture, to advanced horticulture, to agrarian, and right through to early industrial societies. Each successive society produces greater gaps between the incomes

of those who have accumulated wealth and power and those who are subject to their rule. This holds true within societal types as well: for example, increases in the productivity of agrarian societies lead to greater inequality. Lenski finds that inequality came to its height in early industrial societies, with the wealthiest classes far removed from the poorest within these societies. But he also finds a reversal of this evolutionary trend, with inequality lessening significantly as industrial societies mature.

In late agrarian societies, a tremendous amount of wealth and power was concentrated at the top of the stratified system. In fact, Lenski estimates that up to 50 percent of all the income of agrarian societies was collected by the top 1 or 2 percent of the population. The main instrument of elite power in agrarian societies was the state, which was seen as the private property of the rulers and the small governing class. This perception allowed them to take the economic surplus from the lower classes. In contrast, Lenski (1966, 309–10) estimates that in 1966 the top 2.3 percent of the American pyramid collected about 15.5 percent of all the income on an annual basis, a far cry from the 50 percent of agrarian elites.

Lenski (1966, 308–25) attributes the lessening of income inequality in mature industrial societies to several factors. First, along with the maturation of an industrial society comes the necessity for a large number of administrative, professional, and technical workers in order to staff and coordinate the complex technologies, vast numbers of people, proliferation of organizations, and increasingly complex culture. Because of their technical knowledge, expertise, and seeming indispensability, upper administrators, technical specialists, and highly skilled labourers are allocated a larger share of the surplus. Given the magnitude and rapidity of the increase in productivity, elites are able to maximize their income even while granting some concessions to the workforce. "In an expanding economy, an elite can make economic concessions in relative terms without necessarily suffering any loss in absolute terms. In fact, if the concessions are not too large, and the rate of the economy's growth is great enough, relative losses can even be accompanied by substantial absolute

gains" (314). A second factor lessening inequality is the difference in production and population dynamics in mature industrial societies from those of earlier, more traditional societies. In the latter, increases in productivity were accompanied by increases in population; children were used in the production process in that they could work in the fields or herd animals at a very early age. Mature industrial societies break the link between production and population, thus allowing a greater share of the surplus to go to the lower classes.[4] As Lenski explains,

> For the first time in history, mankind has found a safe, simple, and effective means of controlling population growth. In societies where these have been most widely used, the rate of population growth has been slowed to the point where real and substantial gains in per capita income have been achieved in a fairly short time, thus reducing the intensity of the competitive pressure. Now, for almost the first time in centuries, the lower classes are able to bargain for wages in markets no longer perennially glutted with labor. This development has almost certainly contributed to the decline in inequality. (315–16)

A final factor behind the lessening of inequality, Lenski posits, is the rise of organizations and ideologies that advocate more economic equality, such as labour unions, socialist parties in Europe, and the liberal ideologies behind the establishment of the welfare state in the United States and Canada. With the rise of representative democracy and universal suffrage, Lenski suggests, the state is no longer the exclusive agent of the elite; other interest groups use the state to moderate the rule of the elite. Consequently, a greater share of the surplus of advanced industrial society is allocated to the lower classes in an attempt to satisfy their demands and reduce class hostilities.

However, there are several qualifications regarding Lenski's findings. First, he was writing in the early 1960s, when income inequality in the United States and other Western countries was demonstrably at historic lows. Suppose the lessening of income inequality

was but a short-term reversal of a long-term evolutionary trend? Second, Lenski's inclusion of the former Soviet Union in his data flattens the income inequality. At the time, some of the country's income data was seriously misleading. The old Soviet Union had, for example, devised a dual system of currency in which the rubles earned by Party leaders were far more valuable than those earned by the average citizen; these "golden rubles" could be used at stores open only to Party members that sold foreign goods of superior quality.[5] Third, Lenski was comparing income inequality rather than inequality in wealth. While the distribution of income would certainly be most sensitive to changes in the factors that Lenski cites above—an ever more specialized division of labour, changes in population-production dynamics, and the rise of representative democracy and liberal ideologies—the distribution of wealth might be far more resistant to such influences. How has income inequality fared since Lenski tested his hypothesis?

Since Lenski originally tested his hypothesis, the share of income taken by the elite at the top of the income hierarchy has increased dramatically in the United States by almost every measure. The top 1 percent of wage earners in the United States, according to economist Joseph Stiglitz, now earn nearly 25 percent of the nation's income.[6] This represents a significant increase over Lenski's estimate of 15.5 percent of all income earned by the top 2.3 percent of all income earners (1966, 309–10). Stiglitz reports that the top 1 percent have seen their incomes rise 18 percent in the past decade, while the incomes of those in the middle and lower classes have actually declined. All of the income growth in recent decades has gone to those at the top: the corporate executives, the financiers, and the speculators. What accounts for this increasing concentration of income? While many factors have been at play, Stiglitz identifies the main culprit: "The top 1 percent want it that way." Stiglitz points to tax policies, lax enforcement of anti-trust laws, manipulation of the financial system (brought on by deregulation and little enforcement of the rules that remained), government bailouts of financial institutions, and other changes to the system.

Jacob Hacker and Paul Pierson (2010) document the steady rise of inequality in the United States, beginning in the late 1970s, and relate this rise directly to changes in the relationship between government and corporate interests: "Government actually has enormous power to affect the distribution of 'market income,' that is, earnings before government taxes and benefits take effect. Think about laws governing unions; the minimum wage; regulations of corporate governance; rules for financial markets, including the management of high-stakes economic ventures; and so on. Government rules make the market, and they powerfully shape how, and in whose interests, it operates" (44). As we have seen in previous chapters, laissez-faire capitalism has always been more of an ideology than a reality; states have always set the conditions of markets, and the conditions set in the US marketplace have changed dramatically in the past thirty years in ways strongly favouring the elite. This is most apparent in how the US government has treated unions and the social safety net, and in its failure to effectively regulate executive pay and financial markets (56). Another way in which government affects the distribution of income is through the process of drift. "It is the passive-aggressive form of politics, the No Deal rather than the New Deal," write Hacker and Pierson (2010, 53). "Yet it is not the same as simple inaction. Rather, drift has two stages. First, large economic and social transformations outflank or erode existing policies, diminishing their role in American life. Then, political leaders fail to update policies, even when there are viable options, because they face pressure from powerful interests exploiting opportunities for political obstruction." Second, drift is made easier in the American system by the traditional system of checks and balances among the branches of the federal government: executive or legislative action intended to address new problems—banking reform, environmental controls, campaign finance reform, health care reform—is often stymied by another branch. This has become easier still with the expanded use of the Senate filibuster, which now requires a supermajority of sixty votes for any major policy initiative (53). A third way in which government facilitates drift is, of course, through destroying

the progressivity of the tax system by reducing the rates of those at the top, particularly at the very top (51).

How has this extreme inequality happened in a society that is supposedly democratic, one in which the "have-it-alls" are clearly outnumbered and could easily be outvoted? Hacker and Pierson (2010, 104) point to the same phenomenon that we have emphasized in previous chapters, namely, bureaucratic organization:

> Organizations have formidable advantages, and modern life is unimaginable in their absence. They can marshal vastly greater resources than can any individual. Organizations permit specialization and thus the development of expertise—a critical advantage in a world of staggering and ever-increasing complexity. They allow many different kinds of talent to be combined and directed toward some big task. They can operate simultaneously in many different arenas. Perhaps most important, they are durable, even relentless, where individuals are flighty and, of course, mortal. Organizations can learn from experience. They can sustain a focus for decades if need be: watching, waiting, planning, and then seizing opportunity when the time is right.

Citizens have much competing for their attention, and politics and social issues are not often a high priority; a substantial number are apathetic and do not vote at all, and, perhaps worse, many are "low-information voters" who are easily swayed by advertisements, political propaganda, and other forms of manipulation. Even when aroused and focused, the attention of voters and the press often wanders, while organized interests press on. Hacker and Pierson (2010) offer an example of this with regard to the Tax Reform Act of 1986, which sharply reduced tax breaks for the wealthy while lowering tax rates for the majority of Americans. The reform was widely hailed as a triumph of the people over special interests. But it turns out the struggle over the Reform Act was just the initial battle. "Year after year, out of the spotlight, they [special interests] succeeded in adding back loopholes—one unnoticed provision at a time. They could do

so not because public opinion had drifted rightward (it hadn't), but because they were organized and their opponents were not. Backed by organizations, they pushed politicians to respond to their concerns. And nobody pushed back" (107).

Stiglitz proposes that the upper class has lost the notion that their long-term economic fate is tied to that of the rest of their society: "The top 1 percent have the best houses, the best education, the best doctors, and the best lifestyles, but there is one thing that money doesn't seem to have bought: an understanding that their fate is bound up with how the other 99 percent live. Throughout history, this is something that the top 1 percent eventually do learn. Too late."[7] This appears to parallel a phenomenon noted by sociologists when discussing rising inequality in earlier societies. Patrick Nolan and Gerhard Lenski (2011, 145–46), for example, reason that rising inequality among chiefdoms was largely due to the different life experiences and diverging family lines of chiefs, which gradually became separate from those of their subjects. Thus, subjects came to be viewed as less than human and could be exploited with little thought or guilt on the part of the elite, a process that reached its apex in late agrarian societies, where serfs and slaves were treated as property.

The separation of the elite from the masses may be a reoccurring process in sociocultural systems that is again coming to a head in hyperindustrial societies. The division of labour leads to a division in lifestyles. Increasingly, the wealthy live in gated communities, go to separate schools, and have their own security, lifestyle, and increasingly separate values. Globalization (encouraged by technological changes in transportation and communication) could well be accelerating the process; not only does it provide opportunities for great wealth, but it also breaks the economic tie between the elite and the local economy. Joel Bakan (2004, 22) explains:

> By leveraging their freedom from the bonds of location, corporations could now dictate the economic policies of governments. As Clive Allen, a vice president at Nortel Networks, a leading

> Canadian high-tech company, explained, companies "owe no allegiance to Canada. . . . Just because we [Nortel Networks] were born there doesn't mean we'll remain there. . . . The place has to remain attractive for us to be interested in staying there." To remain attractive, whether to keep investment within their jurisdictions or to lure new investment to them, governments would now have to compete among themselves to persuade corporations that they provided the most business-friendly policies. A resulting "battle to the bottom" would see them ratchet down regulatory regimes—particularly those that protected workers and the environment—reduce taxes, and roll back social programs, often with reckless disregard for the consequences.

No longer is it necessary for the elites' home nation-states to prosper economically in order for their enterprises to do well; now it makes economic sense in both the short and (seemingly) long term to maximize profit at the expense of all around (and not around) you.

But it is not simply the top 1 percent who have benefited the most from the hyperindustrial economy. In the United States, the top one-fifth (20 percent) with the highest income now control over 50 percent of all the nation's income, levels comparable to the top 2 percent of agrarian elites (Phillips 2002, 129). The fact that industrial society appears to spread the bulk of the income to a broader segment of the population could be attributed to the need for highly skilled executives, a large class of professionals, and a significant number of technical specialists to manage the complexity of the industrial-capitalist state and to more efficiently appropriate the massive surplus produced by all. But this is not necessarily cause for widespread jubilation. The fact that the bulk of the nation's income goes to the top 20 percent as opposed to the top 2 percent would not materially affect 80 percent of the population.

Inequality in the distribution of wealth, as expected, is many times greater in US society than the inequality in income and has been growing in recent decades. The top 1 percent of the wealthiest households controlled 34.4 percent of the wealth when Lenski was

writing in 1965. Their share of the nation's wealth dropped precipitously in the 1970s, falling as low as 20 percent during the nation's bicentennial, but it began to climb again in the 1980s. By the early years of this century, it had climbed to slightly over 40 percent of the wealth of the nation! This is higher than at any other time in the twentieth century save 1929, the eve of the Great Depression (Phillips 2002, 123). "Wealth begets power, which begets more wealth," writes Stiglitz.[8] He elaborates:

> The Supreme Court, in its recent *Citizens United* case, has enshrined the right of corporations to buy government, by removing limitations on campaign spending. The personal and the political are today in perfect alignment. Virtually all U.S. senators, and most of the representatives in the House, are members of the top 1 percent when they arrive, are kept in office by money from the top 1 percent, and know that if they serve the top 1 percent well they will be rewarded by the top 1 percent when they leave office. By and large, the key executive-branch policymakers on trade and economic policy also come from the top 1 percent. When pharmaceutical companies receive a trillion-dollar gift—through legislation prohibiting the government, the largest buyer of drugs, from bargaining over price—it should not come as cause for wonder. It should not make jaws drop that a tax bill cannot emerge from Congress unless big tax cuts are put in place for the wealthy. Given the power of the top 1 percent, this is the way you would *expect* the system to work.

A slogan from the Occupy movement of 2011 captures the problem: "The system isn't broken, it's fixed." Given the recent trends since Lenski tested his original hypothesis and the fact that wealth indeed begets wealth, it appears that despite short-term reversals, an increase in inequality over the course of social evolution is still a viable hypothesis. However, it need not be so. Hacker and Pierson (2010, 52, 68–69) point out that Canada expanded its social safety net to lessen inequality and has thus far largely resisted the efforts of

financial institutions to rewrite regulatory rules; the country has thus been spared both hyper-inequality and the worst of the resulting global financial meltdown. Resistance is *not* futile, but it must be organized and sustained (305).

Hacker and Pierson point to an oscillation in American history between long periods of drift in which inequality gradually rises, followed by short bursts of reform and then a return to drift (83). If, indeed, history is a guide, we can expect continued struggle between the haves and the have-nots. Many look to our era and conclude that change will certainly come, for social justice is the only basis for lasting peace. As John F. Kennedy said: "Those who make peaceful revolution impossible will make violent revolution inevitable."[9] The struggle of elites who seek to maintain or increase their privilege and those seeking a broader-based social justice should long remain one of the engines of sociocultural evolution.

But as C. Wright Mills (1959, 153–54) pointed out, history is not always the most reliable guide:

> We can examine trends in an effort to answer the question 'where are we going?—and that is what social scientists are often trying to do. In doing so, we are trying to study history rather than to retreat into it, to pay attention to contemporary trends without being "merely journalistic," to gauge the future of these trends without being merely prophetic. All this is hard to do. We must remember that we *are* dealing with historical materials; that they do change very rapidly; that there are countertrends. And that we have always to balance the immediacy of the knife-edge present with the generality needed to bring out the meaning of specific trends for the period as a whole.

At the same time, I admit to some uneasiness regarding the possibilities of reform, at least in the short term. I am haunted by the notion that social and technological methods of manipulation, monitoring, and control of individual behaviour now afforded to organized interests are simply too strong to overcome, that the 99 percent—or the

80 percent who are most exploited—are too disorganized and powerless for reform to be successful or revolution feasible. While recent deregulation and globalization have largely gutted democratic control of capital, it is not the case that state power has been dramatically lessened; rather, it has been fused with the interests of capital. Public and private bureaucracies now confront the individual as a juggernaut increasingly serving the interests of the few at the expense of the many. The "iron cage" is closing, and it will not be easy to dismantle or escape as long as its material foundations remain intact. The human struggle will be long and hard, and the likelihood of success is not assured. But this is only one possible future among many, a vision that, while rooted in the preceding analysis, is strongly influenced by my values and fears.

CULTURAL SUPERSTRUCTURE

Of all the concepts in sociology, Weber's concept of rationalization is perhaps the most encompassing. It can be defined as the application of observation and logic—the method and substance of science—to master the natural, social, and cultural environments. When applied to mastery of the natural environment, rationalization manifests itself through technology, the detailed division of labour, and increasing conscious-technical control over reproduction. When applied to the social environment, it is expressed in the bureaucratization of state, corporate, and not-for-profit enterprises at the expense of more informal kinship- or community-based organizations. When applied to culture, rationalization is characterized by the increasing dominance of behaviour motivated by goal-oriented rational thought over behaviour guided by tradition, values, and emotions. As a general concept, rationalization can encapsulate the entire character of modern society, integrating such concepts as the division of labour, technological development, intensification, urbanization, anomie, bureaucracy, capitalism, commodification, secularization, and scientification as specific examples of this universal concept. Even alienation can be

interpreted as a reaction against this process, whereby the individual does not recognize the full self (values, emotions, traditions) in his or her work, community, and fellow human beings.

Rationalization serves to integrate the disparate parts of the system; intensification of the infrastructure causes bureaucratization of the structure, thus promoting rationalization of the cultural superstructure of the system. Superstructural rationalization then promotes further bureaucratization of structure, both of which further promote the intensification process. As stated throughout this work, because life itself is based on material factors, all sociocultural life must be responsive to its needs. But this does not mean that structural and cultural elements are without influence. Indeed, they strongly influence the direction and speed of sociocultural evolution.

SUMMARY

All sociocultural systems share a universal structure. All societies are constrained by their environment; societies adapt to their environments through population and production technology and practices (infrastructure). All human societies consist of human groups, which exist on a continuum from primary to secondary, and have a cultural superstructure consisting of ideas, ideologies, values, beliefs, behavioural norms, and a storehouse of folklore, myth, and empirical knowledge. Individual members of a society internalize the broader cultural superstructure in varying degrees, largely depending upon the extent of the division of labour and the resulting heterogeneity of the system.

The dynamics of this universal system begin with the intensification of the infrastructure. This intensification, or growth in population and production, has a direct impact upon the physical environment in terms of depletion and pollution. In addition, the intensification process affects social structure by causing the growth of secondary organizations and bureaucracy. More people and more complex production processes necessarily promote the enlargement

and centralization of capital and the state, which in turn provide further stimulus for infrastructural intensification. As secondary organizations grow in size and scope, primary groups based on kinship, community, and informal friendship connections lose many of their former functions; consequently, the social bonds within these groups weaken. The growth of public and private bureaucracies is, of course, counter to democratic control; it also leads to considerable irrationality on the part of states and corporations.

Finally, the knowledge base component of the cultural superstructure becomes broader, deeper, and more reflective of empirical reality with experience, discovery, and contact with other sociocultural systems. Intensification and bureaucratization cause the rationalization of the cultural superstructure, which in turn plays a prominent role in reinforcing, dampening, or extinguishing sociocultural change. This rationalization has consequences not only for sociocultural systems but also for the individual members of the society. Goal-oriented rational thought becomes the basis for our behaviour, while the role of behaviour based on tradition, values, or emotions diminishes in our lives. It is indeed a sociocultural *system*, with interrelated components that are constantly adapting to changes in other components as well as to the system as a whole.

These are the common elements among the various macro-level theories. These common elements, I maintain, make up the principles of macrosociology, which in turn form a framework for the complex web of interrelationships that make up sociocultural systems. Strongly rooted in the specific theories of the founders of the discipline, as well as in contemporary theory and empirical findings, these macrosociological principles constitute a view of the world that renders it intelligible.

Social reality is indeed so complex that we cannot begin to grasp it without such a world view, one that points us to key relationships within sociocultural systems. Basic principles of sociocultural organization are needed that tell the observer what to look for in order to explain social stability and change over time and how changes in the sociocultural structure affect human behaviour. For many,

these basic principles are provided by ideology, religion, or an often contradictory amalgamation of folk wisdom and unexamined prejudice. The division of labour has been responsible for some vastly different human experiences, which have in turn generated ideas and ideologies that must be encompassed by the cultural superstructure. In modern hyperindustrial societies, the sheer size and heterogeneity of the knowledge base makes it impossible for either individuals or subcultures to internalize all the elements of the cultural superstructure. In addition, some individuals and groups have actively developed countercultural images that oppose the dominant superstructural framework by providing an alternative map of reality—of the natural world, the social world, or both. In the absence of an empirically based world view capable of organizing our experience, popular understanding becomes confused and efforts at reform chaotic, to the point where the principles of democracy are subverted. Macrosociology synthesizes a diverse array of observed evidence and theory into a coherent and comprehensive explanatory system. This system is flexible enough so that it can be adjusted as new evidence arises, thus offering a framework to practitioners and students alike in understanding and navigating the social world.

A Glossary of Sociology

The difference between the right word and the almost-right word is like the difference between lightning and the lightning bug. — MARK TWAIN

In conformity with the Sapir-Whorf hypothesis, I believe that in order to truly master a discipline you must first master its vocabulary. Accordingly, I have created this glossary to help students master the vocabulary used in this text as well as in other works of sociology. I began developing the glossary in 1996. Since that time it has been freely accessible on the web—first at the University of Southern Queensland in Australia that spring (their winter), then at Murray State University from the fall of 1996 to 2000, and since then at the Rogers State University One Net site. I have used the glossary extensively in my teaching of introductory sociology, social problems, social theory, and cultural ecology. Those who read the glossary in its entirety will note some bias toward macrosociological terms, in general, and ecological-evolutionary terms, in particular. I have also substantively modified some definitions common to Marvin Harris's cultural materialism to make them more compatible with sociological concepts and theory.

To create the glossary, I began by consulting numerous glossaries, dictionaries, and texts in the social sciences. Rather than copying somebody else's definition, I would read definitions from several sources and combine then with my own understanding of the term to produce my own definition. I continue adding to the glossary whenever I encounter a term that is especially useful, newly coined, or that I have missed in the past, again going to several sources before composing my definition. I have noticed of late that large parts of my glossary have appeared on other websites and even in copyrighted publications, often without attribution. This is wrong. All are free to reproduce this glossary in whole or in part, but I ask that you acknowledge your source.

Absolute poverty. Poverty as defined in terms of the minimal requirements necessary to afford minimal standards of food, clothing, health care, and shelter.

Achieved status. A position attained through personal ability and effort.

Acid rain. The increased acidity of rainfall that is caused by emissions of sulphur dioxide and nitrogen oxides, the main sources of which are power plants and automobiles.

Acquired Immune Deficiency Syndrome (AIDS). A disease, often passed on through sexual contact, that attacks the immune system of the body.

Acute disease. A short-term disease (such as influenza or pneumonia) from which a person either dies or recovers.

Adaptation. The ability of a sociocultural system to change with the demands of a changing physical or social environment. The process by which cultural elements undergo change in form and/or function in response to change in other parts of the system.

Adult socialization. The process of learning new roles in maturity.

Affective action. Individual action motivated by emotions; one of Weber's four action types. See also *Traditional action, Wertrational,* and *Zweckrational*.

Affirmative action. Organizational policies intended to assure minorities and women of equal hiring or admission opportunities.

Age cohort. A group of people born around the same time.

Age discrimination. The differential treatment of people based solely on their age.

Age grades. A system, found in some traditional cultures, in which the population is grouped by sex and age. Age grades go through rites of passage, hold similar rights, and have similar obligations.

Ageism. Prejudice against a person on the grounds of age in the belief that unequal treatment is justified because the

age category to which he or she belongs is inferior to other age categories.

Agency of socialization. A group or institution within which processes of socialization take place. See also *Social reproduction*.

Age-sex pyramid. See *Age-sex structure*.

Age-sex structure (also called "age-sex pyramid"). The relative proportion of different age-sex categories in a population. Often depicted by means of a bar graph, the age-sex structure of a society shows the proportion of males to females in each designated age category, as well as the proportional relationship between each age category and the population overall. Pre-industrial societies generally have a pyramid-shaped age-sex structure, with younger age cohorts forming a broad base; because of a declining birth rate and an aging population, modern industrial societies have a very different age-sex structure.

Agrarian society (also called "agricultural society"). A society whose mode of production is based on agriculture (crop growing) primarily through the use of human and animal energy. See also *Traditional state*.

Agribusiness. The mass production of agricultural goods through mechanization and rationalization.

Agricultural society. See *Agrarian society*.

Air pollution. The contamination of the atmosphere by noxious substances. See also *Depletion*, *Environment*, and *Pollution*.

Alienation. The sense that one has lost control over social institutions that one has participated in creating; often characterized as estrangement from the self and from the society as a whole. Marx believed that general alienation is rooted in the loss of control on the part of workers over the nature of the labour task and over the products of their labour.

Altruistic suicide. Durkheim's term for suicide that is performed for the good of a group or for accomplishing a political or social cause.

Americanization. The spread of American cultural elements—products, lifestyles, customs, institutions, and ideologies—around the globe.

Androgyny. The blending of traits traditionally regarded as feminine or masculine.

Animism. A type of religion based on the belief that events in the world are often caused by the activities of spirits.

Anomia. A condition of anxiety and confusion experienced by individuals who are not given adequate social guidance by clearly defined social norms.

Anomic suicide. Durkheim's term for suicide that is performed because the egoistic individual is not given clear guidance from the social order.

Anomie. A structural condition in which social norms are weak or conflicting.

Anomie theory (also called "structural strain theory"). Robert K. Merton's theory of deviance, which holds that many forms of deviance are caused by a disjunction between society's goals and the approved means to achieve those goals.

Anthropology. A social science, closely linked to sociology, that concentrates (although not exclusively) on the study of traditional cultures—particularly hunting-and-gathering and horticultural societies—and the evolution of the human species.

Anticipatory socialization. Learning new roles and attitudes in preparation for joining a group.

Anti-Semitism. Prejudice or discrimination against Jews. It defines the Jewish people as inferior and targets them for stereotyping, mistreatment, and acts of hatred.

Apartheid. The system of strict racial segregation established in South Africa and only dismantled in the last few decades.

Applied sociology. The use of sociological theory and methods to solve social problems.

Appropriate technology. Technology that is designed with the needs, values, and capabilities of the user in mind.

Archaeology. The study of human activity and culture in the past on the basis primarily of the discovery and analysis of material remains.

Arms race. A competition between nations in which each side attempts to achieve or maintain military superiority.

Arms trade. The international selling of armaments for profit, which is carried on by governments and private contractors around the world.

Arranged marriage. Marriage arranged by family members, usually parents, based on factors other than the couple's personal preferences, such as family connections or the desire for social status or economic gain.

Artisan. A skilled manual worker.

Ascribed status. A social position that is given at birth based on such characteristics as race or sex.

Assimilation. A minority group's internalization of the values and norms of the dominant culture. The minority group becomes socially, economically, and politically absorbed into the wider culture.

Authoritarian personality. A set of distinctive personality traits, including a demand for conformity and an inability to tolerate diversity or accept ambiguity. Such personalities desire security, structure, and clear lines of authority.

Authority. Power that is attached to a position that others perceive as legitimate.

Autocatalytic process. A positive feedback cycle between two variables, A and B, such that an increase in A causes an increase in B, which then causes a further increase in A. An example of such a relationship is that between the modes of production and reproduction.

Autocratic rule. Rule by a specific leader, who concentrates power in his own hands.

Automation. The replacement of workers by machines, as well as the monitoring and coordination of workers by machines with only minimal supervision from human beings.

Balance of power. The theory that military conflict can be avoided if both sides have roughly equivalent military power.

Beliefs. Shared ideas held by a collective of people within a sociocultural system.

Bilateral kinship. The tracing of descent through both the mother and father (as in most of the Western world).

Bioethics. Ethical questions relating to life and the biological well-being of the planet.

Biological determinism. The view that biology (nature, genetics) determines complex social behaviour.

Biological drives. Physiological needs necessary for human survival, such as the need for food, water, love and affection, and sex for reproduction.

Bio-psychological constants. Marvin Harris's four predispositions, or drives, that all humans share: (1) the need for food, with a general preference for foods high in calories and proteins; (2) the need to conserve human energy; (3) the need for love and affection; and (4) the need for sexual expression. While these needs are universal, the ways in which a sociocultural system satisfies them vary widely.

Bioterrorism. The threat or the actual dispersal of biological or chemical agents to cause widespread disease or death in order to further a group's political, economic, or social agenda.

Blended family (also called "stepfamily"). A family consisting of two adults, both with children from previous relationships, plus their children.

Bourgeoisie. Historically, the merchant class in feudal societies. Today, the term is often used as a synonym for the middle class.

Bureaucracy. A formal organization marked by a clear hierarchy of authority and written rules of procedure, staffed by full-time salaried officials, and striving for the efficient attainment of organizational goals.

Bureaucratization. The tendency of bureaucracies to refine their procedures to attain their goals ever more efficiently. More

generally, the process of secondary organizations taking over functions performed by primary groups. See also *Intensification* and *Rationalization*.

Capital. The money or other assets (land, buildings, machinery) used to start a business or to develop it so as to produce more wealth. Karl Marx titled his three-volume critical analysis of political economy *Das Kapital*.

Capitalism. An economic and political system based on the private ownership of the means of production and distribution, in which the goal is to produce profit.

Capitalist class. Those who own companies, or stocks and shares in companies, and use them to generate economic returns or profits.

Carrying capacity. The population of a species that a particular ecosystem can support without suffering irreversible deterioration. See also *Ecology*.

Cash-crop production. Production of crops for world markets rather than for consumption by the local population.

Cash-nexus. The defining of all human relationships in terms of monetary exchange.

Caste system. A closed form of stratification in which an individual's status is determined by birth and cannot be changed.

Cathedrals of consumption. George Ritzer's term for commercial displays meant to inspire awe, wonder, and enchantment in the consumer, such as shopping centres, casinos, and sports stadiums.

Causation. A relationship in which a change in one variable (the independent variable) induces change in another (the dependent variable). Causal factors in sociology include individual motivation and many external influences on human behaviour that often go unrecognized.

Census. A count of the population, often including a detailed profile of that population.

Centralization. Power and authority concentrated into a few offices.

Charisma. A personal quality attributed to leaders who arouse fervent popular support and enthusiasm.

Charismatic authority. Weber's term for authority that rests on the extraordinary characteristics of leaders attributed to them by followers. See also *Rational-legal authority* and *Traditional authority*.

Chronic disease. Disease of long duration, often not detected in its early stages, from which the patient will not recover. Examples include high blood pressure and diabetes.

Church. A body of people belonging to an established religious organization.

Citizen. A member of a state, having both rights and duties associated with that membership.

Citizens United. A US Supreme Court decision that awarded corporations the same First Amendment free speech protections as real persons, allowing them to spend unlimited sums of money on advertising related to political campaigns.

Civil disorder. Social conflict (such as riots) in which the government becomes involved to restore public order.

Civil religion. Secular forms of ritual and belief similar to those involved in religion, such as political parades or ceremonies.

Civil rights. Legal rights held by all citizens in a given state.

Clan. A broad extended kin group found in many pre-industrial societies.

Class. Socio-economic differences between groups of individuals that create differences in their life chances and power. Marx differentiates classes by their relationship to the mode of production (owner/non-owner).

Class consciousness. An objective awareness of the class system, including the common interests of people within one's own class.

Class system. A multi-dimensional phenomenon in which populations are ranked along various dimensions such as occupation, education, property, racial or ethnic status, age, and gender. Each of these dimensions is a class system. According

to Gerhard Lenski (1966, 80), a class system is "a hierarchy of classes ranked in terms of a single criterion." Thus, "working class" is a particular class within the occupational class system, while terms such as "African American," "Latino," or "French Canadian" designate particular groups that exist within an racial-ethnic class system.

Clerical worker. A low-prestige and low-paid white-collar worker who performs office tasks such as keeping files and checking forms.

Climate change (also called "global warming"). Changes in the earth's climate caused by the accumulation of gases in the atmosphere, especially carbon dioxide and methane, which absorb some of the sun's energy being reflected back into space and radiate it in all directions, thus exacerbating the natural greenhouse effect and increasing the earth's temperature. See also *Greenhouse effect*.

Cognition. Human thought processes, including perceiving, reasoning, and remembering.

Cognitive ability. The ability to think in abstract terms.

Cohabitation. Living together in a sexual relationship of some permanence without being legally married.

Cohort. See *Age cohort*.

Collective action. Social action undertaken in a relatively spontaneous way by a large number of people.

Collective behaviour. Behaviour in crowds and mobs that occurs when the usual norms are suspended.

Collective conscience. Common beliefs and values that guide human behaviour. Durkheim posited that such a conscience is necessary for maintaining the social order. The concept is sometimes translated as "collective consciousness."

Collective violence. Violent social behaviour perpetuated by a large number of people engaging as a mass.

Colonialism. The process whereby a nation establishes political and economic rule over less powerful nations.

Coming out. The act of openly declaring oneself as gay.

Command economy (also called a "planned economy"). An economic system in which investment, supply, prices, and the distribution of goods are planned by government agencies. Examples include the former Soviet Union and contemporary North Korea. See also *Market economy*.

Commercialization. The organization of an activity around the goal of making a profit.

Commodification. The process by which goods and services that were previously exchanged through primary group ties come to be exchanged through the mechanisms of a market economy.

Commodity chain. The raw material, production, and labour network responsible for the fashioning of a product. These chains often span the globe, with some countries profiting greatly for their contribution to the chain and others clearly being exploited.

Commodity riot. A riot in which the focus of violence is the destruction of property.

Communal riot. A riot in which the target of violence is another group (usually based on race or ethnicity).

Communication. The transmission of information from one individual or group to another.

Communication technology. Technology used to extend the transmission of information between individuals and groups over both distance and time. Examples include language, writing, printing, telegraph, telephone, and the Internet. The development of such technology quickens and intensifies the pace of sociocultural change.

Communism. According to Marxist theory, a stateless society created in the wake of the revolution in which workers seize the forces of production. In this society, the forces of production will be fully developed, and goods and services will be distributed according to the needs of the people. However, communism as developed by Lenin and institutionalized throughout Eastern Europe (until 1990), as well as in China,

bore little resemblance to Marx's vision. In such "communist" countries, the means of production and distribution were (and are) controlled by an authoritarian state with the expressed goal of industrial development and the eventual creation of an egalitarian social order.

Community. A group of people who share a common sense of identity and have sustained interaction with one another.

Comparable worth (also known as "pay equity"). The idea that jobs dominated by women and jobs dominated by men should be evaluated on the basis of training, skills, and experience in an attempt to equalize wages. The principle is that men and women should be paid equally for jobs of comparable worth.

Concentrated Animal Feeding Operation (CAFO). As defined by the US Environmental Protection Agency, an Animal Feeding Operation (AFO) is a facility that confines and feeds animals for forty-five days or more out of a twelve-month period. Animals are not allowed to graze normally; rather, feed is brought to them so as to artificially fatten them prior to slaughter. AFOs that exceed a certain size are formally assigned the "Concentrated" label by US government agencies if they confine more than 1,000 "animal units" (equivalent to 2,500 swine, 100,000 broiling chickens, 700 dairy cows, or 1,000 beef cattle). Quite apart from their impact on the animals confined, these operations pose a serious environmental and public health hazard, chiefly because they produce millions of tons of manure each year, as well as an array of other pollutants, which, if not properly managed, can threaten water quality.

Concept. Any abstract characteristic that can potentially be measured.

Conflict. A clash of interest (sometimes escalating to active struggle) between individuals, groups, or societies.

Conflict theory. A sociological theory that emphasizes the role of power, authority, and manipulation in sociocultural change and stability.

Conformity. Human behaviour that follows the established norms of a group or society. Most human behaviour is of a conforming nature, as people accept and internalize the values of their culture or subculture. Conformity is also one of the five modes of adaptation in Robert K. Merton's anomie theory. See also *Innovation, Rebellion, Retreatism,* and *Ritualism*.

Conglomerate. A large corporation made up of separate companies producing or trading in a variety of different products and services. A conglomerate is usually the result of a merger between companies or a takeover of one firm by another.

Consensus. Agreement on basic social values by the members of a group or society.

Conspicuous consumption. Popularized by Thorstein Veblin, the idea that many people consume goods and services to publicly display their wealth, status, and taste.

Constitutional government. A government that is constrained by a written document that defines the organizational structure of that government and sets forth the authority and rules of conduct of the various offices within that structure.

Consumerism. The philosophy of seeking happiness through the consumption of goods and services.

Contagion theory. The idea that individuals in crowds are suggestible and take on a single way of acting.

Content analysis. The analysis of cultural meanings through artifacts such as books, documents, songs, and other products of communication.

Contingency work. Temporary, part-time, or contracted employment for the duration of a project. Contingency work is one of the fastest-growing employment sectors in many industrialized countries as it enables employers to expand and contract their workforce with the vagaries of the market and to avoid costly fringe benefits and other commitments related to long-term employment.

Contradiction. Marx's term for mutually antagonistic tendencies within an institution or the broader society, such as those between profit and competition within capitalism.

Contradictory class location. A position in the class structure that shares characteristics of the class positions both above and below it. The classic position would be that of a foreman in a factory or a department chair in academe.

Core country. A country that occupies a central position on the world stage, such as the advanced industrial societies of North America, Western Europe, and Japan. See also *Peripheral country* and *Semi-peripheral country*.

Corporate crime. Criminal or deviant behaviour committed by a corporation.

Corporation. A legally recognized organization set up for profit in which the powers and liabilities of the organization are legally separate from the owners or the employees. In the United States, corporations have the same legal status as a person. See also *Citizens United*.

Correlation. A relationship between two variables in which they vary together: for example, a correlation between the income of parents and reading ability among primary school children. Statistical correlation can vary from –1 to 1. (Zero indicates no correlation between the variables.) A positive correlation between two variables exists where a high score on one is associated with a high score on the other; a negative correlation, where a high score on one variable is associated with a low score on the other.

Cost-benefit decision making. Decision making based on the analysis and weighing of the benefits of the decision against the costs associated with it.

Counterculture. A subculture that is opposed to the ideas, beliefs, and/or behaviours of the dominant culture.

Coup d'état. An armed takeover of government by a small group of conspirators, who are often military officers. See also *Rebellion* and *Revolution*.

Craftsman. See *Artisan*.

Created environment. Human constructions such as buildings, roads, factories, and private homes.

Creative destruction. A revolutionary process of capitalism described by Joseph Schumpeter in which new technologies and industries incessantly destroy old ones, thus causing great turmoil in the economy.

Credentialism. The tendency for jobs to require more and more formal education, even though the skill or knowledge requirements for the job have not changed.

Crime. Any action that violates criminal laws established by political authority.

Criminology. A social science discipline that focuses upon the study of crime and the criminal justice system.

Crisis medicine (also called "curative medicine"). Medical treatment that focuses on curing illness rather than preventing it.

Cross tabulation (Crosstabs). A table illustrating the relationship between two variables, such as sex (male and female) and years of education.

Crude birth rate. A statistical measure representing the number of births per year for every thousand people in a given population.

Crude death rate. A statistical measure representing the number of deaths per year for every thousand people in a given population.

Cult. A fragmentary religious group that lacks permanent structure.

Cultural diffusion. The transmission of cultural elements between sociocultural systems.

Cultural lag. A dysfunction in the sociocultural system that results when a change occurs in one part of the system but another part of that system fails to adjust to the change. The failure often causes conflict until adjustment is made. An example is the engagement of married women in outside employment and the continuance of the traditional domestic division of labour.

Cultural materialism. A macro social theory that attempts to account for the similarities and differences between sociocultural systems by focusing on the environmental constraints to which human action is subject.

Cultural pluralism. The more or less peaceful coexistence of multiple subcultures within a given society.

Cultural relativism. The idea that a cultural item can be judged or understood only in relationship to the entire culture in which it is embedded.

Cultural superstructure. In sociocultural materialism, the shared symbolic universe within a sociocultural system, including such components as the art, music, dance, rituals, sports, hobbies, and accumulated knowledge base of the system. See also *Mental superstructure* and *Superstructure*.

Cultural transmission. The socialization process whereby the norms and values of the group are internalized by individuals.

Cultural universal. A value or practice shared by all human cultures.

Culture. The values, norms, and material goods shared by a given group. Some sociologists prefer to restrict the term to the symbolic aspects of a culture (values and norms).

Culture of poverty. A social theory proposing that the poor have a different value system that contributes to their poverty. As poor children are socialized into this value system, the inability to escape poverty is perpetuated.

Culture shock. Disorientation resulting from experiencing a new and different culture or rapid social change in one's own culture.

Cumulative change. A distinctive kind of change associated with complex systems composed of multiple, interrelated parts. Within these systems, some parts change, while others remain unchanged. Cumulative change is a process that combines elements of continuity with elements of change: many parts of the system persist for extended periods, while new parts are added and other parts are either replaced or transformed. Evolutionary change tends to be cumulative in nature.

Curative medicine. See *Crisis medicine*.

Custodial care. Health care in which the focus is on the needs of the institution (convenience and efficiency, for example) rather than on the needs of the patient.

Cyberterrorism. The threat of hacking or the actual hacking into computer networks in order to cause widespread disruption for the purpose of furthering a group's political, economic, or social agenda.

Data. Systematically measured information.

Data analysis. The organization of data in order to detect patterns and uniformities.

Deductive reasoning. The process of reasoning from general theory to specific hypotheses.

De facto segregation. The separation of social groups not by law but in observed reality (that is, as a matter of fact). Housing patterns in North America often reflect de facto segregation. See also *De jure segregation*.

Defensive medicine. The practice of ordering multiple medical tests as a precaution against overlooking a condition and thus opening the physician up to a lawsuit.

Deforestation. The removal of all trees from an area. See also *Depletion, Desertification,* and *Environment*.

Dehumanization. The act of depriving people of their human qualities—that is, treating people like animals or things, as if they have no feelings or intrinsic dignity or worth.

Deindustrialization. The loss of manufacturing capacity.

Deinstitutionalization. The movement of mental patients out of hospitals and into the community.

De jure segregation. The separation of social groups by law. See also *De facto segregation*.

Democracy. A form of government that recognizes the right of citizens to participate directly in political decision making or to elect representatives to government bodies.

Demographic transition. The stabilization of population level in an industrial society once a certain level of economic prosperity has been reached. Population is thought to stabilize because of economic incentives for families to limit the number of children.

Demography. The scientific study of human population, including size, growth, movement, density, and composition.

Density. See *Population density*.

Dependency theory. The thesis that many countries of the Global South cannot control major aspects of their economic life because of the dominance of industrialized societies, which allows core nations to exploit peripheral nations in economic relationships.

Dependent variable. In research hypotheses, a factor that is expected to vary in accordance with variations in another factor. In the predicted relationship between education and income, for example, level of income (the dependent variable) is thought to depend in part on level of education (the independent variable). See also *Independent variable*.

Depletion. The human use of natural resources beyond their sustainable limits. For renewable resources, such as water and trees, the sustainable limit of use is equivalent to their rate of replacement. In the case of non-renewable resources, such as fossil fuels, the final limit depends on the total amount of these resources available on the planet, our ability to access these resources, and the rate at which we consume them. These limits can be inferred on the basis of existing knowledge and patterns of use and can often be stretched (although not eliminated) through technological advances, conservation, and recycling. See also *Intensification* and *Pollution*.

Deregulation. The freeing of corporations from legal constraints. In the past, such constraints had a much larger role in protecting the environment, workers, and consumers from exploitation. Deregulation advocates argue that such

regulations are costly and ineffective, and that corporations are capable of regulating themselves.

Desertification. The process of a fertile region being rendered barren by the activities of human societies. See also *Depletion* and *Pollution*.

Detailed division of labour (also called "manufacturing division of labour"). The breakdown of product manufacturing into simple discrete steps, with each task assigned to an individual worker. Because it leads to greater productivity, the detailed division of labour is increasingly applied to service, administrative, and professional occupations as well. See also *Division of labour*.

Deterrence theory. The theory that military conflict can be prevented through the buildup of armaments. Deterrence theory is based on ensuring that a potential aggressor would suffer too many losses to make the initiation of hostilities worthwhile. The notion of mutually assured destruction (MAD) was based on this theory.

Deviance (also called "deviant behaviour"). Behaviour that does not conform to significant norms held by most of the members of a group or society. What is regarded as deviant is highly variable across societies.

Deviant behaviour. See *Deviance*.

Deviant community. A group specifically organized around a form of social deviance.

Deviant identity. A person's self-identification as a deviant.

Deviant subculture. A subculture with values and norms that differ substantially from those of the majority in a society.

Dialectic. An interpretation of change that emphasizes the clash of opposing interests and the resulting struggle as an engine of social transformation.

Dictatorship. A form of government in which one person exercises supreme power and authority.

Differential association. A theory of crime and delinquency holding that deviance is learned as a result of long-term interaction with others.

Differentiation. The development of increasing complexity and division of labour within sociocultural systems.

Diffusion. The spread of cultural traits from one sociocultural system to another.

Discrimination. The denial of equal access to social resources to people on the basis of their group membership.

Disenchantment. The retreat of mysticism, belief in the supernatural, and awe from social life, with these elements being replaced by secular values, rationality, and scientific understanding.

Disintegration. The weakening of the social bond within a society. Disintegration allows various groups to fragment and break away from the whole.

Disneyfication. The process whereby something (such as religion) is transformed into a diluted or simplified, trivialized, and sanitized version of its original form in order to create an inoffensive neutral product.

Disorganization. The disturbance of a system from a state of order and predictability to one of chaos and unpredictability.

Division of labour. The specialization of work tasks or occupations and their interrelationships. All societies have some division of labour based on age and sex, but with the development of industrialism, the division of labour becomes far more complex, affecting many parts of the sociocultural system. The division of labour is perhaps the most underrated concept in sociology. See also *Detailed division of labour.*

Domestication. A process of human selection of successive generations of animals or plants for desirable characteristics such as size, taste, or ease of care. Through this process, animals and plants are eventually altered at the genetic level.

Domestic economy. In the cultural materialism of Marvin Harris, the structural components of sociocultural systems that are organized around basic production, exchange, and consumption within domestic settings (houses, camps, and other family and small community units).

Domestic labour. See *Housework*.

Domestic violence. Violent behaviour directed by one member of a household against another.

Dominant culture. The beliefs and values of the dominant group within a sociocultural system.

Double standard. A code of behaviour that is more restrictive on women than on men.

Doubling time. The time it takes for a particular level of population to double in size. A fairly accurate doubling time estimate can be computed by taking the annual growth rate and dividing it by seventy. At 2 percent annual growth, world population (5.5 billion in 1996) will double in size (to 11 billion) in about thirty-five years (2031), assuming the annual growth stays constant. See also *Exponential growth*.

Dramaturgical model. A sociological perspective that sees the social world as a stage, with all the men and women playing to their roles in the social order.

Dual-career family. A family in which both spouses are in the outside labour force.

Dual labour market. The hypothesis that men and women have differential earnings because they work in different parts of the labour market. For example, men dominate the field of engineering (high pay, high prestige), while women dominate the field of social work (low pay, low prestige).

Dual welfare system. A system that includes disguised forms of welfare that go to the middle class and the rich. See also *Wealthfare* and *Welfare*.

Dyad. A group consisting of two people.

Dysfunction. A component part of the sociocultural system that has negative impact (or harmful effect) on other parts of the system or on the system as a whole.

Eclecticism. A conceptual approach that lacks commitment to any single paradigm or theoretical strategy. Eclectics

draw upon multiple theories—sometimes contradictory in their assumptions—to explain physical, biological, or social phenomenon.

Ecological-evolutionary theory. Theories of sociocultural systems that stress their origin, maintenance, and change by focusing on the relationships of the system to their social and physical environments.

Ecology. The study of the system of relationships between organisms and their environment.

Economic interdependence. The dependence of individuals on one another for the production of most of the goods needed to sustain life. Auguste Comte and Durkheim both note that in societies with a high division of labour, economic interdependence is greater.

Economic surplus. As defined by Gerhard Lenski, the amount of goods and service produced in a sociocultural system over and above what is needed to keep productive classes alive and industrious.

Economy. The organization of production and distribution of goods and services within a sociocultural system.

Ecosystem. A self-sustaining community of plants and animals within a natural environment.

Education. The transmission of knowledge to members of society. The knowledge passed on comprises technical and cultural knowledge, technical and social skills, and the norms and values of the society.

Education system. The system of formalized transmission of knowledge and values operating within a given society.

Educational deflation. The devaluing of education as a result of the forces of supply and demand.

Egalitarian family. A family in which power is shared more or less equally by both partners.

Ego. Freud's term for the part of the self that represents reason and common sense.

Egoistic suicide. Durkheim's term for suicide performed by an individual who has not sufficiently integrated into the social order.

Elder abuse. Acts of violence or neglect directed at the elderly, often by family members.

Elite. Men and women who occupy the highest positions of the dominant institutions of a society and who consequently hold enormous power. See also *Power elite*.

Elite crime. Criminal behaviour of elites that is part of their normal activity, such as evading taxes, hiring illegal immigrants as domestics, or engaging in insider trading.

Elitist. The attitude that some are better than others and have a right to the extraordinary privilege, power and wealth accorded them. Alternatively, one who subscribes to the theory that, by virtue of their placement at the top of highly centralized and enlarged bureaucracies, a small, powerful elite can effectively control an advanced industrial society.

Emigration. The movement of people out of their native land to other countries.

Empire. A group of states under a single government.

Empirical. Pertaining to social data or facts that are based on systematic observation or measurement.

Empiricism. The philosophy that knowledge comes from observation and experience.

Endogamy. A system in which individuals may only marry within their own social category or group.

Enlightenment. The seventeenth- and eighteenth-century European philosophical and cultural movement that placed great faith in science and human reason in dealing with social issues.

Entrepreneur. A person who starts or organizes a business firm.

Entropy. Gradual decline into disorder. The entropy law, or second law of thermodynamics, states that energy can only be transformed in one direction, from ordered to disordered. Entropy is also another name for pollution.

Environment. The physical, biological, and chemical constraints to which action is subject.

Environmentalism. A concern with preserving the physical environment in the face of the impact of industrialism.

Epidemiology. The study of biological, social, and economic factors associated with disease and health.

Estates. The three groups into which the population in medieval Europe was divided: the First Estate comprised the clergy; the Second Estate, the nobility; and the Third Estate, everyone else, or commoners.

Estate system. A form of stratification established by law in which the ownership of land leads to the monopolization of power.

Ethnic group. A group of people who share a cultural identity, separating them from other groups around them.

Ethnicity. One's ethnic group.

Ethnocentrism. The tendency to judge other cultures by the standards of one's own culture, often with the feeling that one's own is superior.

Ethnography. A qualitative mode of inquiry that consists of the study and systematic description of cultural systems, social groups, or organizations based on direct observation.

Ethnomethodology. A research method that focuses on the activities and beliefs of group members to determine what sense they make of their everyday lives.

Eugenics. A social movement in the early twentieth century that sought to apply genetic selection in order to "improve" the human race.

Euthanasia. The act of killing a person who is terminally ill (active euthanasia) or allowing such a person to die by withholding treatment (passive euthanasia). Usually the act is claimed to be an act of mercy.

Eutrophication. The process by which an aquatic system becomes overfertilized. One negative environmental consequence is the overgrowth of microscopic plants, leading to oxygen depletion, which causes certain aquatic species to die.

Evaluation research. Social research whose aim is to assess the effectiveness of a particular policy or social program.

Evolution. The change of biological organisms by means of adaptation to the demands of the physical environment. Genetic variation is random. Some mutations are beneficial and allow organisms to adapt to their environment and pass on their genes to future generations, thereby changing the species itself.

Exchange reciprocity. Rough equality in the exchange of goods and services between groups or between sociocultural systems.

Exogamy. A system in which individuals may only marry outside their social category or group.

Experiment. A research method in which variables can be analyzed under carefully controlled conditions, usually within an artificial situation constructed by the researcher. An experiment can potentially determine whether a given variable affects another independently of other factors.

Exponential growth. A geometric rate of progression that has the potential of producing a very fast rise (or an "explosion") in the numbers of a population experiencing such growth. See also *Doubling time*.

Expropriation. The confiscation of property or labour from an individual.

Extended family. A family group consisting of more than two generations of the same kinship line living either within the same household or, as is more common in the West, very close to one another.

Fad. Collective behaviour that involves a novel, often frivolous, and usually short-lived activity.

False consciousness. A Marxian term for an ideology of the subordinate class that has been largely fashioned by the ideology and control of elites within the society.

Family. A group of individuals related to one another by blood ties, marriage, or adoption. Members of families form an economic unit, the adult members of which are responsible for the upbringing of children. While all societies involve families, the form the family takes is widely variable. In modern industrial societies, the main family form is the nuclear family, although a variety of extended family relationships is also found.

Family of orientation. The family into which an individual is born and socialized.

Family of procreation. The family an individual creates when children are born or adopted.

Fecundity. The number of children that a woman is biologically capable of bearing in her lifetime in a particular society. See also *Fertility*.

Feedback loop. In sociocultural materialism, the dynamic relationships between the different components of sociocultural systems. While the theory begins with an examination of infrastructural determinism, it recognizes that structure and superstructure can play an independent role in determining the character of the system. See also *Infrastructural determinism*.

Fee-for-service medicine. The provision of medical services in return for a monetary fee paid by the consumer.

Femininity. The characteristic behaviours expected of women in a given culture.

Feminism. Advocacy of the political, economic, and social equality of the sexes.

Feminization of poverty. A process by which increasing proportions of the poor are women and children.

Fertility. The average number of live-born children produced by women of childbearing age in a particular society. See also *Fecundity*.

Fetishism. Obsessive attachment or sexual desire directed toward an object.

Feudalism. A social system based on fealty between a lord and a vassal. Feudalism is characterized by grants of land (fiefs) in return for formal oaths of allegiance and promises of loyal service.

Field research. Research in which the investigator is directly involved with the people or groups being studied.

First World. A term now rarely used that refers to the group of nation-states that possess advanced industrial economies, usually market based. See also *Second World* and *Third World*; *Global North* and *Global South*.

Flextime. An arrangement that allows employees to set their own schedules (starting and quitting times) whenever possible.

Folkways. Widespread standards of behaviour.

Forces of production. Marx's term for the technology, labour, and raw materials used to produce economic goods in a society.

Fordism. The assembly line system of production pioneered by Henry Ford. Although Fordism became very widespread, not all industrial processes are based on the assembly line.

Formal organization. See *Secondary group*.

Formal rationality. The use of *Zweckrational*—goal-oriented rational behaviour—to achieve a goal without thought to wider social values, traditions, or emotions. A popular name for the phenomenon is "technocratic thinking." See also *Substantive rationality*.

Forms. The traditional, legal, or accustomed ways of government, characterized by respect for office, procedure, law, opposing parties, consultation, and open communication within executive agencies and between branches of government.

Function. The way in which a sociocultural trait contributes to the maintenance or adaptation of another component of that system or to the entire system itself.

Functional analysis. The use of functionalism to analyze a sociocultural system or a part of that system.

Functionalism. A theoretical perspective that focuses on the ways in which various parts of the social system contribute to the

continuity of society and on the effects that the various parts have on one another.

Fundamental innovation. An idea, invention, or discovery that is truly revolutionary in nature such that it stimulates many other innovations or changes the way of life of the socio-cultural system. The invention of the steam engine and the discovery of penicillin are two such fundamental innovations.

Fundamentalism. A commitment to and belief in the literal meanings of scriptural texts.

Futurist. A person who attempts to forecast the broad parameters of social life, usually from the study of present-day trends.

Game stage. The third of three stages of childhood socialization described by George Herbert Mead. In the game stage, the child becomes aware of the multitude of social roles and how they relate to one another and to the self. See also *Imitation stage* and *Play stage*.

Gang. An informal group of individuals who engage in common activities, many of which may be outside the law.

Gemeinschaft. Ferdinand Tönnies's term for social organization based on close personal ties and traditional norms and values.

Gender. A category based on socially defined behaviour regarded as appropriate for the members of each sex.

Gender gap. The gap between men and women in terms of their political attitudes and behaviour.

Gender identity. One's self-identification as a man or a woman.

Generalization. A claim that a specific observation will apply to a broader population. See also *Inductive reasoning*.

Genetic engineering. The genetic manipulation of organisms in an effort to produce characteristics that are perceived as desirable.

Genocide. The systematic, planned annihilation of an ethnic, racial, or political group.

Gentrification. The renovation of poor and working-class urban neighbourhoods and the displacement of the original residents.

Gesellschaft. Ferdinand Tönnies's term for social organization based on loose personal ties, self-interest, rationalization, and impersonality.

Ghetto. A section of a city occupied predominantly by members of a single racial or ethnic group, usually because of social or economic pressure.

Glass ceiling. The unspoken and unwritten limit that a woman (or a member of a minority group) may attain within an organization.

Globalization. The development of extensive worldwide patterns of economic, social, or political relationships between nations.

Global North. Countries that have a high level of industrialization. With the exception of Australia and New Zealand, these countries are located in the northern hemisphere, and most of them were formerly considered the "First World." Following the collapse of the Soviet bloc, however, a number of Eastern European countries were reclassified as part of the Global North.

Global South. Countries in which industrialization remains fairly limited. Most of these countries lie in the southern hemisphere, and many were former colonies of industrial states.

Global stratification. Systematic global inequalities between nation-states that are determined by a nation-state's position in the capitalist world-system.

Global warming. See *Climate change*.

Government. Formal institutional structures of the nation-state whose purpose is to regulate internal and external relations.

Greenhouse effect. A process whereby certain atmospheric gases such as carbon dioxide and methane (called "greenhouse gases") absorb some of the sun's energy being reflected back into space and radiate it in all directions, thus preventing some of the sun's heat from leaving the earth's atmosphere. In recent decades, the natural greenhouse effect, which makes earth liveable for humans, has been exacerbated by human activities that have increased greenhouse gases, causing climate change.

Green Revolution. The tremendous increase in farming productivity that occurred beginning in the 1950s with the application of pesticides, herbicides, and chemical fertilizers, and the development of plant varieties specifically bred to respond to these chemical inputs.

Gross domestic product (GDP). The total value of all goods and services produced within the boundaries of a particular country in any given year. A country's GDP includes the value of the production of foreign-owned firms within that country but not the value of goods produced by that country's firms on foreign soil. GDP is now the preferred measure of the wealth of nations.

Gross national product (GNP). The total value of all goods and services produced by nationals of a particular country in any given year. A country's GNP does *not* include the value of the production of foreign-owned firms within that country but *does* include the value of goods and services produced by that country's firms abroad. Although GDP is the preferred measure of the wealth of nations, GNP is often used in historical comparisons.

Group. A collection of individuals who communicate and interact on a regular basis, sharing many attitudes and beliefs.

Group size effect. The variable effects of different group sizes upon the people within a group.

Groupthink. The tendency for groups to reach consensus on most issues brought before them.

Guerilla movement. The organized efforts of a non-government military organization in resisting the legally established government.

Hate crime. Assault or other violent acts aimed at individuals because they are members of a deviant or a minority group.

Health maintenance organization (HMO). In the United States, an organization that provides health care to patients in return for a fixed annual fee. HMOs therefore have an

interest in limiting the cost of treatment per patient. See also *Managed care*.

Hegemony. The predominant political, economic, or social influence of a nation-state over others. The term *hegemon* refers to the dominant leader itself.

Herding society (also called "pastoral society"). A society whose subsistence is based on domesticated animals. See also *Traditional state*.

Heterosexuality. A sexual preference for persons of the opposite sex.

Hidden curriculum. Behaviours or attitudes that are learned at school but that are not a part of the formal curriculum. For example, aspects of classism can often be "unintentionally" conveyed in learning materials.

Hierarchy of credibility. A hierarchy that some journalists observe by attaching the greatest importance to the views and opinions of those in positions of power, such as government ministers, political leaders, senior police officers, or wealthy and influential individuals.

Higher education. Education beyond high school level, often in college or university.

High-trust system. A work setting in which individuals have a great deal of autonomy and control.

Historical materialism. Marx's theory that processes of social change are determined primarily (but not exclusively) by economic factors.

Holistic. Characterized by an emphasis on the whole system and on the interdependent nature of the parts of that system.

Holistic medicine. Medical treatment aimed at the whole person, including physical and mental aspects, as well as the person's social environment.

Homo duplex. Durkheim's idea that human beings have a dual nature, the angel and the beast, with the beast being the stronger of the two. The first and "lower" part of that nature is the "will," an id-like nature that is focused on the individual

satisfaction of all wants and desire. The other, "higher" part is the "collective conscience," which is social in origin. This conscience is based on a collective moral system, a reality separate from the individual that is made up of ideas and values.

Homogamy. The tendency for individuals to select mates from similar social backgrounds.

Homogenization. The process of becoming more uniform, with all parts of a whole becoming alike.

Homophobia. Fear, hatred, or loathing of homosexuals.

Homo sapiens. The species of modern humans that evolved in Africa some 200,000 years ago during a time of great environmental change.

Homosexuality. A sexual preference for persons of the same sex.

Hospice. Care for the terminally ill with an emphasis on pain relief, emotional and spiritual counseling within the home.

Household. A census term for a collection of people occupying a housing unit.

Housework (also called "domestic labour"). Unpaid work done in and around the home, such as cooking, cleaning, and shopping. Studies show that the bulk of this labour is carried out by women despite the predominance of dual-income families.

Human ecology. The study of the relationship between humans and their environments.

Humanitarian. A person devoted to human welfare and social reform.

Human relations management. The interdisciplinary study of worker relations in the workplace. The goal is to maximize productivity by improving worker-management relations through the promotion of social events and other activities to improve worker morale. Many sociologists (especially Mills and Braverman) consider human relations management simply an exercise in manipulation.

Hunting-and-gathering society. A society whose subsistence is based primarily on hunting animals and gathering edible plants.

Hyperconsumption. The consumption of goods and services to the point of abnormal excess.

Hyperindustrialism. A societal condition in which virtually all social institutions (government, family, education) have adapted to the demands of the industrial economy. Many scholars favour the term *hyperindustrialism* over *post-industrial society* to refer to complex industrial societies such as Canada and the United States. The prefix *hyper-* denotes "over and above," even to the point of "abnormal excess." To describe contemporary North America as "hyperindustrial" is to stress both its continuity with the past and its rapidly changing nature—even to abnormal excess.

Hypothesis. A tentative statement about a given state of affairs that predicts a relationship between variables, usually put forward as a basis for empirical testing.

Iatrogenic. Pertaining to a disease caused by a physician in the course of examining or treating the patient.

Id. Freud's term for the part of the self that represents human drives such as sexuality and hunger.

Idealism. The pursuit of one's values and beliefs, often to the exclusion of practical reality.

Idealist. One who is influenced more by ideals than by practical considerations. Alternatively, one who subscribes to the hypothesis that ideas are prime movers (important causal agents) in sociocultural systems.

Ideal type. Weber's construct of a "pure type," an analytical tool created by emphasizing logical or consistent traits of a given social item. The traits are defining ones but not necessarily desirable ones. Ideal types do not exist anywhere in reality; rather, they serve as measuring rods that can be used in comparing social phenomena. One example is Weber's ideal type of bureaucratic organization (which is anything but desirable). More widely used and understood examples include "ideal democracy" and "ideal capitalism."

Ideology. Shared ideas or beliefs that serve to justify and support the interests of particular groups or organizations.

Idiographic. Characterized by a concern with unique historical events. See also *Nomothetic*.

Imitation stage. The first of three stages of childhood socialization described by George Herbert Mead. In the imitation stage, the child mimics or copies the behaviour of others, but without much understanding of the social meaning of the behaviour. See also *Game stage* and *Play stage*.

Immigration. The settlement of people into a country in which they were not born.

Impairment. Abnormal functioning of the body or mind, either that one is born with or that arises from injury or disease.

Imperialism. The establishment of a colonial empire in which domination is political and/or economic.

Impression management. Selective control of how others perceive us.

Income. Payment of wages usually earned from work or investments. Income is usually measured by year.

Independent variable. The variable that an investigator believes affects another variable. For example, in the posited relationship between education and income, education is the independent variable and income is the dependent variable. See also *Dependent variable*.

Index crime. Street crime such as robbery, rape, and other serious offences.

Indigenous culture. The native or original culture of a particular region.

Individualism. A belief in the centrality and primary importance of the individual and the importance of self-sufficiency and independence.

Inductive reasoning. The process of reasoning from specific observations to general statements. See also *Deductive reasoning* and *Generalization*.

Industrial democracy. An employment system in which there is democratic participation in the workplace.

Industrialism. A mode of production characterized by the large-scale manufacturing of goods (including agriculture). As with any mode of production, industrialism imposes severe constraints upon the rest of the sociocultural system.

Industrialization. The continual expanding application of sophisticated technology designed to efficiently draw energy and raw materials out of the environment and fashion them into products for human use.

Industrialization of war. The application of industrial production and bureaucratic organization to warfare.

Industrial production. Economic production carried on through the use of machinery driven by inanimate sources of power.

Industrial reserve army. A term popularized by Marx that refers to the legions of unemployed within a society dominated by capital. The existence of an industrial reserve army keeps wages down.

Industrial Revolution. The transformation of a technology based on human and animal labour to a technology based on the use of inanimate energy sources. The term is generally used to refer to the transformation that occurred in England in the second half of the eighteenth and the first half of the nineteenth century. Like many historical designations, however, the "Industrial Revolution" is in fact an arbitrary construct used by social scientists and lay people alike to break the continuous world of reality into manipulable pieces. That is, no one event marks the Industrial Revolution's beginning or end except as defined by social consensus.

Infanticide. The intentional killing of infants. One of history's dirty secrets, according to Malthus and others, is the widespread practice of infanticide as a method of controlling population level throughout human history.

Infant mortality rate. The number of infants who die during the first year of life per thousand live births. Infant mortality rates have declined dramatically in industrial societies.

Informal relations. Organizational relations that are developed on the basis of personal connections. These ties are often used instead of the formally recognized procedures to pursue organizational goals.

Infrastructural determinism. The major principle of cultural materialism, which asserts that production and population variables "probabilistically determine" the rest of the sociocultural system (Harris 1979, 55–58). Sociocultural materialism states the principle in this way: The mode of production and reproduction probabilistically determines primary and secondary group structure, which in turn probabilistically determines the cultural and mental superstructure (Elwell 1999, 157–59). See also *Primacy of the infrastructure*.

Infrastructure. The interface between a sociocultural system and its environment. In sociocultural materialism, infrastructure constitutes the principle mechanism by which society regulates the amount and type of energy from the environment.

In-group. A social group that an individual belongs to and identifies with.

Inner city. The central neighbourhoods of industrial cities, which are subject to dilapidation and decay, the more affluent residents having moved to outlying areas.

Innovation. The introduction of a new technology, product, or technique into a sociocultural system. Alternatively, the behaviour of individuals who have accepted the culturally approved goal but have not fully internalized the culturally approved means to attain this goal. These individuals therefore adopt a different (and often deviant) method for attaining the goal. Innovation is one of the five modes of adaptation in Robert K. Merton's anomie theory. See also *Conformity, Rebellion, Retreatism,* and *Ritualism*.

Instinct. A genetically fixed pattern of complex behaviour (that is, behaviour that goes beyond reflex) that appears in all normal animals within a given species. The vast bulk of human behaviour is learned. Although human beings have several

reflexive behaviours, most social scientists do not consider the behaviour of humans to be instinctual.

Institution. An established pattern of human social behaviour in a given society. Examples include marriage, family, and government.

Institutional capitalism. A condition that exists when large institutions such as pension plans, banks, and insurance companies hold large shares of capitalistic enterprises.

Institutional discrimination. Accepted social arrangements that place minority groups at a disadvantage.

Institutionalization. The embodiment of widespread norms, beliefs, and values into social structures, laws, and formal codes of conduct. Institutionalization also refers to the act of committing a person to an institution such as a nursing home or asylum.

Institutional racism. Accepted social arrangements that discriminate on the basis of race.

Insurrection. An organized revolt against civil authority in an attempt to replace that authority with another.

Integration. The incorporation of disparate parts into a whole; the bringing of people of different ethnic groups into equal association.

Intelligence. The level of intellectual ability in an individual. Intelligence also refers to the gathering of information (defensive, offensive, and industrial capabilities) about one nation by another.

Intelligence quotient (IQ). A score attained on tests of symbolic or reasoning abilities. Most social scientists (excluding psychologists) put little stock in the validity of IQ tests.

Intensification. The application of ever expanding technology and labour techniques to increase productivity. Intensification also refers to the growth in the complexity of the mode of production (greater energy expenditures as well as energy produced and consumed) and population over the course of social evolution. See also *Bureaucratization* and *Rationalization*.

Interest group. A group organized to pursue specific interests in the political arena. The interests of these groups are often economic, but many are organized around moral concerns. The major activities of interest groups are lobbying the members of legislative bodies, contributing vast sums to political campaigns, and, increasingly, running their own propaganda campaigns to affect the legislative process.

Intergenerational mobility. Movement up or down the social hierarchy from one generation to another.

Interlocking directorates. Linkages between boards of directors of different companies. These linkages occur because the same people (often of the same class) sit on several different boards.

Intermediate organization. Robert Nisbet's term for a primary group that is based on religion, family, or community and that, historically, stood between the individual and the state.

Internal colonialism. The economic exploitation of a group within a society whereby the labour of group members is sold cheaply and they are made to pay dearly for products and services.

Internalization. The process by which members of a group make the ideas, values, and norms of the group their own.

International division of labour. The specialization of work tasks and occupations among nation states; the interdependence of countries that trade on global markets. When there is an international division of labour, products are produced globally, but profits go only to a few.

Interpersonal violence. The use of force between individuals to kill, injure, or abuse.

Intersocietal selection. The evolution of the global system of societies by which larger, more technologically advanced societies have prevailed in conflicts over territory and resources with more traditional sociocultural systems.

Iron cage. Weber's term for a rationalized society that subordinates individual thought and behaviour to bureaucratic control.

Iron law of oligarchy. A generalization posited by Robert Michels (1915, 365): "Who says organization, says oligarchy." As bureaucracy enlarges and centralizes, more and more authority is placed at the top of these huge organizations.

Irrationality factor. The paradox of supremely rational organizations—that is, bureaucracies—acting in ways that are very irrational in terms of the well-being of the total society. Because bureaucracies are designed for the efficient attainment of goals set by those at the top of the organization and because those individuals often have goals that are antithetical to the goals of society as a whole (say, profit versus welfare), the irrationality factor is very much a part of modern life.

Islamophobia. An irrational fear and/or hatred of or aversion to Islam, Muslims, or Islamic culture.

Jeremiad. Writing that is characterized by a long list of complaints, laments, or prophecies of doom.

Job displacement. The permanent loss of jobs due to shifts in employment patterns. With the transition from agrarian to industrial societies, many agricultural jobs were lost while new manufacturing and service jobs were created. The shifts continue.

Kinesic communication. Communication through body language.

Kinship. The network of social relationships that link individuals through common ancestry, marriage, or adoption.

Labelling effect. The impact of labelling on an individual. For example, tracking students in different reading groups may produce poor reading not because of the ability of the student but because the student was placed in a poor reading group and therefore internalized the label.

Labelling theory (also called "societal reaction theory"). A social theory that holds that society's reaction to certain behaviours

is a major factor in defining the self as deviant. That is, people may become "deviant" because certain labels (thief, prostitute, homosexual) are attached to their behaviour by criminal justice authorities and others. The resulting treatment of the individual pushes them into performing the deviant role.

Labour. Physical or mental work; the primary factor in the production process.

Labour power. Abstract human labour that is used in exchange for money. This concept was much used by Karl Marx.

Laissez-faire. The idea that government should not interfere with commerce. This is one of the main doctrines of capitalism that, while part of the ideal, is rarely practiced.

Language. Symbols and a system of grammar that allow the communication of complex ideas.

Latent function. An unintended consequence of one part of a sociocultural system on the whole or on other parts of that system. Latent functions are often indirect and not always obvious. For example, in the United States, the reform of big city political machines had many unintended consequences for the governability of American cities. See also *Manifest function*.

Law. Written rules established by a political authority and backed by government.

Legitimacy. The generally held belief that a particular social institution is just and valid.

Legitimation. The ways in which an institution engenders acceptance, validity, or commitment from individuals and other institutions.

Legitimation crisis. A situation that results when the commitment on the part of members to a particular social institution is not sufficient for that organization to function effectively. Governments that lack legitimation often rely on repression to continue their rule (which is very inefficient).

Lesbianism. Sexual activities and emotional attachments between women.

Liberal democracy. A form of government based on some form of democracy coupled with capitalism.

Life chances. The opportunities that are available to individuals as a result of their position in the class system.

Life expectancy. The number of years that a newborn in a particular society can expect to live. Life expectancy also refers to the number of additional years that people at any given age can, on average, expect to live.

Lifespan. The maximum length of life that is biologically possible for a member of a given species.

Lifestyle changes. Changes that are often called for when treating chronic disease. Rather than curing the disease, the patient makes changes in lifestyle (better nutrition, more exercise, smoking cessation, weight reduction, stress alleviation) that help to control the disease process.

Limited war. Warfare fought principally by a relatively small number of soldiers to reach specific and politically limited objectives. See also *Total war*.

Literacy. The ability of individuals to read and write.

Local knowledge. Knowledge of a local community possessed by individuals who have spent long periods of their lives in that community.

Longevity. A long duration of life or a long tenure in an organization.

Looking-glass self. A social psychological concept stating that an individual's self-concept is derived from interactions with others: that is, from that individual's perception of how others perceive him or her.

Low-trust system. A work setting in which individuals have little autonomy and control.

Luddite. A person who is against increased industrialization or new technology. The term, often used derogatorily, originally referred to early-nineteenth-century British textile artisans who rioted and destroyed textile machinery in the belief that this new technology was contributing to their replacement by less skilled low-wage workers.

Macrosociology. The study of large-scale organizations, sociocultural systems, or the world-system of societies.

Magic. Rituals performed in an attempt to influence supernatural beings to help achieve human ends.

Male inexpressiveness. The difficulties that men have in talking about their feelings to others.

Malthusianism. Thomas Robert Malthus's theory of population dynamics, according to which population increase inevitably comes up against the "natural limits" of food supply because population grows geometrically (1, 2, 4, 8, 16, . . .) while food supply grows arithmetically (1, 2, 3, 4, 5, . . .). Because of this dynamic, Malthus asserted that population growth must be constantly limited through preventive and positive checks, which will significantly affect the rest of the sociocultural system. See also *Positive checks* and *Preventive checks*.

Managed care. The reorganization of health care delivery along corporate lines. See also *Fee-for-service medicine* and *Health maintenance organization*.

Management. The coordination, supervision, or control of people and processes; the group of people who make decisions regarding the operations of an institution.

Managerial capitalism. A change in the control of capitalist enterprises from owners (who predominated in Marx's day) to very well-salaried managers.

Managerial demiurge. C. Wright Mills's concept related to the increased proportion of managers at the top of government and business bureaucracies, an interlocking of these two bureaucracies, and the idea that more and more areas are becoming the object of management and manipulation.

Manifest function. An intended and known consequence of one part of a sociocultural system on the whole or on other parts of that system. For example, the reform of big city political machines had the intended consequence of reducing corruption by city officials. See also *Latent function*.

Manipulation. Skilful or devious management.

Manufacturing division of labour. See *Detailed division of labour.*

Market economy. An economic system in which investment, supply, prices, and the distribution of goods are determined by the economic forces of supply and demand.

Market research. Social research aimed specifically at determining the sales potential of a product or service.

Marriage. A socially approved sexual and economic relationship between two or more individuals.

Marxism. Contemporary social theory that derives its main elements from Karl Marx's ideas. Marxist theory strongly emphasizes class struggle and material causation.

Masculinity. The characteristic forms of behaviour expected of men in a given culture.

Mass media. Forms of communication designed to reach a vast audience without any personal contact between the senders and receivers. Examples include newspapers, magazines, DVDs, radio, and television.

Master status. A position that is so central to the identity of the individual that it overshadows all other statuses.

Material culture. The physical objects of a given sociocultural system. Material culture is usually thought to consist of products, art, tools, and other tangibles. See also *Culture*.

Materialism. The view that material conditions (usually economic and technological factors) play the central role in determining social stability and change. Materialism also refers to the philosophical view that the only thing that can truly be said to exist is matter—that, fundamentally, all things are composed of material, and all phenomena are the result of material interactions.

Materialist. One who believes that material conditions are the foundation of sociocultural systems.

Matriarchy. Sociocultural systems in which females play a major role in economic, government, or other major institutions. Most anthropologists insist that there are no true matriarchies in the sense of female dominance; however, there are

societies such as the Iroquois in which females, particularly mothers, exercise equal if not dominant political power.

Matrilineal descent. The practice of tracing kinship through only the female line. See also *Patrilineal descent*.

Matrilocality. A family residential pattern in which the husband is expected to live near the wife's parents. See also *Neo-locality* and *Patrilocality*.

McDonaldization. A term coined by George Ritzer to refer to a process extensively described by Max Weber, who called it rationalization.

Mean. A statistical measure of central tendency or average based on dividing a total by the number of individual cases involved. The mean is very sensitive to extreme scores. For example, the average life expectancy for people in a society with high infant mortality would be a misleading measure. See also *Median*.

Means of consumption. George Ritzer's term for the means whereby the consumption of goods and services is carried out in a society. The means of consumption consist of such institutions as malls, superstores, Internet stores (such as Amazon.com), warehouse stores, theme parks, cruise lines, mega malls, and casinos.

Means of production. Marx's term for the means whereby the production of material goods is carried on in a society. Marx included in this concept both the "forces of production" and the social relations among the producers (which he called the "relations of production" and which he based on the ownership of the technology). See also *Forces of production* and *Relations of production*.

Mechanical solidarity. Durkheim's term for the bond between an individual and a group that is based on shared interests, activities, beliefs, values, and so on. When there is mechanical solidarity, one's individual conscience is enveloped by the collective conscience. See also *Organic solidarity*.

Mechanization. The use of machinery to replace human labour.

Median. The number that falls at the halfway point in a range of numbers. The scores below the median are half the scores and those above are the other half. The median is a way of calculating "central tendency," which is sometimes more useful than a calculated mean (particularly when the distribution includes many extreme scores).

Medicaid. A US government program (federal and state) to provide medical care to the poor.

Medicalization. The tendency in the West to define all forms of deviance and social problems in terms of disease, genetic predisposition, or other personal pathologies.

Medical model. The application of a medical perspective in explaining and treating troublesome human behaviour.

Medicare. In the United States, government health insurance for those over sixty-five. In Canada, a tax-funded national health care program available to every resident of the country.

Megalopolis. A vast unbroken urban region consisting of two or more central cities connected by their surrounding suburbs.

Mental disorder. The psychological inability to cope effectively with the demands of day-to-day life. Psychiatrists recognize two general types of mental disorder: neurosis (milder forms of illness, such as anxiety states) and psychosis (more serious forms of disturbance, in which individuals lose touch with reality). The organic and sociocultural bases of various mental disorders are disputed matters.

Mental superstructure. In sociocultural materialism, Max Weber's typology of motivations for human behaviour. According to Weber there are four such motivations: value-oriented rational action (*Wertrational*), affective action (action motivated by emotions), traditional action (action motivated by what Weber calls the "eternal yesterday"), and goal-oriented rational action (*Zweckrational*). See also *Cultural superstructure* and *Superstructure*.

Microsociology. The study of small-scale patterns of human interaction and behaviour within specific settings.

Middle class. A social class broadly defined occupationally as those working in white-collar and lower managerial occupations. In research, the middle class is sometimes defined according to income levels or subjective identification of the participants in the study. See also *Bourgeoisie*.

Migration. The movement of people from one country or region to another in order to settle permanently.

Militarism. A policy that emphasizes military preparedness, threats, and action in addressing problems of state. A glorification of military ideals and capabilities.

Military-industrial complex. An alliance among a nation's military establishment and defence industries that exchange personnel and share a common interest in furthering defence spending and weapons production. In some nation-states the military-industrial complex has great influence on government policy through contributions to political campaigns, lobbying, and spending defence dollars in electoral districts.

Military rule. Government by military leaders.

Millenarianism. The belief held by members of some religious movements that cataclysmic changes will occur in the near future (lately centred on the year 2012 or the second coming of Christ), heralding the arrival of a new epoch in human affairs.

Mini-systems. Immanuel Wallerstein's term for societies small in size, homogeneous, and relatively simple in structure. Such societies are self-contained sociocultural systems. Examples include hunting-and-gathering societies and simple horticultural, herding, and fishing societies.

Minority group. A group of people who are defined on the basis of their ethnicity or race. Because of their distinct physical or cultural characteristics, they are often singled out for unequal treatment within a society.

Miscegenation. The mixing of the races through marriage or sexual relationships.

Mixed economy. An economy that has significant elements of both capitalism and socialism. Many European countries have mixed economies, as, to some extent, does Canada.

Mobilization. The process of arousing people and resources to press for social change.

Mode. The value that appears most often in a given set of data. The mode can sometimes be a helpful way of portraying central tendency. See also *Mean* and *Median*.

Mode of production. The technology and the practices employed for expanding or limiting basic subsistence production, especially the production of food and other forms of energy. Examples include the technology of subsistence, the relationships between technologies and the environment, and work patterns. See also *Infrastructure* and *Mode of reproduction*.

Mode of reproduction. The technology and practices employed for expanding, limiting, and maintaining population size. Examples of variables included in the mode of reproduction are demography, mating patterns, fertility, mortality, nurturance of infants, contraception, abortion, and infanticide. See also *Demography, Infrastructure, Mode of production,* and *Population*.

Modernity. The state of being modern, usually associated with industrial and hyperindustrial societies.

Modernization. The process of general social change brought about by the transition from an agrarian to an industrial mode of production.

Monarchy. A hereditary form of government in which a king or queen or some similar member of the nobility rules.

Monogamy. A bond that restricts the individuals involved to an exclusive sexual partnership for the duration of the relationship. See also *Serial monogamy*.

Monopoly. A situation in which a single producer dominates in a given industry or market. See also *Oligopoly*.

Monopoly capitalism. A form of capitalism in which huge amounts of accumulated capital within corporations give

these organizations enormous social, political, and economic power. Operating control of these organizations is vested in specialized management.

Monotheism. The belief in a single divine being. Christianity, Islam, and Judaism are all monotheistic religions.

Mores. Norms that have strong moral significance, violation of which cause strong social reaction. Examples include prohibitions against murder and sexual molestation of children.

Mortality rate. The number of deaths that occur in a particular population in a specified period of time (usually a year).

Motive. A personal drive, intentional reason, or impulse that causes a person to act in a certain way.

Multiculturalism. A sensitivity to the diverse cultural backgrounds and experiences of the members within a society. Multiculturalism can also be used to describe policies and ideologies that promote that sensitivity.

Multi-linear evolution. An interpretation of social evolution that not all societies pass through predetermined stages of evolutionary development and that varying paths of evolutionary change are followed by different societies.

Multinational corporation (also called "transnational corporation"). A business corporation that operates in two or more countries.

Nationalism. An individual's internalization of the set of beliefs and values expressing love, pride, and identification with a given nation-state. Rituals and symbols are important tools in fostering nationalism among the citizenry.

Nation-state. A modern state in which a government has sovereign power within a defined territorial area and the mass of the population are citizens.

Neo-colonialism. The informal dominance of some nations over others by means of unequal conditions of economic exchange (as between industrialized countries of the Global North and countries of the Global South).

Neo-locality. A family residential pattern in which the couple lives apart from the place of residence of both partners' parents. See also *Matrilocality* and *Patrilocality*.

Newly industrialized countries. Nation-states (such as South Korea) that have recently become industrialized.

News values. The values and assumptions held by editors and journalists that guide them in choosing what is "newsworthy," that is, what to report and what to leave out, and how what they choose to report should be presented.

Nomothetic. Characterized by a tendency to generalize or to search for universal laws or principles. Sociology is a nomothetic enterprise. See also *Idiographic*.

Non-material culture. The norms, customs, beliefs, and ideologies of social groups. See also *Material culture*.

Non-profit organization. See *Voluntary organization*.

Non-state actors. International agencies such as the United Nations or the World Health Organization that play a part in the world-system.

Norm. A rule or expectation of conduct that either prescribes a given type of behaviour or forbids it.

Normative consensus. Shared agreement among the vast majority in a group or society about what behaviours are appropriate and expected of its members.

Normative structure. Long-standing patterns of norms and expectations of behaviour within a society or an organization.

Nuclear family. A basic family group living separately from other relatives and consisting of two parents and their dependent children.

Nurse practitioner. A registered nurse with a master's degree and clinical experience, which enables him or her to diagnose and treat common illnesses, either independently or as part of a health care team.

Objectivity. A stance in which one strives as much as possible to reduce or eliminate bias in the conducting or interpretation of research and scholarship.

Occupational distribution. The number of workers in each occupational classification.

Occupational prestige. Social respect accorded to individuals or groups because of the status of their occupation.

Offshoring. See *Outsourcing*.

Oligarchy. Rule by a few within an organization or in the society as a whole.

Oligopoly. A situation in which a small number of firms dominate a given industry or market. When four or fewer firms supply 50 percent or more of a given market, the effects of oligopoly become apparent. These effects are reputed to be a rise in price and a lowering of quality because of the decline of competition. See also *Monopoly*.

Open-lineage family. A family system found in pre-industrial Europe in which family relationships are closely intertwined with the local community.

Operatives and labourers. Unskilled and semi-skilled workers, usually working in manufacturing or construction.

Organic solidarity. Durkheim's term for social cohesion based on the interdependence of the division of labour rather than on similarity between individuals. See also *Mechanical solidarity*.

Organization. A relatively large group of individuals that is formally organized for the purpose of attaining a goal.

Organized crime. Criminal activities carried out by organizations established as businesses.

Outsourcing. The contracting of services or manufacturing to another organization in order to reduce costs. When the organization in question is located in another country, the process is called "offshoring."

Ownership. The legal right to the possession of an object or thing. For Marx, ownership of the means of production was a key factor in understanding a sociocultural system.

Ozone depletion. A decline in the total volume of ozone in the earth's stratosphere. This depletion of the ozone layer, which protects plant and animal life from harmful ultraviolet radiation, is believed to have been caused by the production of chlorofluorocarbons and other gases. See also *Environment* and *Pollution*.

Paradigm. A theoretical framework or world view within which middle-range theories and generalizations regarding social reality are formulated and tested.

Participant observation. A research method in which the social scientist engages in systematic observation while participating as a member of the group.

Participatory democracy. A system of democracy in which all members of a group or community participate collectively in major decisions. Most nation-states today are too large and complex for participatory democracy to be a feasible form of government.

Pastoral society. See *Herding society*.

Patient dumping. The practice of treating only patients who can pay, leaving the poor to governmental or charitable organizations.

Patriarchy. A social organization that is structured by the principle that men have dominance over women.

Patrilineal descent. The practice of tracing kinship through only the male line. See also *Matrilineal descent*.

Patrilocality. A family residential pattern in which the wife is expected to live near the husband's parents. See also *Matrilocality* and *Neo-locality*.

Pauperization. The act or process of impoverishing someone. Marx theorized that capital must ultimately lead to the pauperization of the masses.

Pay equity. See *Comparable worth*.

Peak oil. The year when the production of oil reaches its maximum and begins to decline. Peak oil can refer to a particular oil field, a nation-state, or to the world as a whole.

Peasants. People in agrarian societies who produce food from the land using traditional farming methods of plow and animal power; farm workers in agrarian societies.

Peer group. A friendship group composed of individuals of similar age with common interests and position.

Peripheral country. A country that has a marginal role in the world economy and is dependent on core countries in its trading relationships. See also *Core country* and *Semi-peripheral country*.

Personal crime. Crime directed against individuals.

Personality. The consistent pattern of attitudes and beliefs that an individual projects to the social world.

Physician assistant. In the United States, a trained medical assistant who handles many routine medical problems, thereby allowing the physician to deal with the more difficult cases.

Planned economy. See *Command economy*.

Play stage. The second of three stages of childhood socialization described by George Herbert Mead. In the play stage, the child begins to take on the role of significant others such as pretending to be his or her mother. Through this behaviour the child begins to see himself or herself as others do. See also *Game stage* and *Imitation stage*.

Plea bargain. A deal between the prosecution and the accused offender where the accused will plead guilty in return for a reduced charge.

Pluralist. One who subscribes to pluralist theory.

Pluralist theory. An analysis of politics emphasizing the role of diverse and competing interest groups in preventing too much power being accumulated in the hands of political and economic elites.

Policy research. Social research aimed at clarifying issues and problems that can then be addressed by changes in social policy.

Political action committee (PAC). In the United States, an interest group organization that raises and contributes money to politicians who support the interests of the group.

Political economy. In Marvin Harris's definition, the structural components of sociocultural systems that are organized around production, exchange, and consumption within and between large-scale political units (bands, villages, states, and empires).

Political party. An organization of people with similar interests and attitudes established with the aim of achieving legitimate control of government and using that power to pursue specific programs.

Politics. Attempts to influence governmental activities.

Pollution. The contamination of soil, water, or air by noxious substances. Pollution is one of the principal constraints of the environment. See also *Depletion*, *Environment*, and *Intensification*.

Polyandry. A form of marriage in which a woman may have more than one husband.

Polygamy. A form of marriage in which a person may have more than one spouse.

Polygyny. A form of marriage in which a man may have more than one wife.

Polytheism. The belief in two or more divine beings. See also *Monotheism*.

Popular culture. Cultural elements (beliefs, norms, material objects, artistic expressions) that are part of the everyday life of a people.

Population. In social research, the entire group of people that the researcher is studying. For very large groups, sampling is usually undertaken.

Population density. The number of people who live in a given area. This is usually measured by the number of people per square kilometre or square mile.

Population replacement level. A situation in which the birth rate and the death rate in a particular area are about equal, leading to zero population growth.

Positive checks. Malthus's term for measures and activities by which the life span of an existing human being is shortened. "Positive" (a somewhat confusing choice of term) is used here not in the usual sense of good or desirable but in contrast to "preventive." Rather than preventing births from occurring in the first place, positive checks are actions that directly terminate life—that actively cut down the existing population by reducing the human life span. See also *Infanticide*, *Malthusianism*, and *Preventive checks*.

Positivism. A philosophical position according to which there are close ties between the social and natural sciences, which share a common logical framework. Accurate observation, description, and measurement are considered critical in this perspective.

Post-industrial society. A society based on the production of services and information rather than material goods. This is a notion advocated by those who believe that the industrial order is passing. See also *Hyperindustrialism*.

Postmodernism. A theoretical perspective, widespread in cultural studies and anthropology, that is based on the idea that there is no objective social reality but that different realities are constructed in the minds of individuals from the words and images (or discourse) exchanged between people.

Power. The ability to achieve aims or further the interests that one holds even when opposed by others.

Power elite. According to C. Wright Mills, men in the highest positions of government, corporations, and the military, who hold enormous power in modern industrial societies.

Poverty line. The amount of income that it takes to maintain a family at a basic level. This amount is often determined by government.

Pre-industrial society. A broad classification of all modes of production that came before industrialism. The most common of these are hunting-and-gathering, horticultural, pastoral, and agrarian societies.

Prejudice. The holding of unfounded ideas about a group that are resistant to change.

Prestige. Social respect accorded to individuals or groups because of the status of their position.

Preventive checks. Malthus's term for the various measures and activities by which people attempt to prevent conception and birth. See also *Infanticide*, *Malthusianism*, and *Positive checks*.

Primacy of the infrastructure. Marvin Harris's idea that efforts to understand or explain a widespread social practice or belief must always begin with an examination of the relationship between infrastructure and the environment. Harris originally called this the principle of infrastructural determinism, a somewhat unfortunate choice of terminology since Harris explicitly recognizes the probabilistic nature of the relationship. Because of misunderstandings and misinterpretations, Harris later renamed this principle the primacy of the infrastructure.

Primary deviance. A deviant act; the violation of a norm.

Primary group. A typically small group of individuals who stand in an enduring personal relationship to one another and interact on an intimate basis. Examples include families, clans, local communities, voluntary organizations (such as churches or clubs), and close friends. These groups can perform many functions, including socialization, education, and enforcing social discipline, as well as regulating reproduction and the production of food and material goods. The distinction between primary and secondary groups is basic to the analysis of social structure provided by sociocultural

materialism; together, the two forms of social organization encompass all human groups. See also *Secondary group*.

Primary labour market. The economic position of individuals engaged in occupations that provide secure jobs and good benefits and working conditions. See also *Secondary labour market*.

Primary needs. Karl Marx's term for the natural needs with which we are born, including the need for food, water, and shelter. See also *Secondary needs*.

Primary sector. That part of a modern economy based on the extraction of resources directly from the natural environment, including such industries as mining and agricultural production.

Private health care. Fee-for-service health care available only to those who pay the full cost of the services.

Privatization. The transfer of public services from government administration to private enterprise. In Canada, widespread privatization occurred in the 1980s and 1990s in the mining, fisheries, oil and natural gas, transportation (shipping, rail, air, and trucking), and telecommunications industries. In the United States, privatization has extended to military and security services, education, and prisons.

Profane. Pertaining to elements of society that belong to the ordinary everyday world rather than to the realm of the supernatural. See also *Sacred*.

Profession. An occupation that requires extensive educational qualifications, has high social prestige, and is subject to codes of conduct laid down by central bodies (or professional associations).

Proletariat. A Marxist term for the class of industrial workers who have nothing to sell on the free market except their labour.

Propaganda. Information that is systematically spread by an organization to further its agenda.

Property crime. A crime such as theft that does not physically harm an individual.

Prostitution. The selling of sex acts for economic gain.

Protestant ethic. The belief of certain Protestants, especially Calvinists, that hard work is a Christian duty that builds moral character. Weber theorized that these Protestant values of hard work and thrift, in combination with beliefs in predestination, prompted Calvinists (and to a lesser extent other Protestant sects) to view worldly success as evidence that a person was saved—that he or she was among the elect. This led them to value profit and facilitated the transition to capitalism.

Psychoanalytic theory. A psychological theory positing that the unconscious shapes much of human behaviour.

Psychopath (also called "sociopath"). An anti-social personality disorder in which the individual lacks a conscience, engages in behaviour with little consideration of the harm done to others, and experiences no feelings of guilt or remorse for the harm that he or she causes. While psychopaths can often mimic human emotions, they apparently do not experience any genuine sense of a social bond with others.

Psychosis. A serious mental disorder that involves a failure to distinguish between internal and external reality. The affected person cannot function effectively in social life.

Public health care. Government-funded health care services available to all members of the population.

Qualitative research. Relatively unstructured research that is more open to indirect observation and interpretation. The many qualitative techniques include participant observation, content analysis, and focus groups.

Quantitative research. Relatively structured research that focuses on the collection of discrete data and systematic analysis.

Race. A socially defined category of people who share genetically transmitted physical characteristics.

Racial profiling. The use of race by agents of social control, such as police or airport security, as the primary criterion on

which to base decisions about whether to subject an individual to more intensive scrutiny.

Racism. The attribution of inferiority to a particular racial category. Racism is a specific form of prejudice focused on race.

Radical movement. A social movement that seeks fundamental change in the sociocultural system.

Random sample. A sample of a research study population in which each individual in the population has an equal chance of being selected.

Rape. The use of force to compel one individual to engage in a sexual act with another.

Rational choice theory. The idea that humans make cost-benefit analyses before engaging in significant social actions such as having children or going to college.

Rationalism. The reliance on logic, observation, and reason to guide one's behaviour and beliefs.

Rationality. A mental state characterized by coherent thought processes that are goal oriented and are based on a cost-benefit evaluation.

Rationalization. Weber's term for the process by which modes of precise calculation based on observation and reason increasingly dominate the social world. Rationalization is a habit of thought that replaces tradition, emotion, and values as motivators of human conduct. Bureaucracy is the result of rationalization applied to human social organization. See also *Bureaucratization* and *Intensification*.

Rational-legal authority. Weber's term for authority that is based on law, rules, or regulations. See also *Charismatic authority* and *Traditional authority*.

Reactionary movement. A social movement bent on resisting change or advocating for the return to an earlier order.

Rebellion. Social actions aimed at removing particular rulers or regimes rather than bringing about significant structural changes in a society. In Robert K. Merton's anomie theory, rebellion is one of the fives modes of adaptation,

characterized by a rejection of both normative goals and the socially sanctioned means of achieving them and the substitution of new goals and means in their stead. See also *Coup d'état* and *Revolution,* as well as *Conformity, Innovation, Retreatism*, and *Ritualism*.

Recidivism rate. The percentage of ex-convicts who are convicted of new offences after being released from prison.

Reciprocity. A system of the exchange of goods based on social ties.

Reference group. The group that one identifies with and looks to for standards of behaviour, values, beliefs, and attitudes.

Reform movement. A social movement concerned with implementing a limited program of social change. Examples include changing the health care system to provide universal access to care or reasserting government regulation over the actions of corporations.

Regulatory capture. An industry's domination of a regulatory agency by means of lobbying and/or by staffing the agency with people drawn from the industries being regulated.

Relations of production. Marx's term for the social relations that people enter into as a consequence of their participation in economic life. Relations of production are socially patterned and independent of the wills and purposes of the individuals involved. The primary distinction between these individuals is whether they own the forces of production or have only their labour to sell.

Relative deprivation. A perceived disadvantage in social or economic standing based on a comparison to others in a society.

Relative poverty. Poverty defined in relation to the average standard of living in a given society.

Reliability. The probability that a given measure would be the same if measured again. Not all measures are reliable.

Religion. A set of beliefs involving symbols regarded as sacred, together with ritual practices in which members of the community engage.

Religiosity. A measure of the intensity and importance of religious faith to an individual.

Replication study. A study that is repeated on another sample of subjects at a different time. Such studies are checks on the validity and reliability of research.

Representative democracy. A form of democracy that is based on the existence of two or more political parties and in which voters elect politicians to represent their interests.

Research design. The overall logic and strategy of the research methods of a particular study.

Research methods. The diverse strategies used to gather empirical (factual) material in a systematic way.

Resocialization. The relearning of cultural norms and values by mature individuals, usually in the context of a total institution. See also *Total institution*.

Retirement centre. A city or town to which many people move when they retire.

Retreatism. The escape of society's demands through the rejection of culturally prescribed goals and methods of achieving them. Retreatism is one of the five modes of adaptation in Robert K. Merton's anomie theory. Those who adapt through retreatism are society's dropouts: psychotics, tramps, and substance abusers. See also *Conformity, Innovation, Rebellion,* and *Ritualism*.

Revolution. The overthrow of a government by the governed; a process of change involving the mobilization of a mass social movement toward radically transforming society. The term also refers to any drastic and far-reaching political, economic, social, or technological change, such as the agricultural revolution, the Industrial Revolution, or the digital revolution.

Riot. An outbreak of collective violence directed against persons, property, or both.

Rite of passage. A communal ritual that marks the transition from one status to another. Examples include a confirmation or bar mitzvah, a graduation, or a wedding ceremony.

Ritual. Formalized ceremonial behaviour in which the members of a group or community regularly engage.

Ritualism. The adherence to legitimate means of achieving success even when one is blocked from reaching goals—that is, going through the motions. Ritualism is one of the five modes of adaptation in Robert K. Merton's anomie theory. See also *Conformity, Innovation, Rebellion,* and *Retreatism*.

Role. The expected behaviour associated with a given status.

Role conflict. The situation that develops when the demands of two or more roles are incompatible.

Role model. An admired person who is held up as an example to imitate.

Role set. All of the roles that a person occupies at a given time. For example, a woman might be a doctor, daughter, wife, mother, sister, and so on.

Role strain. The result of conflicting expectations within a given role.

Ruling class. The class of people who exercise overwhelming power and control within a society.

Sacred. Something set apart from the everyday world that inspires attitudes of awe or reverence among believers. See also *Profane*.

Sampling. Taking a small part of a population in order to draw inferences from the analysis of the sample characteristics to the population as a whole.

Sanction. A reward for conformity or a punishment for nonconformity that reinforces socially approved forms of behaviour.

Sapir-Whorf hypothesis. The theory that people perceive their world through the framework of language. Thus, language determines (or, according to the weak version of the theory, influences) other aspects of culture because it provides the categories through which reality is defined.

Scapegoating. Blaming, punishing, or stigmatizing a relatively powerless individual or group for wrongs that were not of their doing.

Schizophrenia. A serious mental disorder in which an individual typically has delusions or hallucinations and a distorted view of reality.

Science. The application of systematic methods of observation and careful logical analysis. Science also refers to the body of knowledge produced by the use of the scientific method.

Scientific management (also called "Taylorism"). A set of ideas developed by Frederick Winslow Taylor that involve simplifying, rationalizing, standardizing, and coordinating the actions of workers to produce maximum efficiency.

Scientific method. Steps taken in the research process to assure the validity, reliability, and generalization of the results. These steps include observation (or gathering the data), hypothesis testing, and analysis of data.

Scientism. An ideology claiming that science and the scientific method alone can provide true knowledge and understanding of the world. Scientism rejects any alleged truths that cannot be explained by that method.

Script. The learned performance of a social role. This concept is used in role theory.

Secondary deviance. The deviant role behaviour that a person adopts as a result of being labelled as deviant.

Secondary group (also called "secondary organization" or "formal organization"). A group whose members are organized around a specific task or goal and tend to interact on the basis of roles defined in relation to that task or goal, with little, if any, emotional commitment to one another. Secondary organizations, which are typically larger than primary groups, are coordinated through bureaucracies. Examples include governments, political parties, the military, corporations, educational institutions, media organizations, service and welfare organizations, and professional and labour organizations. Secondary groups perform many of the same functions that primary groups can perform (such as socialization, education, enforcing social discipline, and

regulating production and reproduction), but the allocation of these functions among groups varies from society to society and as a given society evolves from simple to more complex. See also *Primary group*.

Secondary labour market. The economic position of individuals engaged in occupations that provide insecure jobs and poor benefits and conditions of work. See also *Primary labour market*.

Secondary literature. In the social sciences, a scholar's work about another scientist's theory or writings. Textbooks and encyclopedias are secondary rather than primary literature.

Secondary needs. Desires and wants that become important when primary needs are satisfied. Many secondary needs are learned.

Second World. A term now rarely used to refer to the former Soviet Union and communist industrial societies of Eastern Europe. See also *First World* and *Third World*; see also *Global North* and *Global South*.

Sect. A group that has broken off from an established religion.

Secular. Pertaining to beliefs that are temporal or "of this world" rather than spiritual in nature.

Secularization. The process of decline in the social influence of religion. See also *Rationalization*.

Segregation. The spatial and social separation of people based on ethnicity or race.

Self-consciousness. The individual's awareness of being a distinct social identity, a person separate from others. Human beings are not born with self-consciousness but acquire an awareness of self as a result of early socialization.

Self-fulfilling prophecy. The idea that the mere application of a label changes behaviour and thus provides justification for that label.

Semi-peripheral country. A country often in the initial stages of industrialization that occupies an intermediate zone between core and peripheral countries. Semi-peripheral countries

provide labour and raw materials to core countries, and they often manufacture and export goods that core countries no longer find profitable to produce themselves. They may also engage in some exploitation of peripheral countries. See also *Core country* and *Peripheral country*.

Semi-profession. An occupation not accorded the status of a full profession. Semi-professionals lack highly specialized knowledge and skills, such as are needed to practice law or medicine, as well as the power, latitude on the job, and prestige of full professionals; they also lack the compensation. They are overwhelmingly employed by bureaucracies (although increasing numbers of professionals work in such organizations as well). Examples include teachers, social workers, nurses, and other occupations dominated by females—and many would say it is this latter characteristic that determines their status as semi-professions.

Serial monogamy. The process of contracting several exclusive sexual relationships in succession. Rather than lifetime marriages, it could be said that the dominant pattern in the West is now serial monogamy: marriage, divorce, and remarriage. See also *Monogamy*.

Service workers. A census classification of employees who provide labour related to cleaning, sales, day care, entertainment, and other personal services.

Sex. The biological categories of female and male.

Sexism. The view that one sex (typically men) is superior to the other, thereby justifying an unequal distribution of power between the two sexes.

Sex ratio. The number of males per hundred females.

Sex role. The gender-specific role behaviour that a person learns as a member of a particular society.

Sex stratification. The ranking and differential reward system of the sexes.

Sexual harassment. The making of persistent unwanted sexual advances (physical or verbal) by one individual toward

another within a relationship where the individuals have unequal power (such as an employer and employee).

Sexual orientation. An individual's physical or romantic attraction to the opposite sex (heterosexual), to his or her own sex (homosexual), or to both sexes (bisexual). Research suggests that, regardless of their primary sexual orientation, all human beings appear to possess some degree of bisexuality.

Sexual revolution. The widespread change in sexual behaviour and attitudes among men and women in the Western world during the twentieth century. The sexual revolution is most commonly associated with the 1960s, although some claim it began in the 1920s.

Sick role. The patterns of behaviour expected of one who is frequently sick. The assumption of this role often exempts a person from his or her normal role obligations, while the assignment of this role to someone can serve to disempower the person, who is viewed as incapable to executing ordinary tasks and responsibilities.

Significant other. A person with whom one has an intimate relationship.

Situational deviance. Acts that are only defined as deviant in particular contexts.

Social action. Behaviour that is meaningful to the actor and/or to the observer.

Social capital. The social network of influence and support that people have.

Social change. Alteration in social structures or culture over time.

Social class. A socioeconomic category based on differences between groups of individuals that create differences in their life chances and power.

Social construction. A theoretical perspective that explains most social behaviours as created and learned within a cultural, social, and historical context.

Social control. The set of positive and negative sanctions that are used by a group to bring individual members into compliance with its norms and values. See also *Sanction*.

Social control agents. Those who regulate and enforce social control within an organization or sociocultural system. In society at large, this includes the criminal justice and mental health systems.

Social Darwinism. An early and now largely discredited view of social evolution emphasizing the importance of "survival of the fittest" or the struggle between individuals, groups, or societies as the force driving development. Social Darwinism became widely popular in the latter half of the nineteenth century and was often used to justify existing inequalities, especially those based on race.

Social differentiation. The process through which different statuses develop within a group or a society.

Social disintegration. The process of a society losing coherence and declining over time. Durkheim attributed this to the weakening of the collective conscience caused by the increasing division of labour.

Social disorganization. A structural condition of society caused by rapid change in social institutions, norms, and values.

Social environment. The relationships of a sociocultural system with other societies.

Social evolution. Theories of cumulative sociocultural change that generally hold that human societies move from simple to complex forms of organization.

Social facts. Social forces or patterns external to the individual.

Social forces. The elements of society and social organizations that exert an influence on individual human behaviour.

Social group. Two or more individuals who interact in systematic ways with one another and share a high degree of common identity. Social groups may range in size from dyads to large-scale societies.

Social institution. A major structural entity in a sociocultural system that addresses a basic need of the system. Social institutions involve fixed modes of behaviour backed by strong norms and sanctions that tend to be followed by most members of a society.

Social interaction. Socially meaningful exchanges between two actors.

Socialism. An economic system in which the means of production and distribution of goods and services are publicly owned.

Social issue. A problem that is produced by a society's institutional structure. Social issues affect large numbers of people but are often experienced and interpreted as individual problems. Examples in modern Western society include divorce, poverty, and racial and ethnic discrimination.

Socialization. The lifelong process through which humans develop an awareness of social norms and values and achieve a distinct sense of self.

Social justice. The fair administration of laws without regard to ethnicity, sexual orientation, gender, religion, or class.

Social mobility. Movement between different social positions within a stratified system.

Social movement. A large informal grouping of people who are organized to bring about or to block a change in the sociocultural system.

Social network. The web of relationships between individuals or groups.

Social organization. The pattern of relationships within a group or society.

Social reproduction. The process that perpetuates characteristics of social structure over periods of time. See also *Agency of socialization*.

Social role. The expected patterned behaviour of an individual occupying a particular status position.

Social stratification. Structured inequalities in life chances between groups in society. These inequalities are relatively

fixed; individuals within each broad group have similar attitudes, beliefs, and backgrounds.

Social structure. The pattern of human relationships formed by human groups and institutions within a given society.

Societal reaction theory. See *Labelling theory*.

Society. A group of people who live in a particular territory, are subject to a common system of political authority, and share a common culture.

Sociobiology. An approach that attempts to explain the social behaviour of humans in terms of biological principles.

Sociocultural materialism. A variant of cultural materialism that emphasizes the relationship between intensification, bureaucratization, and rationalization as well as feedback loops from structural and cultural elements to the material infrastructure of a society. See also *Cultural materialism*.

Sociocultural system. Material, structural, and cultural elements that make up the total system.

Socioeconomic status (SES). A frequently used measure of class determined by some combination of income, occupational prestige, and years of education.

Sociological imagination. C. Wright Mills's term for the application of imaginative thought to the asking and answering of sociological questions; the ability to see the effects of social patterns and history on human behaviour.

Sociology. The study of human behaviour and societies, with particular emphasis on the industrialized world.

Sociopath. See *Psychopath*.

Solid waste. The accumulation of noxious material substances. See also *Depletion*, *Environment*, and *Intensification*.

Specialization. The process by which people come to concentrate on a small part of the whole enterprise and to define their occupations accordingly. In the discipline of sociology, for example, more than thirty different areas of specialization can be identified.

Species. A distinct population of individuals that have definitive biological characteristics and are capable of interbreeding with each other but not with other populations.

Split labour market. A situation in which one group of labourers (usually defined by race, sex, or ethnicity) is routinely paid less than other groups.

Standing army. A full-time professional army.

State. A given territory ruled by government institutions whose authority is backed by law and the ability to use force.

Stateless society. A society that lacks formal institutions of government.

State society. A society that possesses a formal apparatus of government.

Statics. Social equilibrium or the absence of change.

Status. A social position within a society. Status can also refer to the social honour or prestige that a particular individual or group is accorded by other members of a society.

Status attainment. The process through which people arrive at a given position within a stratified system.

Status inconsistency. Gerhard Lenski's term for the situation in which an individual holds two status positions of very different prestige.

Status offence. An act that is illegal for juveniles but not for adults (such as running away from home or engaging in sexual activities).

Status quo. The existing state; the way things currently exist.

Status set. All of the statuses held by an individual at a given time.

Stepfamily. See *Blended family*.

Stereotype. A rigid and inflexible image of the characteristics a group. Stereotypes attribute these characteristics to all individuals belonging to that group.

Stigma. A symbol (or a negative social label) of disgrace that affects a person's social identity.

Stratification. See *Social Stratification*.

Straw man. An argument based on misrepresentation of an opponent's position. To "attack a straw man" is to create the illusion of having refuted a proposition by replacing it with a superficially similar proposition (the "straw man") and then refuting it without ever having dealt with the original position.

Strike. A temporary work stoppage by a group of employees.

Structural strain theory. See *Anomie theory*.

Structural unemployment. Unemployment related to changes in the composition of the industries that make up an economy. This results in workers whose skills and training have become obsolete and who have little chance of ever finding employment in a comparably paying job.

Structure. In sociology, all human institutions, groups, and organizations.

Subculture. A group within the broader society that has values, norms, and lifestyle distinct from those of the majority.

Substantive rationality. Weber's term for rationality exercised within a context of human values, traditions, and emotions. See also *Formal rationality*.

Suburbanization. The development of areas of housing outside the political boundaries of cities.

Sui generis. Of its own kind, that is, unique or in a class of its own.

Superego. Freud's term for the part of the self that reflects moral social standards internalized by the individual.

Superstructure. In sociocultural materialism, the symbolic universe—the shared meanings, ideas, beliefs, values, and ideologies that people associate with the physical and social world. The superstructure can be divided into cultural and mental components. See also *Cultural superstructure* and *Mental superstructure*.

Surplus value. Marx's term for the value of an individual's labour power (calculated by the amount of value the labour contributes to the product minus the amount of money paid

to the worker by the capitalist). The conventional name for this difference is *profit*. Thus, the whole capitalist system is based on "expropriating" surplus value (or stealing labour) from workers.

Surveillance. The monitoring of people's activities in order to ensure compliant behaviour. Modern techniques of surveillance include not only video cameras and microphones but also a broad range of electronic surveillance methods whereby information about people can be stored, retrieved, and shared.

Survey. A collection of data carried out systematically, often by means of a questionnaire or a series of interviews.

Sweatshop. A workplace that violates one or more standards of workplace safety, labour laws, or worker compensation. Such shops now thrive in many peripheral countries.

Symbol. One item used to meaningfully represent another, such as a flag that represents a nation.

Symbolic interaction. In sociology, a theoretical approach that focuses on social reality as constructed through the daily interaction of individuals and that places strong emphasis on the role of symbols (gestures, signs, and language) as core elements of this interaction.

Synthesis. The combining of elements from separate sources to produce a coherent whole. Much of macro social theory consists of the synthesis of the ideas and insights of many theorists.

Taboo. A sociocultural prohibition on a particular action, person, place, animal, or plant. Public knowledge of the violation of a taboo often results in severe sanctions.

Taylorism. See *Scientific management*.

Technical specialist. An individual who possesses highly technical knowledge of the sort in demand in certain fields.

Technology. The application of logic, reason, and prior knowledge to the problem of how to exploit raw materials available in

the natural environment and, by extension, how to use products manufactured from these raw materials to create more sophisticated products. Social technologies employ the same thought processes in addressing problems of human organization. Technology involves the creation of both material instruments (such as machines) used in the human interaction with nature and social instruments (such as bureaucracy) used in human organization. See also *Rationalization*.

Terrorism. The use of violence or the threat of violence to achieve political, social, or economic ends. Although many restrict the term to only those acts committed by non-governmental groups, state terrorism is also a major factor in the social world.

Tertiary sector. That part of an economy that provides services (nursing care, psychological counseling, and so forth) engaged in by both private and government entities.

Theory. A summary statement of a general principle that explains regularly observed events.

Third World. A term formerly used to refer to countries that did not number among the industrialized nations of the First World and were also not aligned with the Soviet bloc (the so-called Second World). Because these countries were generally poor, relatively unindustrialized nations, the term "Third World" came to designate the world's underprivileged. See *Global South*; see also *First World* and *Second World*.

Total institution. An organization in which individuals are isolated for long periods of time as their lives are controlled and regulated by the administration of the organization. Examples include prisons, mental hospitals, or army boot camps. See also *Resocialization*.

Totalitarianism. A form of government in which an authoritarian government attempts to regulate every aspect of sociocultural life.

Total war. Warfare in which all the resources of the modern state are committed, including a large proportion of the

population (both directly and indirectly), all of the armed forces, and a large proportion of the industrial sector of the society. See also *Industrialization of war.*

Totem. A symbol associated with a group that is given sacred significance and is often used as an identifying insignia.

Totemism. A system of religious belief studied by Durkheim that attributes sacred qualities to a particular type of animal or plant.

Tracking. Grouping students in educational institutions based upon test scores predicting their abilities.

Trading network. A pattern of economic exchange between companies or countries.

Traditional action. Action motivated by custom or tradition; one of Weber's four action types. See also *Affective action, Wertrational,* and *Zweckrational.*

Traditional authority. Weber's term for authority based on long-established custom or tradition. See also *Charismatic authority* and *Rational-legal authority.*

Traditional state. A society in which the production base is agriculture or the herding of animals. See also *Agrarian society* and *Herding society.*

Transformative movement. A social movement whose aim is to produce major social change in a society.

Transitional class. Marx's term for an economic class in which earlier relations of production linger on in the beginning stages of new relations of production. Examples include peasants or landowners in a feudal system that has become capitalist.

Transnational corporation. See *Multinational corporation.*

Triad. A group of three. Such groups tend to separate into a dyad against one (referred to as "triadic separation").

Tribe. A social group organized largely on the basis of clan and kinship whose members share a common culture and language. Today, tribal organizations typically function outside

of state structures (although their existence may be nominally recognized by the state).

Tribute. A regular payment of money or goods from a subjugated nation-state to the conqueror nation. Tribute can buy physical protection and/or it can serve to guarantee some measure of freedom (as when it prevents the subjugated from being enslaved).

Unconscious. Freud's term for desires, motives, and ideas unavailable to an individual's conscious mind.

Underclass. A class of individuals in mature industrial societies situated at the bottom of the class system who have been systematically excluded from participation in economic life. The underclass is normally composed of people from ethnic or minority groups.

Underemployment. Employment at a job below one's skill or educational level.

Unemployment rate. A government's measure of those who are not working but are actively seeking work.

Unilinear evolution. A largely discredited view of social evolution according to which all societies pass through the same stages of development. The concept of unilinear evolution is often invoked as a straw man in arguments that seek to discredit newer, more sophisticated theories of social evolution.

Unintended consequence. A significant effect of social action on the total sociocultural system (or other parts of that system) that was neither intended nor foreseen by the participants. Robert K. Merton developed the concepts of "latent function," "manifest function," and "dysfunction" to analyze these unintended consequences more precisely.

Union. A social organization set up to represent the worker's interests in both the workplace and the broader society.

Upper class. A social class that encompasses the most affluent members of society, especially those who are immensely

wealthy, have a high social standing, and exert a great deal of financial and political influence.

Urban ecology. An analysis of urban life that examines the relationship between the city and its physical surroundings. Urban ecology is based on an analogy with the adjustment of plants and organisms to their physical environment.

Urbanism. The extent to which a community has the characteristics of city life.

Urbanization. The increasing concentration of the human population into cities from rural areas.

Urban renewal. Governmental programs that encourage the renovation of deteriorating city neighbourhoods through the renovation or destruction of old buildings and the construction of new ones.

Utilitarian organization. A group organized around a specific purpose such as to make money or to give charity.

Validity. The degree to which the measurement of a variable actually reflects the intended concept. For example, the validity of IQ tests in measuring intelligence is questioned by many social scientists.

Values. Culturally defined standards held by human individuals or groups about what is desirable, proper, beautiful, good, or bad. Values serve as broad guidelines for social life.

Variable. A characteristic that varies in value or magnitude and along which an object, individual, or group may be categorized. Examples include income and age.

Verstehen. A German term that means to perceive and understand the nature and significance of a phenomenon, as well as to grasp or comprehend the meaning intended or expressed by another. Weber used the term to refer to the social scientist's attempt to understand both the intention and the context of human action.

Vertical mobility. Movement up or down a social stratification system. See also *Stratification*.

Vested interest. An expectation of private gain that often underlies the expressed interest in a public issue.

Victimless crime. Violation of law in which no person aside from the offender is directly victimized. Examples include using illegal drugs or gambling illegally.

Vital statistics. Statistical information about births, deaths, marriages, immigration, and other population characteristics.

Voluntary organization (also called "non-profit organization"). An association or organization that is formed to further a specific purpose of importance to its members, rather than primarily to earn a profit.

Wealth. Accumulated money and material possessions controlled by an individual, group, or organization.

Wealthfare. Government aid to the upper and middle classes. This aid is often disguised in the form of tax breaks (e.g., a deduction for interest on home mortgages) or subsidized services (e.g., higher education).

Welfare. Government aid (in the form of services and money) to the poor.

Welfare state. A government system that provides a range of human services for its citizens.

Wertrational. Value-based action in relation to a goal; one of Weber's four action types. The value may reflect an individual's ethical, religious, or philosophical convictions, or it may be perceived as a result of a holistic or long-term way of thinking. While the value-based goal is not rationally chosen, the means used to attain the goal are rational in character. See also *Affective action, Traditional action,* and *Zweckrational*.

White-collar. Pertaining to non-manual occupations such as administrative or professional jobs. The growth of bureaucracy has brought with it a proliferation of white-collar occupations. C. Wright Mills wrote extensively about this class of worker, arguing that because those who hold white-collar jobs are dependent on bureaucratic organizations for their

livelihood, and because even relatively minor personal traits can help or hinder the smooth functioning of such organizations, these workers must sell not only their time and skills but also their personalities. In this way, white-collar jobs have a profound impact on the values, outlook, and social behaviour of the people who occupy these positions.

White-collar crime. Criminal activities carried out by white-collar or professional workers in the course of their jobs.

Will. An id-like nature that is focused on the individual satisfaction of all wants and desires; the first and "lower" part of Durkheim's dual conception of human nature. Centred on the body, these egoistic drives and desires recognize no interests but those of the individual actor, pushing the individual to satisfy all wants and desires even at the expense of the will of others. The will knows no boundaries and is a "tyranny of passions imposed by nature" (Mestrovic [1988] 1993, 54); it is the root of all human evil and the source of immorality.

Working class. A social class of industrial societies broadly composed of people involved in manual occupations. Many of these jobs are unskilled and poorly paid and provide few benefits and little job security.

World-economy. A single division of labour that spans multiple cultures. Unlike a world-empire, a world-economy does not have a unified political system. Capitalism, according to Immanuel Wallerstein, is a world-economy.

World-empire. In world-systems theory, multiple political units brought to heel under a centralized political force that extracts surplus, or "tribute," from the subjugated by means of military domination. Such systems are somewhat unstable owing in part to the expense of maintaining the necessary administrative apparatus and military force and in part to resistance from the oppressed.

World-systems theory. A theoretical approach first developed by Immanuel Wallerstein that analyzes societies in terms of their position within global economic systems. According to

Wallerstein, the capitalist world-system now determines the relationships among nation states.

Xenophobia. The fear and/or hatred of foreigners.

Zero population growth (ZPG). Population stability achieved when each woman has no more than two children.

Zweckrational. Rational action in relation to a goal; one of Weber's four action types. The term refers to straightforward means-ends calculations. See also *Affective action*, *Traditional action*, *Rationalization*, and *Wertrational*.

Notes

PREFACE

1 For example, in his otherwise excellent *The End of Growth: Adapting to Our New Economic Reality,* Richard Heinberg (2011, 156) states: "Talk of limits typically elicits dismissive references to the failed warning of Thomas Malthus—the 18th-century economist who reasoned that population growth would inevitably (and soon) outpace food production, leading to general famine. Malthus was obviously wrong, at least in the short run: food production expanded throughout the 19th and 20th centuries to feed a fast-growing population. He failed to foresee the introduction of new hybrid crop varieties, chemical fertilizers, and the development of industrial farm machinery."

2 In 1957, C. Wright Mills (2000, 237) wrote a letter to the editor of *Commentary,* in which he discussed the influence of Marx on his thinking; his comments summarize well my own interest in Marx: "Let me say explicitly: I happen never to have been what is called 'a Marxist,' but I believe Karl Marx one of the most astute students of society modern civilization has produced; his work is now essential equipment of any adequately trained social scientist as well as of any properly educated person. Those who say they hear Marxian echoes in my work are saying that I have trained myself well. That they do not intend this testifies to their own lack of proper education." While I have serious reservations about Marx's socialist vision, I find his analysis of capital to be extraordinary.

1 PRINCIPLES OF MACROSOCIOLOGY

1 See *Macrosociology: The Study of Sociocultural Systems* (Elwell 2009b), which discusses the theories of twelve modern theorists and their relationship to the "big four." C. Wright Mills (1959, 125), who is strongly rooted in Weber, also remarks on the phenomenon: "It is out of the classic work . . . that most of the ideas being used on the sub-historical and on the trans-historical levels of work have in fact arisen."

2 I proudly sent the manuscript off to Marvin Harris, whom I had briefly met years before, for a prepublication endorsement. He liked it very much (although he did take offence at a few changes I had made to his theory). He also told me in no uncertain terms to lose the title. My publisher didn't like it either. I ended up with *Industrializing America: Understanding Contemporary Society Through Classical Sociological Analysis,* which seems to promise another exploration of the Industrial Revolution. The title actually makes sense, in that much of the book argues that recent changes in American institutions and ideologies were determined by the growth of industrialism—but you had to read the book first to understand that sense.

3 As we will see, Weber also wrote about the rise of capitalism in relation to such structural elements as the state and material elements such as communication and transportation technology, contact with early factory systems, and invention and natural resources.

4 Modern functional analysis owes much to Robert K. Merton, especially his *Social Theory and Social Structure* ([1948] 1968).

5 See Harris (1981, 98–115) for an extended discussion of his proposed relationship between population pressure and the relaxation of homosexual prohibitions.

6 This is a Lamarckian process whereby sociocultural systems can learn innovations from one another or from different institutional sectors within the sociocultural system itself. Many call social evolution "Lamarckian" after Jean-Baptiste Lamarck, who hypothesized that a biological organism could pass on to its offspring characteristics that it had acquired during its lifetime.

7 I thank you, Google Books.

8 "Unilinear" evolution, or the notion that all societies pass through a parallel sequence of stages toward a single endpoint, has long been rejected in the social sciences as it has in biology, although not by most Marxists. Even Spencer was hardly unilinear in his evolutionary theory: see Carneiro (2003, 229–35).

9 I borrowed these infrastructural concepts from Marvin Harris (1979, 51–54) although I have modified them slightly by explicitly adding the "division of labour." Harris used the term "work patterns."

10 Some might question the inclusion of Marvin Harris in this list, but to exclude him would be to overlook his focus on the impact of bureaucracies on American culture in *America Now* (1981).

2 *MATERIALISM IN MACROSOCIOLOGY*

1 While Marx and Engels always begin with material conditions, they give weight to the non-material as well. As they said of their approach: "Hence if somebody twists this into saying that the economic element is the only determining one, he transforms that proposition into a meaningless, abstract and senseless phrase. The economic situation is the basis, but the various elements of the superstructure . . . also exercise their influence upon the course of the historical struggle and in many cases preponderate in determining their form" (1962, 488).

2 Malthus (1798, 34) elaborates further: "Where there are few people, and a great quantity of fertile land, the power of the earth to afford a yearly increase of food may be compared to a great reservoir of water, supplied by a moderate stream. The faster population increases, the more help will be got to draw off the water, and consequently an increasing quantity will be taken every year. But the sooner, undoubtedly, will the reservoir be exhausted, and the streams only remain."

3 Malthus (1798, 112) is quite explicit in rooting human motivation in material conditions: "The first great awakeners of the mind seem to be the wants of the body. . . . They are the first stimulants that rouse the brain of infant man into sentient activity, and such seems to be the sluggishness of original matter that unless by a peculiar course of excitements other wants, equally powerful, are generated, these stimulants seem, even afterwards, to be necessary to continue that activity which they first awakened."

4 Boserup's characterization here of Malthus as focusing exclusively upon agriculture as a limiting factor is an overstatement. Malthus well recognized the reciprocal relationships between food supply and population; the speed of the growth in food supply was simply not an important factor in his theory, for he posited that this growth could not long keep pace with unchecked population growth. But Malthus did focus upon the limiting effects of agriculture on population, while Boserup's interests lay with the stimulating effects of population growth on agricultural development.

5 This discussion of the mode, forces, and relations of production owes much to Marvin Harris's discussion in *Cultural Materialism* (1979, 64–66).

6 That the social relations of production are based on the material forces of production is also evident in the following passage from Marx's *A Contribution to the Critique of Political Economy*:

> In the social production which men carry on they enter into definite relations that are indispensable and independent of their will; these

relations of production correspond to a definite stage of development of their material forces of production. The sum total of these relations of production constitutes the economic structure of society—the real foundation, on which legal and political superstructures arise and to which definite forms of social consciousness correspond. The mode of production of material life determines the general character of the social, political and spiritual processes of life. It is not the consciousness of men that determines their being, but, on the contrary, their social being determines their consciousness. ([1859] 1911, 11)

7 It is here that Weber ([1923] 2003, 302) also defines the difference between a machine and an apparatus: "We think at once of the steam engine and the mechanization of work, but the machine had its forerunner in what we call 'apparatus'—labor appliances which had to be utilized in the same way as the machine but which as a rule were driven by water power. The distinction is that the apparatus works as the servant of the man while in modern machines the inverse relation holds."

8 The direct application of science in the process of invention is a critical development: Weber ascribes Cartwright's invention directly to the rationalization process rather than to invention by tinkers and dreamers. Here Weber explicates the rationalization process—the use of observation and reason to achieve a desired end—in the general evolutionary process; he goes on to marry rationalization to capitalism, asserting that the former bears primary responsibility for the modern character of the latter.

9 Just as a division of labour in manufacturing requires a certain minimum number of workers, so, too, are a minimum number of people and population density necessary for a fully developed division of labour in society. However, Marx [1867] 1915, 387) asserted that population density within a society is relative, dependent upon communications and transportation systems among the population: "A relatively thinly populated country, with well-developed means of communication, has a denser population than a more numerously populated country, with badly-developed means of communication; and in this sense the Northern States of the American Union, for instance, are more thickly populated than India."

10 Marx ([1867] 1915, 419–20) explains this relationship at length:

> But more especially, the revolution in the modes of production of industry and agriculture made necessary a revolution in the general conditions of the social process of production, i.e., in the means of communication and of transport. In a society whose pivot, to use an expression of Fourier, was agriculture on a small scale, with its subsidiary domestic industries, and the urban handicrafts, the means of communication and transport were so utterly inadequate to the productive requirements of the manufacturing period, with

its extended division of social labour, its concentration of the instruments of labour, and of the workmen, and its colonial markets, that they became in fact revolutionised. In the same way the means of communication and transport handed down from the manufacturing period soon became unbearable trammels on Modern Industry, with its feverish haste of production, its enormous extent, its constant flinging of capital and labour from one sphere of production into another, and its newly-created connexions with the markets of the whole world. Hence, apart from the radical changes introduced in the construction of sailing vessels, the means of communication and transport became gradually adapted to the modes of production of mechanical industry, by the creation of a system of river steamers, railways, ocean steamers, and telegraphs. But the huge masses of iron that had now to be forged, to be welded, to be cut, to be bored, and to be shaped, demanded, on their part, cyclopean machines, for the construction of which the methods of the manufacturing period were utterly inadequate.

11 Unbeknownst to me at the time, this analysis parallels Weber's discussion of the evolution of modern industry described earlier in this chapter.

12 According to Miller, two additional factors are responsible for economic growth. The first is "total capital" (physical capital, such as tools and machines, and human capital, or the amount of knowledge gained from research and education), which he estimates accounts for one-third of the growth rate in per capita income. The other factor is an increase in productivity, which Miller believes is responsible for the remaining portion of economic growth.

13 An apocryphal story illustrates how devoid of meaning such Christian teachings have become for those under a capitalist system. Many years ago, the Soviet ambassador to the United Nations was taking English lessons, and when he was asked to translate the statement, "It is easier for a camel to go through the eye of a needle than for a rich man to enter the Kingdom of God," he exclaimed, "Do you mean that a capitalist country would allow something like that to be printed?"

3 EVOLUTIONISM IN THE WORK OF THE FOUNDERS

1 As noted in chapter 1, this is asserted explicitly by both classical sociologist Herbert Spencer, in 1850, and contemporary sociologist Gerhard Lenski, in 2005. It is a position I very much agree with.

2 Inorganic evolution refers to the development of the physical universe from unorganized matter. Herbert Spencer (1867, 327) first posited this

unity of the evolutionary process: "Evolution, then, under its primary aspect, is a change from a less coherent form to a more coherent form consequent on the dissipation of motion and integration of matter. . . . This proves to be a character displayed equally in those earliest changes which the Universe at large is supposed to have undergone, and in those latest changes which we trace in society and the products of social life."

3 Weber ([1923] 2003, 306) illustrates how science—a supreme form of rationalization—has combined with capitalism to greatly speed up industrial production: "Finally, through the union with science, the production of goods was emancipated from all the bonds of inherited tradition, and came under the dominance of the freely roving intelligence. It is true that most of the inventions of the 18th century were not made in a scientific manner; when the coking process was discovered no one suspected what its chemical significance might be. The connection of industry with modern science, especially the systematic work of the laboratories, beginning with Justus von Liebig, enabled industry to become what it is today and so brought capitalism to its full development."

4 Spencer (1974–98, 2:241) emphasizes the role of intersocietal conflict and social co-operation in social evolution:

> We must recognize the truth that the struggles for existence between societies have been instrumental to their evolution. Neither the consolidation and reconsolidation of small groups into large ones; nor the organization of such compound and doubly compound groups; nor the concomitant developments of those aids to a higher life which civilization has brought; would have been possible without inter-tribal and inter-national conflicts. *Social co-operation is initiated by joint defense and offense; and from the co-operation thus initiated all kinds of co-operations have arisen.* Inconceivable as have been the horrors caused by this universal antagonism which, beginning with the chronic hostilities of small hordes tens of thousands of years ago, has ended in the occasional vast battles of immense nations, we must nevertheless admit that without it the world would still have been inhabited only by men of feeble types, sheltering in caves and living on wild food. (Emphasis added.)

5 Marx ([1867] 1915, 89) added the communal form to his evolutionary stages somewhat later, perhaps in response to contemporary anthropological findings. In a footnote to *Capital,* he states: "A ridiculous presumption has latterly got abroad that common property in its primitive form is specifically a Slavonian, or even exclusively Russian form. It is the primitive form that we can prove to have existed amongst Romans, Teutons, and Celts, and even to this day we find numerous examples, ruins though they be, in India. A more exhaustive study of Asiatic, and especially of Indian forms of common property, would show how from

the different forms of primitive common property, different forms of its dissolution have been developed."

6 Marx ([1867] 1915, 789) describes these decades: "A mass of free proletarians was hurled on the labour-market by the breaking-up of the bands of feudal retainers, who, as Sir James Steuart well says, 'everywhere uselessly filled house and castle.'"

7 Marx and Engels ([1848] 1954, 10, 11–12) detail the growth of this class:

> From the serfs of the Middle Ages sprang the chartered burghers of the earliest towns. From these burgesses the first elements of the bourgeoisie were developed. . . . Each step in the development of the bourgeoisie was accompanied by a corresponding political advance of that class. An oppressed class under the sway of the feudal nobility, an armed and self-governing association in the mediaeval commune; here independent urban republic (as in Italy and Germany), there taxable "third estate" of the monarchy (as in France), afterwards, in the period of manufacture proper, serving either the semi-feudal or the absolute monarchy as a counterpoise against the nobility, and, in fact, corner-stone of the great monarchies in general, the bourgeoisie has at last, since the establishment of Modern Industry and of the world-market, conquered for itself, in the modern representative State, exclusive political sway. The executive of the modern State is but a committee for managing the common affairs of the whole bourgeoisie.

8 Again, I would assert (along with many others) that Marx himself made no such claim that the means of production determined all.

9 For Weber's speech, which is very revealing but not widely available, see http://www.faculty.rsu.edu/users/f/felwell/www/Theorists/Weber/Weber1909.pdf.

10 This last comment, "Who could escape it?" is a reflection of my own judgments of value and faith—the value that I place on Max Weber's sociology, faith in my fellow students—rather than of my sociology.

11 For example, see Durkheim ([1893] 1997, 140–41).

12 The distinction between mechanical and organic solidarity is related to Durkheim's view of individuals as "homo duplex": "As we have said, there is in the consciousness of each one of us two consciousnesses: one that we share in common with our group in its entirety, which is consequently not ourselves, but society living and acting within us; the other that, on the contrary, represents us alone in what is personal and distinctive about us, what makes us an individual" ([1893] 1997, 84).

13 Durkheim ([1893] 1997, xxxix–xlvi) advocated measures to strengthen the collective consciousness through the formation of intermediate professional organizations in order to counter this trend, but this is more a social program than a part of his theory, more a hope than a reality.

4 CONTEMPORARY SOCIAL EVOLUTION

1 Marvin Harris's "cultural materialism" in anthropology (see Harris 1979) is closely related to Gerhard Lenski's ecological-evolutionary theory. In fact, cultural materialism greatly influenced Lenski's thinking, although much of his theoretical development occurred before he was exposed to Harris. In fact, it could easily be argued that the two theories vary only in their theoretical origins (anthropology and sociology). But Lenski does take cultural materialism an evolutionary step further with his concept of intersocietal selection within the global system of societies. While I use Lenski's ecological-evolutionary theory as the model of evolutionary theory in this chapter, I could almost as easily have used cultural materialism as the basic model (and I have in fact done so in previous writings). I use Lenski as the basic model because he is a sociologist, his concept of intersocietal selection is a useful one, and I find it easier to integrate Weber into Lenski's framework than into Harris's.

2 Those whom Lenski believes had the most direct influence on his thinking include (in rough chronological order) Thomas Robert Malthus, Charles Darwin, Herbert Spencer, Karl Marx, Friedrich Engels, Gaetano Mosca, Robert Michels, Albert Keller, V. Gordon Childe, William Ogburn, George Peter Murdock, George Gaylord Simpson, Leslie White, Julian Steward, Amos Hawley, and Marvin Harris. Notice that anthropologists dominate the latter half of the list, although, even in anthropological circles, social evolution was in considerable disrepute in the first half of the twentieth century. Lenski was later joined in his mission of bringing social evolutionary theory back to sociology by Patrick Nolan and Stephen Sanderson. While both Émile Durkheim and Max Weber are conspicuously absent from Lenski's acknowledgement of classical theorists, one can easily find their influence in his writings.

3 I use the words "largely determines" with some trepidation. In a similar context, Marvin Harris used the phrase "probabilistically determined" but was often criticized for being overly deterministic. I understand that other forces are at play that affect human behaviour—Weber claimed a special place for the charismatic, who, through the sheer force of personality, could inspire others to overthrow long-standing tradition or rational rules. Any social theory must make room for free will and the impact of individuals, psychology, biology, chemistry, physics, and random chance. But my concern here is with sociology; I believe that social forces are more often dominant in determining human behaviour and thought than not. But like all macrosociologists, I explicitly state

that macro theory is probabilistic and non-deterministic (cf. Lenski 2005, 16–17).

4 Weber, of course, is only the classical founder of the theory. Modern sociologists who have used Weber's rationalization-bureaucratization theory (and at least partly connected rationalization to the growth of population, division of labour, and industrialism) include C. Wright Mills, George Ritzer, Krishan Kumar, and Norbert Elias.

5 Weber's analysis is, by the way, entirely consistent with that of David S. Landes in *The Unbound Prometheus* (2003).

6 It should be noted how closely Lenski's definition of technology parallels Weber's concept of rationalization. However, I believe Lenski overstates his case here; while technology is arguably our primary adaptive mechanism, it is the individual who adapts to environmental change, not the society as a whole. In addition to adopting new technologies, individuals adjust to changing environments through actions such as changes in work patterns, diet, and living standards, and modification of birth rates (through both technological or natural means).

7 Harris's cultural materialism is similar in this regard.

8 Weber's followers on this point would include C. Wright Mills ([1951] 1973, 195; [1956] 1970, 7) and George Ritzer (1993). Both have attributed the centralization and enlargement of bureaucratic structures to the increasing complexity of production and the rise of population. Both have also written of the resulting rationalization of modern societies under such tags as "bureaucratic rationality over reason" (Mills) and "McDonaldization" (Ritzer).

9 In estimating the number of societies that existed during the hunting-and-gathering era, Lenski is relying on the working definition of a society to which most sociologists subscribe: a group of people who live in a particular territory, are subject to a common political authority, and share an identifiable culture. This definition can likewise be applied to past empires and to feudal states. Today, there are fewer than two hundred nation-states in existence, and each of these is generally considered to represent a society. The problem with such a definition is that many of these political units are home to a diversity of cultural traditions, while at the same time they may be economically, culturally, or even politically integrated with other political units. Where does one draw the boundaries of such "societies"?

Immanuel Wallerstein (1974) argues that "society" is too vague and misleading a concept to be very useful in social science. Instead, he advocates the concept of a "world-system," a unit of analysis that encompasses the complete division of labor necessary for the survival, sustenance, and growth of a majority of the people who live within the territory covered by the world-system (1974, 5; 2000, 74–75). Wallerstein

(2000, 139) identifies three types of world-systems. *Mini-systems* are self-contained sociocultural units such as hunting-and-gathering, horticultural, herding, and fishing societies. *World-empires* are made up of multiple political units that have been brought under the control of a centralized political authority that uses military force to extract surplus from those it dominates. *World-economies* are characterized by a world-wide division of labour, needed to produce and distribute the necessities of life, and a multiplicity of political structures, among which the division of labor is extremely unequal. In Wallerstein's view, individual nation-states can be understood only in the global context of their era, particularly the economic relations of production and exchange—a perspective that emphasizes the importance of both the material foundations and the social environment of sociocultural systems. (For a discussion of the capitalist world-economy, see chapter 6.)

10 Despite this familiarity with the social sciences, Diamond makes only passing reference to social theory.

11 Wells singles out a change in the human genome that has many parallels to Weber's *Zweckrational*, or goal-oriented rationality. The idea that the emergence of this ability for abstract thought, problem solving, and rapid adaptive behaviour evolves as a result of extreme environmental stress is interesting, to say the least.

12 This migration required the development and use of watercraft, since even at that time, with greatly lowered sea levels due to the Ice Age, the colonization required crossing many channels of water, some as wide as fifty miles.

13 See also Harris (1977, 40-43; 1989, 488–90).

14 See also Marvin Harris's *Good to Eat: Riddles of Food and Culture* ([1985] 1998).

15 In Harris's terms, one might also say that the mode of production and reproduction (infrastructure) will "probabilistically determine" (that is, strongly affect) the political and domestic structure, which in turn will probabilistically determine the behavioural and mental superstructure.

16 See also Neil Postman's *The Disappearance of Childhood* ([1982] 1994).

5 *BUREAUCRATIZATION*

1 Weber's definition of the ideal type: "An ideal type is formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according

to those one-sidedly emphasized viewpoints into a unified analytical construct. . . . In its conceptual purity, this mental construct . . . cannot be found empirically anywhere in reality" ([1903–17] 1949, 90).

2 Of course, Weber did not list the modern communication and transportation systems specifically, but these are in keeping with this passage.

3 *Co-evolution* is a biological term that refers to the evolutionary process by which two organisms evolve in relation to one another rather than simply to changes in the environment. The classic example is the predator-prey relationship in which successful predation creates selective pressure toward faster prey, which creates selective pressure for faster or stealthier predators, and so on: yet another autocatalytic relationship. The analogy holds for the relationship between state and corporate bureaucracies (although it is difficult to determine which is predator and which is prey).

4 The profit motive is widely recognized as a spur to efficiency par excellence, a truism that political candidates play to when they claim they will "run government like a business." Business can be "ruthless" in its pursuit of efficiency for profit's sake (forsaking all other values but the bottom line). This has been somewhat moderated by considerations of long-term versus short-term profits and by enlightened self-interest (it is necessary for my neighbours to do well so that I can prosper). However, the rise of managerial capitalism with its focus on annual performance as well as globalization has severely weakened these forces of moderation.

5 This is reminiscent of a quotation widely attributed to Marx: "The oppressed are allowed once every few years to decide which particular representatives of the oppressing class are to represent and repress them."

6 One can readily see this within the nuclear family in which both parents work, thus often creating great strain on the marriage as the demands of the two jobs pull them in different directions socially and geographically.

7 Of course, junior officials sometimes only pretend to share these opinions and views as they wait to achieve upper level offices before truly expressing their independence. The problem with this strategy is brilliantly explored by Kurt Vonnegut in his book *Mother Night* and can be briefly summarized as "We are what we pretend to be, so we must be careful about what we pretend to be."

8 See also Nisbet (1975, 54–56) on this point.

9 Mills's later writings became much more polemical as he increasingly took on the role of social critic.

10 Mills was a far-left radical; Nisbet is widely considered to be a conservative, as well as a Durkheimian rather than a Weberian. Other sociologists who have written extensively on US militarism are Immanuel

Wallerstein and John Bellamy Foster (both Marxist sociologists) and Stjepan Meštrović (another follower of Durkheim).

11 "Astroturfing" refers to political movements that are formally sponsored and organized by special interests but are disguised as popular grassroots movements.

12 I ran across an example of critical thinking that might be a little closer to my reader's experience than mechanical tomato harvesters. It is the story of a junior high school principal who had a problem. It seems the Grade 7 girls had discovered the joys of makeup, and groups of them would congregate in the lavatories throughout the school to doll themselves up. Many would put on lipstick and then kiss the mirror in an effort to smooth it out, with the result that the mirrors were covered in lipstick. The principal passed rules against it, asked the girls not to do it, handed out punishments for offenders who were caught, and finally pleaded with them—all to no avail. Finally, she called the ten coolest girls in and took them to a lavatory with mirrors that had been covered in lipstick. Appealing to their better selves, she said: "I want to show you what a burden you place on our hardworking custodian who has to clean this mess up. Mr. Perkins, please show them how difficult it is to get this off the mirrors." Mr. Perkins then took his cleaning brush, dipped it in the commode, and proceeded to scrub the lipstick off the mirror. That solved the problem, and I submit the principal's solution as an excellent example of critical thinking.

6 *CAPITAL*

1 Richard Heinberg (2011, 39) remarks, "There is a saying now in Russia: Marx was wrong in everything he said about communism, but he was right in everything he wrote about capitalism."

2 See also Harris (1977, 251–67; 1999, 163–74).

3 Of the peasantry, Marx ([1867] 1915, 817–18) further comments: "With the setting free of a part of the agricultural population, therefore, their former means of nourishment were also set free. They were now transformed into material elements of variable capital. The peasant, expropriated and cast adrift, must buy their value in the form of wages, from his new master, the industrial capitalist. . . . They were transformed into an element of constant capital."

4 See also Lenski (2005, 181–83).

5 See also Wallerstein (1974, 52–63).

6 In *Capital*, Marx ([1867] 1915, 828) described the rise of banks and the development of their relationship to the state:

> At their birth the great banks, decorated with national titles, were only associations of private speculators, who placed themselves by the side of governments, and, thanks to the privileges they received, were in a position to advance money to the State. Hence the accumulation of the national debt has no more infallible measure than the successive rise in the stock of these banks, whose full development dates from the founding of the Bank of England in 1694. The Bank of England began with lending its money to the Government at 8%; at the same time it was empowered by Parliament to coin money out of the same capital, by lending it again to the public in the form of banknotes. It was allowed to use these notes for discounting bills, making advances on commodities, and for buying the precious metals. It was not long ere this credit-money, made by the bank itself, became the coin in which the Bank of England made its loans to the State, and paid, on account of the State, the interest on the public debt. It was not enough that the bank gave with one hand and took back more with the other; it remained, even whilst receiving, the eternal creditor of the nation down to the last shilling advanced. Gradually it became inevitably the receptacle of the metallic hoard of the country, and the centre of gravity of all commercial credit. What effect was produced on their contemporaries by the sudden uprising of this brood of bankocrats, financiers, rentiers, brokers, stock-jobbers, &c., is proved by the writings of that time, e.g., by Bolingbroke's.

7 Weber ([1923] 2003, 353) disagrees with Marx on this, stating that the gold and silver from the New World simply flowed through Spain and even acted to suppress capital development. Although it may have "fertilized" capitalist development in other European countries, these societies were already in the "process of transformation in labor relations which was favorable to capitalism."

8 For example, early Christian prohibitions on usury and on working on the Sabbath, as well as the conviction that wealth corrupts, were gradually cast aside.

9 As Weber ([1923] 2003, 354) noted, "In the last resort the factor which produced capitalism is the rational permanent enterprise, rational accounting, rational technology, and rational law, but again not these alone."

10 Sean Tully, "Fortune 500: The Big Boys Rack Up Record-setting Profits," CNN Money, 7 May 2012, http://www.dailyfinance.com/2012/05/07/the-2011-fortune-500-the-big-boys-rack-up-record-setting-profit/.

11 "Average CEO Pay Broke Record at $9.6 Million in 2011," *Dallas Morning News*, 25 May 2012, http://www.dallasnews.com/business/

headlines/20120525-average-ceo-pay-broke-record-at-9.6-million-in-2011.ece.

12 On "disaster capitalism," see Naomi Klein, *The Shock Doctrine* (2007).

13 See Braverman ([1974] 1998, 190–95) for a more extended discussion of many of these issues.

14 Marx and Engels ([1848] 1954, 46) continue: "They desire the existing state of society minus its revolutionary and disintegrating elements. They wish for a bourgeoisie without a proletariat. The bourgeoisie naturally conceives the world in which it is supreme to be the best; and bourgeois socialism develops this comfortable conception into various more or less complete systems. In requiring the proletariat to carry out such a system, and thereby to march straightway into the social New Jerusalem, it but requires in reality, that the proletariat should remain within the bounds of existing society, but should cast away all its hateful ideas concerning the bourgeoisie."

15 Marx ([1867] 1915, 836) elaborates:

> As soon as this process of transformation has sufficiently decomposed the old society from top to bottom, as soon as the laborers are turned into proletarians, their means of labor into capital, as soon as the capitalist mode of production stands on its own feet, then the further socialization of labor and further transformation of the land and other means of production into socially exploited and, therefore, common means of production, as well as the further expropriation of private proprietors, takes a new form. That which is now to be expropriated is no longer the laborer working for himself, but the capitalist exploiting many laborers. This expropriation is accomplished by the action of the immanent laws of capitalistic production itself, by the centralization of capital. One capitalist always kills many. Hand in hand with this centralization, or this expropriation of many capitalists by few, develop, on an ever-extending scale, the co-operative form of the labor-process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labor into instruments of labor only usable in common, the economizing of all means of production by their use as means of production of combined, socialized labor, the entanglement of all peoples in the net of the world-market, and with this, the international character of the capitalistic regime.

16 Marx ([1867] 1915, 504) describes how the process feeds on itself, building its own momentum:

> Along with the development of the factory system and of the revolution in agriculture that accompanies it, production in all the other branches of industry not only extends, but alters its character. The principle, carried out in the factory system, of analysing the

process of production into its constituent phases, and of solving the problems thus proposed by the application of mechanics, of chemistry, and of the whole range of the natural sciences, becomes the determining principle everywhere. Hence, machinery squeezes itself into the manufacturing industries first for one detail process, then for another. Thus the solid crystal of their organisation, based on the old division of labour, becomes dissolved, and makes way for constant changes. Independently of this, a radical change takes place in the composition of the collective labourer, a change of the persons working in combination. In contrast with the manufacturing period, the division of labour is thenceforth based, wherever possible, on the employment of women, of children of all ages, and of unskilled labourers, in one word, on cheap labour, as it is characteristically called in England.

17 Marx ([1867] 1915, 554) showed considerable prescience in his description of the industrialization of agriculture:

> In the sphere of agriculture, modern industry has a more revolutionary effect than elsewhere, for this reason, that it annihilates the peasant, that bulwark of the old society, and replaces him by the wage-labourer. Thus the desire for social changes, and the class antagonisms are brought to the same level in the country as in the towns. The irrational, old-fashioned methods of agriculture are replaced by scientific ones. Capitalist production completely tears asunder the old bond of union which held together agriculture and manufacture in their infancy. But at the same time it creates the material conditions for a higher synthesis in the future, viz., the union of agriculture and industry on the basis of the more perfected forms they have each acquired during their temporary separation. *Capitalist production, by collecting the population in great centres, and causing an ever-increasing preponderance of town population, on the one hand concentrates the historical motive power of society; on the other hand, it disturbs the circulation of matter between man and the soil, i.e., prevents the return to the soil of its elements consumed by man in the form of food and clothing; it therefore violates the conditions necessary to lasting fertility of the soil.* By this action it destroys at the same time the health of the town labourer and the intellectual life of the rural labourer. (Emphasis added.)

18 As Marx ([1867] 1915, 495) wrote: "The enormous power, inherent in the factory system, of expanding by jumps, and the dependence of that system on the markets of the world, necessarily beget feverish production, followed by over-filling of the markets, whereupon contraction of the markets brings on crippling of production. The life of modern industry becomes a series of periods of moderate activity, prosperity,

over-production, crisis and stagnation. The uncertainty and instability to which machinery subjects the employment, and consequently the conditions of existence, of the operatives become normal, owing to these periodic changes of the industrial cycle."

19 Marx ([1867] 1915, 470) describes the cycle initiated by the replacement of workers by machines:

> The instrument of labour, when it takes the form of a machine, immediately becomes a competitor of the workman himself. The self-expansion of capital by means of machinery is thenceforward directly proportional to the number of the workpeople, whose means of livelihood have been destroyed by that machinery. The whole system of capitalist production is based on the fact that the workman sells his labour-power as a commodity. Division of labour specialises this labour-power, by reducing it to skill in handling a particular tool. So soon as the handling of this tool becomes the work of a machine, then, with the use-value, the exchange-value too, of the workman's labour-power vanishes; the workman becomes unsaleable, like paper money thrown out of currency by legal enactment. That portion of the working-class, thus by machinery rendered superfluous, i.e., no longer immediately necessary for the self-expansion of capital, either goes to the wall in the unequal contest of the old handicrafts and manufactures with machinery, or else floods all the more easily accessible branches of industry, swamps the labour-market, and sinks the price of labour-power below its value.

20 Marx ([1867] 1915, 694–95) explains how capitalism creates the problem of unemployment:

> The expansion by fits and starts of the scale of production is the preliminary to its equally sudden contraction; the latter again evokes the former, but the former is impossible without disposable human material, without an increase, in the number of labourers independently of the absolute growth of the population. This increase is effected by the simple process that constantly "sets free" a part of the labourers; by methods which lessen the number of labourers employed in proportion to the increased production. The whole form of the movement of modern industry depends, therefore, upon the constant transformation of a part of the labouring population into unemployed or half-employed hands.

21 As Marx ([1867] 1915, 694) observes: "The mass of social wealth, overflowing with the advance of accumulation, and transformable into additional capital, thrusts itself frantically into old branches of production, whose market suddenly expands, or into newly formed branches, such as railways, &c., the need for which grows out of the development of

the old ones. In all such cases, there must be the possibility of throwing great masses of men suddenly on the decisive points without injury to the scale of production in other spheres. Overpopulation supplies these masses."

22 For example, pharmaceutical companies could focus on developing drugs to fight tuberculosis and malaria, diseases that kill millions in Africa. However, far more profit can be made by developing additional drugs to treat impotence and baldness (Bakan 2004, 49). Thus, the need for profit keeps drug companies from serving broader human needs.

23 Engels (1847, 14) continues: "It is impossible, of course, to carry out all these measures at once. But one will always bring others in its wake. Once the first radical attack on private property has been launched, the proletariat will find itself forced to go ever further, to concentrate increasingly in the hands of the state all capital, all agriculture, all transport, all trade. All the foregoing measures are directed to this end; and they will become practicable and feasible, capable of producing their centralizing effects to precisely the degree that the proletariat, though its labor, multiplies the country's productive forces." Before one gets too excited and begins to see a program to establish communism through liberal reform, one must recognize that Engels saw bourgeois reformers adapting many of these same strategies to soften some of the hard edges of capitalism for the purpose of preserving the capitalist system.

24 Engels (1847, 15) described a utopic vision of a society in which the needs of all were met:

> There will be no more crises; the expanded production, which for the present order of society is overproduction and hence a prevailing cause of misery, will then be insufficient and in need of being expanded much further. Instead of generating misery, overproduction will reach beyond the elementary requirements of society to assure the satisfaction of the needs of all; it will create new needs and, at the same time, the means of satisfying them. It will become the condition of, and the stimulus to, new progress, which will no longer throw the whole social order into confusion, as progress has always done in the past. Big industry, freed from the pressure of private property, will undergo such an expansion that what we see now will seem petty in comparison as manufacture seems when put beside the big industry of our own day. This development of industry will make available to society a sufficient mass of products to satisfy the needs of everyone.

25 Braverman admits that the methodology is somewhat crude. There will be some occupations included in his working-class estimate who are paid closer to a managerial scale and enjoy a degree of autonomy.

However, there will be other occupations excluded from his estimate, particularly in some of the technical fields, where employees have little autonomy or compensation.

26 It should be noted that these figures do not include agriculture, a significant occupation in 1900 (in terms of numbers). Braverman argues that while the compensation for such an occupation was uneven (although often low), the skills needed were very high indeed. More importantly, most of these workers did not work for capitalist entrepreneurs but rather in the production of commodities for their own consumption or personal profit.

27 From 1983 to 2001, the total labour force grew by 34 percent, from 100,834,000 to 135,073,000. In that same time period, the growth of the Manager and Professional Specialty categories grew by 77 percent, from 23,592,000 to 41,894,000.

28 Some people, of course, are excluded from the estimate who should be included, and others are included who should not be.

29 See also Heinberg 2011.

30 The recent crash was due to the deregulation of markets throughout the world. In this deregulation, nation-states were acting at the behest of and in the short-term interests of the capitalist class. While many also make the absurd claim that it was poor people buying houses and defaulting on their mortgages that brought the United States, and ultimately the world economic system, to its knees, the evidence is simply overwhelming that this was not the case. I suspect the claim is made to divert attention from those in the financial sector who were actually responsible. For discussions, see, for example, Joseph Stiglitz (2010), Charles Ferguson (2012), Chris Hedges (2010), Hacker and Pierson (2010), and many others.

31 In "How Wall Street Killed Financial Reform" (*Rolling Stone*, May 2012), Matt Taibbi reports on the tactics used:

> The fate of Dodd-Frank over the past two years is an object lesson in the government's inability to institute even the simplest and most obvious reforms, especially if those reforms happen to clash with powerful financial interests. From the moment it was signed into law, lobbyists and lawyers have fought regulators over every line in the rulemaking process. Congressmen and presidents may be able to get a law passed once in a while—but they can no longer make sure it *stays* passed. You win the modern financial-regulation game by filing the most motions, attending the most hearings, giving the most money to the most politicians, and, above all, by keeping at it, day after day, year after fiscal year, until stealing is legal again. "It's a scorched-earth policy," says Michael Greenberger, a former regulator who was heavily involved with the drafting of Dodd-Frank. "It requires constant combat. And it never, ever ends."

32 Unfortunately, Weber ([1921] 1968, 110–11) did not think that any economic system would do better with regard to the irrationality factor. Socialism would inevitably weaken formal rationality through the weakening of incentives to work and investment. "Where a planned economy is radically carried out," he wrote, "it must further accept the inevitable reduction in formal, calculatory rationality which would result from the elimination of money and capital accounting. Substantive and formal (in the sense of exact *calculation*) rationality are, it should be stated again, after all largely distinct problems. This fundamental and, in the last analysis, unavoidable element of irrationality in economic systems is one of the important sources of all 'social' problems, and above all, of the problems of socialism."

33 Trading on insider information is not limited to corporate people. On 23 June 2012, a *Washington Post* article entitled "Members of Congress Trade in Companies While Making Laws That Affect Those Same Firms" reported: "One-hundred-thirty members of Congress or their families have traded stocks collectively worth hundreds of millions of dollars in companies lobbying on bills that came before their committees, a practice that is permitted under current ethics rules, a Washington Post analysis has found. The lawmakers bought and sold a total of between $85 million and $218 million in 323 companies registered to lobby on legislation that appeared before them, according to an examination of all 45,000 individual congressional stock transactions contained in computerized financial disclosure data from 2007 to 2010." The major difference between Congress and corporate people trading on inside information is that for members of Congress, it is perfectly legal.

7 STATE

1 According to the tally currently available, the Republicans outspent the Democrats by roughly $113.5 million: $1,246,902,432 versus $1,112,041, 699 (for updates, see http://www.opensecrets.org/pres12/index.php#out). These figures represent spending by the candidates, the national parties, and outside interests. As I write, the figures for 2012 federal elections overall are preliminary, but so far they total slightly over half a billion more than the total for 2008. In view of the recent Citizens United decision, however, these figures probably miss much.

All data in this chapter on campaign contributions and lobbying are available on the website of the Center for Responsive Politics, www.opensecrets.org.

2 PR Newswire, "Sponsors of Anti-Consumer Amendments to U.S. House Financial Reform Bill Received $3.8 Million from Financial Sector in 2009," news release, 10 December 2009, http://www.prnewswire.com/news-releases/sponsors-of-anti-consumer-amendments-to-us-house-financial-reform-bill-received-38-million-from-financial-sector-in-2009-78967677.html.

3 See http://www.whitehouse.gov/the-press-office/remarks-president-state-union-address. For the press release, see "Statement from the President on Today's Supreme Court Decision," January 21, 2010, http://www.whitehouse.gov/the-press-office/statement-president-todays-supreme-court-decision-0.

4 See http://www.opensecrets.org/revolving/departing.php.

5 See http://www.opensecrets.org/revolving/top.php?display=G.

6 Gwen Sharp, "Concentration in U.S. Agriculture," The Society Pages, Sociological Images, 2011, http://thesocietypages.org/socimages/2011/07/23/concentration-in-u-s-agriculture.

7 The emphasis is mine. The complete text of Eisenhower's speech is available at http://avalon.law.yale.edu/20th_century/eisenhower001.asp.

8 Note the functional nature of the quotation.

9 The 1991 General Accounting Office report, "Southwest Asia: Cost of Protecting U.S. Interests" contains this qualification: "For purpose of this report, only those countries in Southwest Asia that throughout the 1980s and early 1990s were considered of strategic importance to the United States are included. These are oil-producing countries in the Middle East, particularly those located in the Persian Gulf area, as well as non-oil producers bordering strategic transiting points and key regional allies" (http://www.gao.gov/assets/220/214823.pdf, p. 1, n. 1).

10 See also Nisbet ([1953] 1990, 94–95; 1988, 105); Mills (1958); and Foster (2006).

11 This strongly echoes Mills's writing in *The Sociological Imagination* (1959).

12 See http://www.thefederalistpapers.org/founders/madison/james-madison-speech-constitutional-convention-06-29-1787.

13 See Weber ([1921] 1968, 990–92), Weber ([1946] 1958), Michels (1915), Mills (1956), and Nisbet (1975) for examples.

14 In business, "controlling interest" is defined as owning 51 percent or more of an enterprise. A case can be made that the controlling interest in the United States by corporations is considerably higher.

15 In a speech before the Wisconsin State Agricultural Society in 1859, a year before he became president, Abraham Lincoln commented on this idea: "It is said an Eastern monarch once charged his wise men to invent him a sentence to be ever in view, and which should be true and appropriate in all times and situations. They presented him the words: 'And this, too, shall pass away.' How much it expresses! How chastening

in the hour of pride! How consoling in the depths of affliction!" (http://showcase.netins.net/web/creative/lincoln/speeches/fair.htm).

8 *RATIONALIZATION*

1 I owe much of this interpretation of Durkheim to Stjepan Meštrović's *Émile Durkheim and the Reformation of Sociology* ([1988] 1993) and *The Barbarian Temperament: Toward a Postmodern Critical Theory* (1993).

2 There is some disagreement over whether Durkheim's *conscience collective* should be translated "collective conscience" or "collective consciousness." As Collins and Makowsky (1989, 105) point out, the confusion stems from the fact that the French term *conscience* means both. I have tended to prefer "conscience," although in some contexts "consciousness" makes clearer sense.

3 I was once teaching a Scholars seminar to some of the brightest students at our university. In exchange for a full scholarship, these students, who were mainly business and pre-med majors, were required to take a seminar on social issues each semester. I had had them read Wendell Berry's *The Unsettling of America* (1977) and was having trouble getting the discussion started. Looking at their bored faces, I asked: "Don't you even care? Doesn't it bother you that people are being moved off the land in droves? Doesn't it worry you that farms that have been in families for generations are being repossessed, that we are losing a tradition of knowledge and care for the land?" One student replied, to general class agreement: "Well, they were inefficient and therefore had to go under."

9 *THE SYSTEM*

1 Both Durkheim and Freud were greatly influenced by Arthur Schopenhauer.

2 There are, of course, reasons other than infrastructural intensification and the resulting depletion for the rise in energy and commodity prices and in the increasing pollution of the environment; the existence of elites and corporate structures that manipulate the system for their own gain also bear heavy responsibility.

3 See the May 3, 2011, UN Press Release based on projections by the Population Division of the UN Department of Economic and Social Affairs, http://esa.un.org/unpd/wpp/Documentation/pdf/WPP2010_Press_Release.pdf.

4 The enhanced purchasing power of the lower classes is probably a significant factor.

5 Lenski (2005, 217–18n) ruefully admits this, remarking on the clever nature of these "golden rubles" in disguising the true amount of inequality from social scientists: "Thus while government data showed only minimal inequality of incomes measured in number of rubles received by elites and rank-and-file workers, gross inequalities actually flourished. For decades, most western observers were fooled by this arrangement and were greatly impressed by Communist 'successes' in reducing economic inequality."

6 Joseph Stiglitz, "Of the 1%, by the 1%, for the 1%." *Vanity Fair,* May 2011. http://www.vanityfair.com/contributors/joseph-e-stiglitz.

7 Ibid.

8 Ibid.

9 Kennedy's 1962 address is available at http://en.wikisource.org/w/index.php?title=Address_on_the_First_Anniversary_of_the_Alliance_for_Progress&oldid=2950898.

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NOTE: In the case of dual dates, the first date refers to the original edition, regardless of the language in which the work was written.

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