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LAW, PSYCHOLOGY, AND JUSTICE: CHAOS THEORY AND THE NEW (DIS)ORDER

BY

CHRISTOPHER RICHARD WILLIAMS

A dissertation submitted

in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Forensic Psychology

California School of Professional Psychology

Fresno Campus

2000

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FRESNO CAMPUS

The dissertation of Christopher Richard Williams, "Law, Psychology, and Justice: Chaos Theory and the New (Dis)Order," approved by his Committee, has been accepted and approved by the Faculty of the California School of Professional Psychology, Fresno Campus, in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in Forensic Psychology.

Dissertation Committee:

Beth Arrigo, PhD

Jane Younglove, JD

Bruce A. Arrigo, PhD
Committee Chairman

May 26, 2000

Sue A. Kuba, PhD
Dean for Academic and Professional Affairs

Mary Beth Kenkel, PhD
Chancellor

ACKNOWLEDGMENTS

I would like to thank the following people for their support and encouragement throughout the dissertation process and over the course of my doctoral education more generally: Dr. Bruce Arrigo, Jane Younglove, Dr. Beth Arrigo, my mother, father, and sister, and the many friends and colleagues with whom I've had the pleasure of spending time.

ABSTRACT OF THE DISSERTATION

Law, Psychology, and Justice: Chaos Theory and the New Disorder

by

Christopher Richard Williams

California School of Professional Psychology, Fresno Campus

Bruce A. Arrigo, PhD

Dissertation Committee Chairman

2000

The purpose of this study was to critically examine several contemporary controversies at the forefront of the law-psychology interface. This critical examination consisted of a conceptual challenge to prevailing efforts by both legal and psychiatric communities in light of the recent insights posed by the emerging "new science" of chaos theory. Topics explored include: (1) the meaning of mental illness, (2) defining and predicting dangerousness, (3) involuntary civil confinement, and (4) the right to refuse treatment. In exploring each of these issues, this study considered: (1) the prevailing legal approach, (2) the prevailing psychological/psychiatric approach, (3) the limitations of both legal and psychiatric approaches, and (4) what chaos theory can potentially contribute toward our understanding of the issue. Following the analysis of the four controversies, an in-depth case study was included to add "real life" relevance or, more accurately, to show how chaos theory might be applicable to actual cases involving law and psychology. The case study explored each of the four controversies and what chaos

theory might tell us about these issues as they apply to this particular case. Finally, the study concludes by reviewing the major points of each chapter and discussing the implications of these points for the pursuit of justice.

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Chapter 1

INTRODUCTION

The Theoretical, the Controversial, and the Just(ice)

Intellectual history is fraught with disciplinary convergence on issues of social and human import. One of the more potent manifestations of this phenomenon has been that involving law and psychology. Although a relatively recent expression of the interdisciplinary lineage, the law-psychology interface has already fostered a decisive exchange in both practical and theoretical domains. Of pragmatic significance, this crossroads has engendered both the law's adoption of mental health expertise (e.g., in defining mental illness, predicting dangerousness, performing forensic evaluations), as well as a sequence of rights-based incursions demarcating--or, more accurately, limiting--the contours of mental health practice. On a theoretical level, psychology has advanced a new line of criticism that endeavors to question the purported benevolence of legal power, policy, and decision-making. The broader implications are such that the systems of psychology and the law can no longer represent themselves as embodying mutually exclusive aims with self-prescribed and self-regulated methods for accomplishing those aims. Psychology has proclaimed itself bearer of a formidable voice in matters of legal consequence, and the law has (re)established its authority in matters of individual and social welfare.

While psychology often avows to "humanize" the legal discipline, offering guidance as to the most effective and "therapeutic" means of achieving legal aims, public

and professional challenges to the declared abuses of the mental health profession has encouraged the law to consider the unique interests of the mentally ill in society--and their respective interests as users and subjects of mental health services. Can the law, through psychology, be therapeutically practiced? Can psychology, through the law, maintain the essential dignity and human rights of its clientele? The result has been, at best, questionable. While psychology undoubtedly has something to offer law, and the law arguably has some interest in the practices of mental health professionals, these "somethings" are often more complex and misguided than one might assume. In short, then, the growing relationship between law and psychology has created some of the more contentious and heated controversies in contemporary social science circles.

As the issues exposed or created by this cross-fertilization are relatively new, there is an ever-increasing need to examine its varying contours. Generally speaking, research on pertinent issues has been the province of either psychologists examining forensic issues that are of direct relevance to their own practice, or legal scholars with some vested interest in exploring the mental health field. In both cases, the perspectives from which these endeavors are undertaken are often preconstructed and intended to contribute only to idiosyncratic understandings in light of the specific needs of the mediating party. Indeed, both psychological and legal scholars most often engage issues only within the confines of their own disciplinary agendas. Thus, it is uncommon to find befitting analyses of psycholegal issues in which both psychological aspects and the respective legal aspects are provided balanced and impartial treatment. The latter approach is arguably what is necessary to fully appreciate the interplay that increasingly

defines both fields of inquiry. It is this necessity that stands as the impetus for the present critique.

Accordingly, this analysis intends to establish a more informed understanding of several prominent controversies situated at the crossroads of law and psychology. Briefly stated, the issues examined include the meaning of mental illness, defining and predicting dangerousness, civil commitment, and the right to refuse mental health treatment. The present analysis will provide necessary treatment to both legal and psychological approaches to these issues and, additionally, examine what is offered or not offered by both approaches in the light of recent theoretical developments in the social sciences. It will be argued that such theoretical developments have been heretofore unrecognized or under-utilized in both psychology and law as a means of better understanding topics of contention and, further, that these developments can be valuable resources for future research, policy, and practice in psychology and law.

The Theoretical

There exists an array of philosophical, theoretical, and empirically-based models of understanding from which to commence inquiries into the substantive issues of our time. This is particularly true when the inquiries are directed toward the alarming inundation of social problems that represent daily struggles in contemporary society. How does one go about understanding mental illness, for example? As the ontological and epistemological dimensions of mental health and illness remain topics of considerable social and professional debate, it is clear that no such understanding exists

with any degree of certainty or precision. One must be willing and able to readily acknowledge the lack of conclusive explanatory power that, thus far, besets theoretical psychology and the endeavors of related disciplines. This necessarily requires an open posture toward that which calls to question the old, and seeks to set forth the new. It is certainly not the case that the "new" is always (in some ways) "better" and that the "old" should thus be relegated to merely historical significance. Unearthing a Rosetta stone, however, is rarely achieved without sufficient exploratory expenditure. The "new" should be read as the latter--as a potentially valuable exploration on the path to understanding.

The concerns of the present study, embedded as exemplars within a larger theoretical framework, echo these sentiments. The "new" lens through which our present examination is conducted is that constituted by the collective insights of centuries of scientific "discovery" and philosophical speculation, culminating in what has come to be known as "chaos theory." Chaos theory represents an increasingly esteemed point of commencement or, at times, retrospection in spheres of inquiry as seemingly distant as medical technology, ecology, psychology, and literature, to name just a few. What is, perhaps, most valuable about its proffered acumen is precisely the way that these distances seem to disappear in its light. Chaos represents a point where the world converges in a way not unlike a cosmic body bringing a patterned relational kinship to everything under its horizon. In short, what was once a product of quantum physics that represented, at best, only inarticulate jargon to most of the world, now holds keys that

may potentially unlock the mysteries of the world--or, for our purposes, those of justice, law, and psychology.

Chaos theory, then, presents a relatively new "scientific" genesis for understanding or "seeing" the complex behavior of systems that move or change over time (referred to as "dynamical" systems). The problematic nature of these systems is related to their characteristic tendency to display disorderly or seemingly chaotic behavior. It is this disorder which, from time immemorial, has afflicted philosophers, scientists, and others attempting to understand the world around them. Indeed, the concepts of "chaos" and "disorder" predate, in all likelihood, the beginnings of recorded civilization. As well, one might presume that attempts to understand chaos and disorder are equally dated investigations. Notwithstanding the "filtering" process that has, to some extent, limited our familiarity with the knowledges of the ancient world, it is safe to assume that for most of history the mysteries of "chaos" have remained just that. These mysteries, however, have begun to reveal themselves to scientists undaunted in their devotion to understanding that which lay behind and within disorder.

Chaos theory, then, is the result of those thousands of years of (mis)understanding prefacing the very recent past in which some of those mysteries have uncoiled. Chaos theory and the collection of principles and related concepts which it generally encompasses, did not receive widespread publicity as a formidable contribution to scientific inquiry until the publication of Gleick's (1987) book Chaos: Making a New Science. Gleick's work was the first to collectively present the various discoveries, theories, and explanations of similar phenomena in several investigative disciplines under

one (now) celebrated denomination. Innovations and perplexities--or, perhaps, innovative perplexities--which had caught the attention of researchers in fields such as physics, mathematics, chemistry, and biology were rightfully appropriated and extended the title: "chaos theory." While many scholars prefer designations such as "dynamical systems theory," "nonlinear dynamics," or "nonlinear dynamical systems theory," the terms "chaos" and "chaos theory" are in widespread circulation and thus will be utilized hereinafter.

The post-Gleick popularization of chaos theory has generated ample interest from the scientific community and inspired its application to an expansive (and increasing) collection of disciplines. While the fundamental aspects of chaos were introduced in the natural or "hard" sciences, its implications have, of late, been well received by the social sciences. The term "chaos" is increasingly noted in psychological and sociological literature as a means of describing or discussing the previously indescribable. As Young (1991) acknowledges, chaos is instrumental in the altering mission of science in that instead of pursuing universal laws generating prediction, certainty, and stability, it forces to the fore of the knowledge process the elements of variation, change, and unpredictability. Thus, in our laborious undertakings to comprehend the nature of the world and its consistencies, chaos allows us opportunity to focus on the previously unexplainable--and, for that reason, disregarded--nature of inconsistency.

Robert Stetson Shaw once noted that "you don't see something until you have the right metaphor to let you perceive it" (as cited in Van Eenwyk, 1991, p. 1). In other words, assuming different perspectives when approaching the behavior of dynamical

systems may encourage us to "see" or better understand the forces that propel the complexities embracing living, changing systems. Chaos theory is that perspective, that "metaphor," or collection of metaphors, that allows us to "see" the various systems to which our attention will be directed in the present critique.

As a complex theory, chaos is perhaps best regarded as a collection of interrelated "principles." Briefly stated, these principles include--but are not necessarily limited to--the following: iteration; bifurcation; sensitivity to initial conditions; attractors; fractal space; self-organization; and dissipative structures. Each principle describes methods by which systems begin to change, adjust to change, or appear after change. These principles are the "building blocks" of chaos theorists. Though each individual principle arguably functions as a metaphor in and of itself or in conjunction with one or more other principles, the systems that chaos theory investigates theoretically embrace each principle. For the purposes of the present investigation, the former strategy has been chosen.

Additionally, it might be said that the present analysis assumes a "critical" tone. Indeed, what follows is in some ways correspondent with the tradition of critical theory that dates to the collective project of the Frankfurt School some 70 or so years ago. Critical theory itself, as differentiated from traditional theory, aims to exploit the institutional forms of knowledge that define contemporary society, rather than merely continue to operate from within their tradition. In challenging the status quo and revealing the inconsistencies and injustices that accompany prevailing socio-political beliefs and practices, it has been said that critical theory is the bearer of "dangerous" knowledge (Kincheleo & McLaren, 1998). Contemporary critical theory, though

informed to some extent by the collective endeavors of the Frankfurt School (see, e.g., Bottomore, 1984; Held, 1980; Kellner, 1989), is perhaps best understood as a continuation of a tradition of unpopular critical examinations. While at times the present analysis is directly informed by the likes of such critical thinkers, most often it is the spirit of such critiques that creates a backdrop against which the law-psychology interface is understood.

The Controversial

It has been suggested that evidence of legal questions concerning mentally disabled persons runs throughout as much as 2,500 years of Western civilization (Lindman & McIntyre, 1961, as cited in Perlin, 1999). Thus, the often unique scenarios engendered by the juxtaposition of issues of psychology and issues of law are far from being recent manifestations of human society. Instead, such scenarios represent enduring matters necessitating critical attention. The law, however, changes as culture, humanity, and society change. These changes are, perhaps, best characterized as increases in the amount of law under which society functions or fails to function. The trend in contemporary criminal and civil justice has been the implementation of new laws to account for new scenarios that arise over the course of time. Notwithstanding the various criticisms of this conceptualization of law, at the very least the dynamic nature of law and its relation to society must be recognized. As society changes, the law changes. And, as law changes, the scenarios that present themselves increase interminably. Inevitably,

then, much of the story of law and psychology remains untold, if not unseen. In short, controversies and questions abound.

Four distinct but interrelated psycholegal issues have been chosen for exploration in the pages that follow. The interplay between the forces of law and those of the mental health system are certainly not limited in this sense. The purpose of the present analysis is, as noted, an exploratory introduction to the possibilities that lie ahead for chaos theory, law, psychology, and justice. The present analysis is not meant in any extensive way to perforate the entire canvas of law, psychology, chaos theory, or the relationships that exist between them. The chosen issues or controversies are those that represent some of the more contentious, socially relevant, and academically treated subjects in psychology and law. To this degree, the analysis aims to shed new light on material that is most familiar to legal and psychological scholars and, subsequently, to contribute something of value to the existing and continually growing scholarship in these fields.

Further, the present critique has been intentionally limited to issues that pervade the arena of civil mental health law. That is to say, the concern is with judicial proceedings that are of a non-criminal nature. While these proceedings potentially involve a loss of liberty and, in this sense, may be best understood as "quasi-criminal" (Melton, Petrila, Poythress, & Slobogin, 1997, p. 38), they arise from circumstances not directly involving the criminal process. The latter would include equally poignant controversies in mental health law such as incompetency-to-stand-trial (IST), insanity (NGRI/GBMI), sentencing of mentally ill offenders, the right-to-refuse-treatment in correctional settings, and execution of the mentally ill. This is also not to claim that there

is not considerable overlap or interplay, at times, between the criminal and civil sides of mental health law and policy. The present analysis, however, is concerned exclusively with issues affecting individuals who are not introduced to the legal system by way of arrest. This being said, the four civil mental health controversies can be briefly described as follows:

1. The Meaning of Mental Illness

Contemporary psychology is rooted in the idea that some human beings are, not only different from others, but in some ways less "healthy" than others. This is the concept of mental "illness" as it informs proceedings of a legal nature. Mental illness, however, is not a concept without controversy. Namely, the social and psychological concept of mental illness must be precisely defined for purposes of the law. This necessary precision is conspicuously absent from many state and federal statutes. What amounts is a legal system dependent on ambiguous and debatable understandings of what constitutes "illness" and what constitutes "health." At this point, the pertinent questions become: "Is mental illness definable?" and "why?" or "why not?" These questions necessarily invite forays into the philosophical stature of meaning itself. Only after issues of definition and meaning have been identified on a more general level can the difficult task faced by the systems of law and psychology be rightfully acknowledged.

2. Defining and Predicting Dangerousness

The word "dangerous" is not an uncommon employment in the English language. While the word is often haphazardly used to refer to some thing(s) or some one(s) as "dangerous," rarely are available analytic capacities directed toward understanding what is meant by "dangerous" and, further, when the term can be used justifiably. These analytics are, however, the responsibility of the law--with solicited help from psychology. The law relies on its prevailing understanding of dangerousness to justify abrogating the rights of individuals--most relevantly, the involuntary confinement of mentally ill persons thought to represent a danger to themselves or others. This demonstrably utilitarian practice understands the protection of society from such individuals as a justified need.

Notwithstanding the libertarian critiques of this practice, the reality of the legal process necessitates some further investment on the part of the State toward establishing some categorical procedures for determining who is and who is not "dangerous." Unfortunately, such procedures are, as yet, unavailable. The law has most often turned to psychology for an "informed" opinion (i.e., prediction) as to whether a given individual meets the (again ambiguous and imprecise) criteria suggested by the law. In addition to those points raised by an examination of meaning and definition (i.e., semantic inquiries), it is also important to explore the possibility of reliably predicting the behavior of any given individual or group of individuals.

3. Involuntary Civil Confinement

Based on the legal and psychological conceptualizations explored in the first two application chapters (i.e., mental illness and dangerousness), it is current practice to hospitalize, involuntarily, persons meeting the necessary criteria. For purpose of protecting society from dangerous individuals as well as, arguably, "treating" those who require such, the law has set forth guidelines justifying the transgression of individual freedom. Unlike criminal confinement in which retributive interests are at play, civil commitment is not a response to some rationally engaged wrongdoing on the part of the committee. Rather, it is an endeavor that raises important questions about measures of social control and limiting the rights of individuals to think and act freely. Does society have a vested interest in seeing mentally ill or, perhaps merely "different," persons "healed" or "controlled?" And, further, how are these determinations made on a case-by-case basis? Regardless of one's moral perspective on the practice of involuntary confinement, it is necessary for a more informed understanding of the issue to explore not only its justification (or lack thereof), but the ways in which it is carried out and the decision-makers that inform the process.

4. The Right to Refuse Mental Health Treatment

Part of the justification for subjecting individuals to confinement against their will is to "treat" whatever psychological ailment may present itself. Treatment is, theoretically, the very justification for clinical psychology/psychiatry's continued legitimacy as a social presence. The right-to-refuse-treatment may be regarded as the

law's challenge to this justification. Historically, the mentally ill have had little protection against the absolute power of mental health professionals to diagnose and treat. Consequently, mentally ill persons have had little protection against the often disabling effects of imposed (or not completely voluntary) treatment. These effects are particularly significant when they result from the administration of psychotropic drugs (e.g., anti-psychotic medication). The degree to which these drugs are used as a mode of treatment creates a psycholegal scenario necessitating critical attention. The "right to refuse treatment" is the law's response to this predicament. Theoretically, it offers a means of providing human rights and a sense of dignity to persons designated as "mentally ill" and "in need of treatment." How far does and should this right extend?

These, in short, are the four controversies constituting the focus of the present analysis. The analysis, however, is not intended simply to be an exploration of the aforementioned controversies. Rather, there is some concern for going beyond the purely legal, psychological, or even psycholegal, and into the realm of justice. The third and final segment of the present critique, then, concerns the play of justice. Do, for example, the legal and psychological approaches to each of the respective issues promote or fail to promote justice? Is justice something that avails itself to immanent criticism of existing psycholegal practices or, rather, is a radical re-envisioning necessary? The value of chaos theory, as with any theoretical approach to issues carrying social implications, is correlative with what it reveals about the nature of justice. If chaos theory is to inform an understanding of any or all of these controversies, it does so by way of justice.

The Just(ice)

One of the foremost masterpieces of world literature carries us throughout an ethical journey in which readers are led to confront timeless questions, provoking refutations and, ultimately, the possibility of discovery. The hero of this tale is Socrates and the journey is, of course, embedded in Plato's Republic (c. 380 B.C.E.; 1973). One of those infamous and timeless questions to which Plato's readers are subjected is perhaps the most enduring question of Western philosophy or, stated simply, "What is justice?" While Plato offers many a compelling discussion in his Republic of what justice is not, he cleverly avoids committing to any informative and contemporarily practical position on what justice is. His readers are left, consequently, with a short list of things that are not conducive to justice, and a longer list of things that might qualify as just or contribute to justice (in the context of contemporary society) for which no distinct and practical answers are provided.

Justice, however, whatever it may be, is not necessarily universal and timeless. It may very well be that what justice is, is not what it was or will be or is somewhere else. Supposing, therefore, that Socrates had offered a definition of justice with practical utility for his ancient Greek city-state, such a definition may have been (and be) uncompelling and/or impractical for the post-Socratic social world. Toward what, then, are the thoughts of contemporary social scholars directed when speaking of justice? The reality is, having changed little since ancient Greece, that we--both academic and applied (i.e., amateur) philosophers--have yet to attain a satisfactory diagnosis. Without this, in turn, can any satisfactory sense of prognosis develop? This latter question, coupled with the former

assertion, appear to be beside the point for many. Society, law, State, and institutional and social representatives have been impelled to seek justice despite the lack of unanimity regarding what justice is. The impetus for law and law enforcement alike, for example, is the promotion of the formless abstraction called justice. The extent to which they meet this challenge, however, is contingent upon an adequate understanding of what it is they are promoting, in other words, an adequate understanding of what justice is or which justice they seek to promote.

Notwithstanding the preceding limitation(s), the word "justice" has been employed both within the title as well as throughout the content of this critique. This does not mean, however unfortunately, that the present analysis will demarcate the positive boundaries of justice (i.e., describing, with any sufficient degree of revelation, what justice is). Philosopher Arthur Schopenhauer (1970) once noted that it is merely a waste of time to pursue any positive description of justice. Rather, like the concept of freedom, justice must appear only in the form of a negative--as the negation of injustice. Following Schopenhauer, the present analysis seeks throughout to draw attention to the negative boundaries of justice (i.e., that which justice is not). While this approach may not contribute substantially to the "what is justice" debate, it is sufficiently informative in the context of law and psychology as a means of attending to the injustices that plague contemporary practices of law and psychology as they relate to mental illness and health. The process of systematically revealing the negative boundaries of justice, may be--given the aforementioned philosophical limitations--the best available approach to understanding what justice is. Thus, aside from perusing the controversies that beset the

relationship between psychology and the law, a primary endeavor in the context of the present critique is to examine the extent to which "justice" is demonstrably not promoted in light of the examined controversies.

This endeavor, of course, requires an additional justification--that of the role of justice in the law-psychology arena. The majority of psycholegal scholarship claiming to offer something of interest to psychologists, lawyers, judges, and the like often lacks explicit reference to "justice" or the implications of that scholarship for justice. The very purpose of the academic cross-fertilization of psychology and law, however, was the promotion of justice. Initial efforts to achieve a profitable rapport between the oft competing systems of law and psychology were indeed motivated by the assumption that "the union of social science and law promotes justice" (Tapp & Levine, 1977, p. xi). These efforts, of course, culminated in a sub-disciplined collection of scholars and practitioners that sought to bring "justice" to "law and psychology." The result of these efforts, to date, has been the presence of an increasingly formidable (psychological) voice in matters of law.

Despite the presence of this new voice, the questions and concerns of which it speaks have fallen somewhere aside its purported intent. Recent scholarship in law and psychology has produced little in the way of attention to justice. Notwithstanding the contributions of movements such as therapeutic jurisprudence that proclaim attentiveness to justice, the majority of law-psychology or forensic psychological scholarship stops short of these concerns. Much research in law and psychology is valuable only insofar as its primary concern is adding another "piece" to such puzzles as jury behavior, eyewitness

testimony, expert witness studies, and the like. Where such endeavors fail demonstrably, is in exploring the broader implications that psycholegal scholarship could have for broader social and political change and the advancement of (social) justice (Arrigo & Williams, 1999a; Fox, 1993). As described, the present critique endeavors to further this potential by critically examining issues of relevance to law and psychology under the luminosity of chaos theory. Critically examining the ways that human beings are affected--socially, politically, economically, existentially--by psycholegal practices, may be a path that parallels, if not crosses, that of justice.

Prospectus

Chaos theory can potentially shed new light on each of the four issues briefly described earlier in this chapter--both individually and as interrelated aspects of a system that must confront the unique realities of the mentally ill. The longstanding nature of these and other dilemmas of mental disability law suggest that we, as a society, a legal system, and a State, have yet to reach any satisfactory conclusions. Those with interests in the unique situation of the mentally ill in society are left with little choice but to continue to assess the current status of these controversies in light of new perspectives. Chaos theory, because of its unique potential to change the way the world is understood and subsequently approached, is one such perspective.

As noted earlier, the increasingly affirmative regard for chaos theory has led many academicians to operationalize its principles in a diversity of scientific disciplines. The birth of chaos theory in scientific research was an endeavor of physics. Consequently,

present literature on chaos theory is predominantly featured in the hard sciences (i.e., physics, mathematics, chemistry). Its application, however, has progressed in recent years to include literature and culture (Hayles, 1990, 1991), psychology (Butz, 1993a, 1993b, 1997; Grotstein, 1990; Moran, 1991; Van Eenwyk, 1991), violence and democracy (Pepinsky, 1991), criminology and social justice (Arrigo, 1994, 1996; Arrigo & Williams, 1999a; Arrigo & Young, 1997; Milovanovic, 1992, 1997), criminal justice (Arrigo & Williams, 1999b), and organizational behavior (see e.g., Morgan, 1997), amongst others.

Thus, increasingly, chaos theory has cultivated a niche for itself in the social sciences, in addition to its traditional application within the physical/natural sciences. It has become the general consensus that the "new science" of chaos represents a model for understanding the traditionally enigmatic processes of nonlinearity that define individual and social systems as well as physical or natural systems. Despite encouraging applications in areas of law and psychology, the principles of chaos theory have yet to be systematically applied to issues that implicate both law and psychology.

The objective of the present investigation, then, is to approach, with intent to critically examine, the interactions that constitute the union of law and psychology with a unique and, as yet, untapped approach. The primary goal is to ascertain whether chaos theory, as a collection of interrelated principles, holds suggestive and informative acumen concerning issues and practices of relevance to the law at the precise points where it must come face-to-face with psychology and vice versa.

While chaos theory itself may be rightfully regarded as a philosophical perspective, its varied insights are hereinafter juxtaposed and, at times, integrated with other theoretical and philosophical perspectives. The approach taken in the present critique is that the principles of chaos theory are best articulated with reference to other perspectives that persuade critical reason along similar paths (e.g., critical social theory, existential phenomenology, postmodern philosophy). Indeed, some of the arguments exposed through the application of the principles of chaos theory are, in effect, arguments that reach similar conclusions and, thus, add a certain veracity to previously proposed positions. In addition, however, many of these "secondary" perspectives alone have something to offer the controversies in question.

Consequently, a number of "classic" and/or contributory works in seemingly diverse disciplines are discussed. In addition to the expected references to psychology and law, much is also drawn from classic and contemporary literature in sociology, criminology, cultural studies, and Continental philosophy--to name just a few. This should not, however, be necessarily read as a statement of subscription to one or more of such secondary perspectives. These perspectives are advanced for the value that is inherent in them--their value as perspectives that, while certainly subject to critique, encourage (like chaos theory) consideration of that which may not often be considered.

On this note, one of the central tenets of chaos theory is that the world and its inhabitants are ever-changing, always in flux and, thus, any perspective on the world may be said to be necessarily subject to refutation and best endorsed only with a certain degree of reservation. Many skeptical philosophers, of course, would argue that being

uncommitted is itself a commitment--to being not committed. One of the more amusing arguments along these lines is the critique of relativism that accuses relativists of offering an inherently contradictory perspective on things by their antithetical commitment to relativism. This, however, is similar to suggesting that because one is an agnostic, that s/he has been and will forever remain as such--that an agnostic will not, provided future thoughts, feelings, experiences, become either theistic or atheistic. The present critique offers that chaos theory holds ideas sufficiently cogent for reception and, to this degree, sufficiently cogent to negate, modify, or contribute to alternative understandings of law, psychology, and justice.

The present critique is apportioned in much the same manner as the Introduction. There are three broad "parts," each composed of several chapters with specific intents and purposes. Part I is intended to provide a more detailed overview of the theoretical components of the present analysis. It provides a necessary introduction to the key concepts and historical role of chaos theory. As chaos theory comes by way of physics, mathematics, and other "natural" sciences, the material may, at times, seem complex. In recognition that chaos theory tends toward the provocation of confusion in many of those attempting to undress its core themes, the more "technical" descriptions of chaos and its nonlinear dynamics have been intentionally limited. Nonetheless, an occasional excursion into the mathematical and physical principles of chaos theory is necessary.

Chapter 2 will provide an historical overview of chaos and chaos theory. Such an overview is best accomplished by outlining that against which chaos theory was a philosophical reaction and a necessary physical (i.e., scientific) consideration. The

scientific and philosophical revelations that triggered the emergence of the modern scientific paradigm are briefly treated. The "break" with modernity and modern science mobilized by both problematic physical phenomena and convincing philosophical refutation are then reviewed in an effort to explain the conditions under which chaos theory would eventually emerge. Tracing this lineage will place chaos theory in the historical context necessary for a full appreciation of what it offers contemporary analysis. At the end of Chapter 2, a working definition of chaos theory is provided. The terms "chaos," "chaos theory," "nonlinear dynamical systems," and related concepts are addressed. The overall intent of Chapter 2, then, is to provide an elementary understanding of what chaos is and what chaos theory provides for the postmodern worldview over and against the modern worldview.

To fully understand and appreciate the concerns and implications presented by chaos theory and nonlinear dynamics applied to systems, an essential knowledge base is necessary. This fundamental knowledge pertains to the concepts of chaos theory and its principles. In light of this, a requisite consideration of each of the principles briefly mentioned above is justified. While, as Barton (1994) notes: "the level of technical understanding required to understand chaos, nonlinear dynamics, and self-organization from the perspective of mathematics or physics is generally not necessary for [social scientists]" (p. 5), it (an understanding of the principles of chaos on a preparatory level) is nonetheless a necessary consideration. Such an approach yields a critical degree of comprehension for the purposes of this analysis. Thus, Chapter 3 intends to accomplish the necessary theoretical considerations with regard to chaos theory, its individual

principles, and the ways in which these principles converge to provide a description of overall systemic behavior.

Chapter 4 will diverge from chaos theory into the philosophy and sociology of law. Its purpose is to provide the essential background for what chaos theory has to offer analyses of the law and its impact on society. As chaos theory is arguably best regarded as a recent theoretical approach to the sociology of law (see e.g., Milovanovic, 1994), the exploration of the history of law in Chapter 4 is primarily informed by a sociological perspective. Specific issues in mental health law, for the most part, will be reserved for analysis itself. Thus, the foundations of law, its general assumptions and operations, are addressed in chronological fashion. The various critical approaches to law will be briefly outlined, with chaos theory being an informative extension of such a critique. The philosophy of law and the theory of law is explored beginning with the early twentieth century (modern jurisprudence) and advancing into contemporary (postmodern) jurisprudence. The intent is to provide a lucid segue into a detailed analysis of chaos theory as it applies to psycholegal issues and controversies.

Part II moves from the theoretical into the realm of the controversial. This constitutes the "application" segment or, in effect, the actual analysis itself. It is further arranged into the four controversies generally identified above. Each controversy represents a different Chapter, though not necessarily an independent Chapter. Mental disability law may be rightfully regarded as, in a sense, circular. That is to say, decisions in one area of mental disability law (e.g., right to refuse treatment) most always rely on other areas of mental disability law (e.g., dangerousness) for guidance. Thus, to some

extent, the Chapters in Part II build upon one another and may be read that way. In another sense, each Chapter is sufficiently distinct and sufficiently encompassing to stand on its own.

Part III of the present critique has two purposes. Chapter 9 presents a case study that attempts to pull together each of the four controversies in light of a single case. The purpose of the case study is to rely on the broader implications of chaos theory to inform relevant "real world" scenarios. Though not every case implicates all of the controversies discussed in the present analysis, the majority of "real world" cases embrace more than one. Civil commitment cases, for example, necessarily include consideration of each of the topics discussed in Chapters 5-7. The case of Billie Boggs was chosen in an effort to implicate, as much as possible, each (or part of each) controversy discussed.

Finally, Chapter 10 summarizes and reviews each of the four controversies in light of chaos theory. An outline of the significant points of each controversy--or each application Chapter--is provided. As the title of the present critique draws attention to the role of "justice" in psychology and law, Chapter 10 also includes some especial attention to this matter. Though cursory and speculative in nature, several suggestions are provided for what chaos theory might contribute to a positive conceptualization of justice.

PART I: THE THEORETICAL

Chapter 2

DELINEATING DIS/ORDER, DEFINING CHAOS

> Nature and Nature's Laws lay hid in Night:
> God said, Let Newton be! And all was Light!
>
> Quoted in Berlin (1956; 1984, p. 15)

> What you cant calculate, you think, cannot be true;
> What you cant weigh, that has no weight for you.
>
> Goethe, Faust, (Part 2, Scene 2, as cited in Kaufmann, 1995, p. 48)

In the present chapter, the intent is to provide a better understanding of what chaos theory is. Chaos theory is situated within a lineage of physical and philosophical developments beginning with the "modern" worldview and culminating with quantum physics and the "postmodern" worldview. Given this precursory historical treatment, a working definition of chaos theory is offered for purposes of the present critique. We begin with the discourse of modernity.

The Discourse of Modernity and the Roots of Order

The epoch constituting the seventeenth to twentieth centuries, as the genesis of modernity and the "modern" worldview, lies infamous in the history of ideas and that of science more specifically. These years are generally acknowledged as collective bearers of a new paradigm, spawning the erudition of human science and human sentiments

concerning their place within the haunting vastness that constitutes the universe. The paradigm that emerged issued, first, from a shift in epistemological speculations--products of the Enlightenment's faith in reason and experience. Secondly, and most influentially, it issued from pioneering efforts in physics and mathematics that provided a sense of mastery that had theretofore seemed unimaginable. The coalescence of both philosophical and scientific revolutions engendered a dramatic break with the past and, consequently, an undying influence on the future. In the words of Sir Isaiah Berlin, seventeenth century Western Europe--commonly regarded as the cradle of the Enlightenment, encompassing such figures as Bacon and Hobbes in England and Descartes in France--". . . stands like a barrier between us and the ages which preceded it, and makes the [ideas of previous ages] seem remote, fanciful and, at times, almost unintelligible (1956; 1984, pp. 14-15). When we speak of the "modern," we speak of "a battle, a bit of arrogance, a cry of rebellion, a gesture of rejection (even destruction) of what is past" (Solomon & Higgins, 1996, p. 175). In short, this "barrier," this "battle," is that of law and order besieging and segregating the disorder, ignorance, superstitions, and blind faith that characterized pre-modern understandings of the world (Harvey, 1989).

The Scientific Revolution

The infancy of modern science, and the commencement of the scientific revolution, lies in the Renaissance with Copernicus (1473-1543) hypothesizing a heliocentric universe. The universe was, after Copernicus, no longer hypothetically geocentric. Rather, it was increasingly apparent that the earth was, in fact, planetary in a

sun-centered universe. Sometime later, Kepler's (1571-1630) laws of planetary motion proposed the first mathematical and, therefore, scientific understanding of astronomy. What had been, for over two thousand years, a universe that decreed ignorant even the wisest of human beings, was revealing itself a simple collection of parts that was amenable to the laws of mathematics and physics. Kepler's expressed contribution was that of offering mathematical support for a Copernican universe. More profoundly, however, what is found is the beginning of an entire world and its inhabitants whose behavior is dictated by universal laws awaiting human discovery.

Notwithstanding the contributions of Issac Newton, "modern" science's contribution to understanding the world is often associated with the "Galilean world view." Galileo's (1564-1642) telescope bestowed upon the world of science the first observational support for Copernicus's hypothesis and Kepler's laws. Most important, perhaps, are Galileo's methodological theses. His contributions to the methodology of science, though subject to much debate since his death, continue to assert a profound impact on all present day scientific inquiries. Galileo offered the following: in contrast to centuries of philosophical speculation that had theretofore been granted authority in matters of epistemological concern, the only true source of knowledge about the world was to be found in observation. Thus, observation--both natural and experimental--is, for Galileo and his followers, the key to attaining (the only) valuable knowledge about the world. Though concerned with physics and astronomy, Galileo's contributions to the scientific method continue to assert an obvious influence on the majority of other disciplines.

While Galileo's celebration of observational techniques stands as one of the Renaissance's final donations to the "modern worldview," the scientific revolution would remain incomplete without the incalculable contributions of Sir Isaac Newton (1642-1727) who, at the heart of the paradigmatic shift:

> performed the unprecedented task of explaining the material world. . . of making it possible, by means of relatively few fundamental laws of immense scope and power, to determine. . . the properties and behavior of every particle and every material body in the universe, and that with a degree of precision and simplicity undreamt of before. Order and clarity now reigned in the realm of the physical science. (Berlin, 1956; 1984, p. 15)

Newton's (1687; 1999) Mathematical Principles of Natural Philosophy assigned new meaning to the philosophical speculations of Bacon and Descartes. In discovering universal laws of gravity and motion, and the applicability of mathematical principles to describe these laws, Newton single-handedly created a new epoch in the history of Western civilization. After Newton, what once had constituted the eternal mysteries of life, were but orderly mechanisms of a great machine--a "cosmic clock." The universe was "law-abiding, orderly, universal, and fully predictable. All events--past, present, and future--were determined by the same laws; chance and indeterminacy played no role in the smoothly running gears of nature" (Best & Kellner, 1997, p. 200). As such, Newton stands as one of the preeminent architects of the modern world.

Determinism, Reductionism, and the Cosmic Clock

Laplace's "demon" in Newton's universe is an inviting metaphor for understanding the profound impact of the scientific revolution in modern thought and the

modern approach to the world. In short, modern science promised, first, an orderly and controllable world and, consequently, the possibility of human omniscience. The order that governed the world, it was believed, was discernable and explicable--discernable through the senses, and explicable by way of scientific reason. Properties could be measured, mathematical techniques could be applied to such measurements, and the world and its processes could be translated into the language of simple laws.

In explicating a world governed by law and order, modern science appointed itself epistemological and metaphysical authority over matters previously inviting unthinking conformity to dogmatic superstitions and prejudices. This paradigm of law and order re-invented the foundations of human knowledge, depicting parts (i.e., laws) of the world as mechanical components of a greater cosmic machine that functioned with the order of a well-wound clock--a position that continues to exert tremendous influence even today. Consider, for example, the ways in which the "machine" metaphor plays out in continuing scientific efforts to understand the human brain as a sort of calculating computer (Dupre, 1993) or, similarly, the efforts of computer scientists to make their "machines" function as human brains.

This unvarying reliability with which modern science understands the world is best understood in the context of philosophical determinism. Determinism, in its most condensed form, proposes a theory of universal causation. In other words, every event has a cause or a necessary antecedent without which the event would not have taken place. Thus, every occurrence in nature occurs of necessity. In psychology, for example, the behaviorist theses of B. F. Skinner (esp. 1971) and the biologically-based assertions

of Freud represent varying degrees of deterministic worldviews. In the context of science and philosophy, the most notable figure is that of Pierre-Simon Laplace (1749-1827), who went so far as to suggest--not extraneously--that, given knowledge of both the laws of nature and the state of the universe at a given moment, he could predict all future events. Laplace's (1814; 1951) "demon," born of Newtonian genetics, cast a shadow over the world of the unpredictable.

Returning to the metaphor of the machine or "cosmic clock," it is understandable how, provided the assumptions of determinism, a well-wound clock with its component parts will--once set in motion--behave in a regular, lawful manner consistent with cause-effect logic for eternity (Dupre, 1993). Understanding the functioning of this "clock" and its component "parts" gives rise to laws and, laws, to human knowledge of the universe: "[For modern science] The cosmos is a vast machine governed by universal and invariable laws that function in an orderly way that can be comprehended and controlled by the rational mind" (Best & Kellner, 1997, p. 197).

The mechanistic paradigm, however, is limited without an adequate understanding of the relationship of the parts to the whole. To grasp the laws that govern the functioning of "parts," an additional methodological step is necessary. One of the most powerful tools of scientists for attaining knowledge of the intricate workings of the machine--be it literal, or a figurative representation of human beings, society, or organizations, for example--is reductionism. Reductionism, as employed by Western science (as opposed to philosophical reductionism, which often assumes a different meaning), "imagines nature as equally capable of being assembled and disassembled"

(Briggs & Peat, 1989, p. 22). The process of disassembling the object would reveal the underlying components of the "machine" that could consequently be reduced for theoretical purposes into the effects that those components had on other system components.

Though this perspective originally dominated science's approach to physical systems, it was not long before its extension to all aspects of the world, including human behavior and the meaning of life. Reduction of systems to its component parts could reveal the intricacies of the interrelations existing within that system. This, then, would aid the insatiable quest of modern science for knowledge--explanations and understandings--of the universe and its inhabitants. The reason for this insatiable quest is another question--one that speaks to the philosophical revolution that was occurring around the same time. The re-invention of philosophy at this time was, in part, a product of Descartes' (1596-1650) quest for absolute certainty, methodological rigor, and mathematical demonstrations of this certainty. The changing attitude toward the world is, however, most apparent in the empiricism of Francis Bacon.

"Knowledge is Power"

Determinism describes a world governed by a lawful order with the (conceptualized) predictability that law(s) often bring. The discovery of universal laws is the discovery of an explanation for the universe and its previously imperceptible processes. To be sure, it is the scientific explanation of a world that, historically, proved only modestly receptive to the techniques of science. More so, it was receptive to the

theological explanations that had dominated the Western worldview for most of recorded history. This newfound knowledge, however, distracted--if not dethroned--the omniscience that had been ascribed to God. Knowledge, beginning in eighteenth-century Europe, "is used no longer to serve God and shore up faith but, rather, to serve the needs of human beings and to expand their power over nature" (Best & Kellner, 1997 p. 197).

When Francis Bacon (1561-1626) made his infamous claim that "knowledge is power," he was, in effect, referring to the promise of modern science that genuine knowledge of the universe was, not only possible, but now probable. It was not merely knowledge in itself that was desirable--as that more conducive to the passive contemplation of pre-modern philosophers--but applied knowledge whose function was mastery and control of nature and the world: "to extend more widely the limits of power and greatness of man, [to command natural forces for] the relief of man's estate" (Best and Kellner, 1997, p. 198).

The kind of knowledge advocated by Bacon is best understood as "instrumental knowledge," or, knowledge for purposes of domination and control. The value of knowledge, then, is instrumental--it has value to the extent that it serves as a means to some other end. This end, of course, is the prediction and control of nature. Its means are based in the techniques of mathematics, employed to devise laws for data obtained through the "scientific method"--"careful observation and controlled, methodical experiment" (Solomon & Higgins, 1996, p. 165).

For Bacon, then, nature is something to be understood, mastered, and developed or acclimatized for human purposes. This vision runs consistent with the "modern"

conceptualization of the world as subject to mathematical and physical explanation--explanations that produce knowledge of practical utility whose value is defined by its service to this end. By this very process, modern science "presided over the 'death of nature' and transformed the living natural world into a dead machine" (Best & Kellner, 1997, p. 197). The "death of nature," however, had other consequences--some of which were described by Bacon himself in his Novum Organum (1620; 1960). The progressive mastery and control of nature for human ends resulted in both increased knowledge of nature and increased estrangement from nature. While the latter has existential significance, the former has social significance as well. Not only did modern science provide keys for unlocking the mysteries of nature--and, consequently, mastering nature--it also provided a similar set of keys for unlocking the mysteries of human being. It offered a power over things and over people that had, to that point, escaped the mastery of the pre-modern mind. To know is to possess power--power to control natural processes, power also to control human and social processes (Horkheimer & Adorno, 1972; cf. also with Foucault's critique of "disciplinary knowledge").

The Modern Worldview in Sum

The collective efforts of philosophy and science, beginning with Copernicus in the early 1500's and Bacon in the early 1600's, accomplished a task that changed the course of Western history. The task was the re-invention of knowledge--what human beings can know, how we can know it, and what we can do with the newly attained knowledge. The first of these speaks to the logic of determinism; the second to the scientific method; and

the third to the relation between human beings and nature and, consequently, the relation of human beings to other living beings. However incalculable the influences of modernity, a brief summary of the essential points of impact may be helpful. The following summary is based, to a large extent, on that provided by Richard Tarnas in The Passion of the Western Mind (1991).

(1) What once was a universe beyond human comprehension, became an impersonal universe governed by natural, regular laws that were discernable through the exclusive employment of mathematics and physics. There was an ensuing shift from qualitative to quantitative analyses of empirically discernable matter, which impetuously impacted a new science that afforded the world detached observation and measurement by way of mathematical laws.

(2) Where once religion and its dogmatic authority on matters of cosmological concern reigned unchallenged, "science" quickly became distinguished as that possessing ultimate authority on all matters of knowledge. Dogma, prejudice, superstition, and faith were replaced by the supposed powers of human reason and empirical observation to understand the physical universe.

(3) Where once the intricacies of a seemingly disorderly (or, at least, incomprehensible) universe invited awe and ignorance, the lawful intrinsic order of the universe was increasingly hypothesized and observed. This order was the patterning of nature, conducting itself in a mechanistic fashion akin to a gigantic machine or cosmic clock. Once understood through the discernment of deterministic laws by reductionistic inquiry, the rational capacities of human beings granted full powers of manipulation for

human purposes. The forces of nature and its material objects, predicted and controlled, were the paradigmatic representation of human beings' relation to their greater world.

(4) The order of the world resting, as it did, on universal laws, was objectively ascertained only through the rational and empirical faculties of human beings. That which was both empirically discerned and rationally understood was discarded as irrelevant and/or distortional. In short, science was a discipline of reason and objectivity. Its methods were empirical, its laws were deterministic, and its results were universal.

The "Disorder of Things" and the Rejection of the Modern Worldview

Though the modern worldview would continue, and does continue, to exert a powerful influence on contemporary science and society, it has not been without its substantial share of criticism. This criticism came (and comes) on two levels: the scientific and the philosophic. The latter is comprised of a number of important figures and movements in philosophy. Any limited coverage of these criticisms would be, in effect, an extensive coverage of the history of post-Enlightenment philosophy that deviates somewhat from the intents of this chapter. The former, in turn, was not so much idealistic as attentive to the problematic nature of modern physical theory. This scientific criticism, however, rests on a number of complex mathematical and physical formulaic revelations. It is not in the interest of this critique to describe such specifics. Rather, what follows is limited to a general account of the primary figures/movements with some allusion to their historical significance.

Philosophical Refutation: From Kant to Postmodernism

The philosophical criticism noted above has been (and is) concerned chiefly with the existential and social consequences (or potential consequences) of the paradigmatic shift of modernity. Some of the early criticisms came from within modernity itself. Kant's (1724-1804) defense of free-will and Rousseau's (1712-1778) appreciation of nature in place of civilization (i.e., the domination of nature for human purposes) are poignant examples. Some of the more powerful assaults were launched by the German Romantics in the late eighteenth and early nineteenth centuries, such as Johann Schiller (1759-1805) and Gotthold Lessing's (1729-1781) preference for aesthetics over the dispassion of science, Johann Herder (1744-1803) and Friedrich Schelling (1775-1854) in a similar, yet more philosophical, vein, and the preeminent literature/philosophy of Johann Wolfgang von Goethe (1749-1832), which was, perhaps, the most powerful of all. Romanticism generally is respected for its critique of Enlightenment rationality and its elevation of the passionate, the creative, and the subjective. It marked, perhaps, the first humanistic reaction to the emerging objective "scientific" world from which it issued.

Existentialism, as well, under the paternal influence of figures such as Soren Kierkegaard (1813-1855), critically responded to the conceptualization of the world as a coherent, law-governed, rational and intelligible system. Consequently, existentialism may be thought of as an anxious reaction to the unintelligibility and, hence, sense of meaningless and (undirected) freedom that accompanied the disorder of the world. Later existentialist thought would attempt to confront the troubling question of what human

beings should do, as misdirected subjectivities, in a world without a universal and rational sense of purpose. Its primary contribution to the critique of modernity, however, lies in its emphasis on the subjectivity of the individual and the absence of ultimate order in the universe.

With roots in both Romanticism and existentialism, a more direct critique of modernity comes in the twentieth century in the form of postmodern criticism. Nietzsche (1844-1900), for example, while not unanimously regarded as a postmodernist himself, is often provided the same paternal status as Kierkegaard is for the existentialists. Of considerable importance is Nietzsche's notion of perspectivism, which, in short, holds that objective knowledge is a futile endeavor. Perspectivism, for example, has been offered as a replacement term for Einstein's "relativity" (Best & Kellner, 1997)--see below--and will play a significant role in our critique of psychology and law. As postmodernism and its theoretical trends will resurface throughout the present critique, considerable time will not be spent describing its various contours. For now, it can be said that postmodernism represents the antithesis of the modern worldview, entertaining critical appraisals of reductionist methods, quests for universality in knowledge, truth, and value, conditions of order and stasis, "scientific" understandings, objectivity, rationality, and the social, political, and existential ramifications of such. It may be important to note, at this point, that many contemporary postmodernists draw upon the insights of chaos theory (as opposed to modern science) to make sense of the world.

The figures and movements briefly discussed are meant to merely scrape the surface of philosophical refutation of modernity. They are less important for purposes of

this chapter--that is, historical developments in disorder and chaos. They are, however, important in that they stand as part of a tradition--beginning in modernity itself--that has "broken" with the dominant worldview of the last three to four hundred years. What is of more importance in the present context, are the scientific refutations of modernity.

Scientific Refutation: Poincare and the Limits of Modern Science

Despite the widespread popularity and practical value of the modern paradigm, there remained inconsistencies that were, at times, extremely problematic. These inconsistencies are best understood as behavioral anomalies or, better yet, normal behavior that failed to conform to modern laws of physics and mathematics. Newton's mathematical principles, for example, seemed to explain the behavior of the planets--certainly in comparison to earlier explanations. Consequently, it was generally believed that, using motion equations, systems (of many sorts) could be precisely predicted (Goerner, 1994). This assertion relied on the effective use of calculus to approach systems whose behavior was amenable to existing mathematical laws. Notwithstanding some acknowledged early difficulties, these laws and their subsequent explanations were widely accepted, employed, and celebrated.

Sometime later, however, Jules Henri Poincare (1854-1912) would challenge the notion that calculus could "unravel the world" (Goerner, 1994, p. 30). As the "grandfather of chaos theory" (Butz, 1997), Poincare understood what might be regarded as the "illusion" of reductionism (Briggs & Peat, 1989). Poincare's find, and Newton's shortcoming, are best understood in the context of the "mechanics of closed systems"

(ibid., p. 27). A closed system may be understood as a system that behaves from within itself. That is to say, it is closed to contamination from outside influences and, thus, lends itself well to order and prediction (ibid.). The equations that classical (Newtonian) physics employed to understand the behavior of such systems were, in short, incomplete.

What Poincare established was that, while Newtonian solutions to planetary motion were reliable when addressing a two-body model of motion (e.g., sun-planet), they were less effective (in fact, not at all effective) when a third-body was involved. An accurate mathematical model fully capable of predicting the behavior of planets necessitated the inclusion of a third body (e.g., the sun, moon, and planet). Three-body equations, however, could not be worked out precisely. With the inclusion of a third body, planetary motion could only be approximated, not accurately predicted. Approximation, though employed as the device-of-choice in the face of such problems (and still employed today), could not accurately account for the influence of the third variable. The infamous "three-body problem" (or, "many-body problem") was born.

The problem is as such: the addition of a third term increases the complexity of systemic behavior. The problem is one of nonlinearity--a problem that classical linear equations were not equipped to solve. While linear equations could accurately predict the reciprocal influence of two bodies on one another, adding (the behavior of) a third body produced additional effects that were not always as conducive to prediction. Even slight perturbations, found Poincare, could encourage a planet "to wobble drunkenly in its orbit and even fly out of the solar system altogether" (Briggs & Peat, 1989, p. 28).

The principles of nonlinear dynamics that explain such possibilities will be described in the next chapter (see esp., iteration, sensitive dependence, and bifurcations). For now, the implications of the three-body problem are as such: even seemingly simple systems, such as the motion of three planets, can be so complex in behavioral dynamics, that they cannot be predicted with any significant degree of success (Butz, 1997). The Newtonian model that dominated Western thought for over two hundred years faced inevitable collapse--to a large extent, that is. Following Poincare, physics became less occupied with working from within a Newtonian model, and more so with the revolutionary approaches that came to be known as relativity and quantum mechanics.

Altering Newton's "Perspective": Relativity in Motion

Albert Einstein (1879-1955) is best noted for introducing relativity into the world of science. In a sense, subject and object became less diametrically opposed and more interactive and mutually dependent. This, of course, would be a fantastic criticism of the "detached observer" capable of knowing the world objectively that modern science promised and practiced. The most synoptical statement of Einstein's contribution might be as follows: descriptions of the physical world and, hence, observations of the physical world, remain in a continual state of variance due to the varying position of the observer her- or himself. The movement of the observer, then, must effect the nature of that which is observed. The physical world--its movement, behavior, change--is relative to the position of s/he who is observing that world at any given instance (Einstein, 1956, 1961). Einstein's first contribution then, in simplified terms, is that objectivity is defiant, if not

ultimately illusory. It should be noted, however, that Einstein himself did not abandon objective measurement as a goal of science. Rather, his contribution consisted of simply the introduction of the notions of subjectivity and relativity as problematic for these goals.

The universe itself, for Einstein, encompasses nothing absolute or constant. Rather, everything within the universe is constantly moving relative to everything else within the universe. This notion would have important consequences for the classical cause-effect logic of modern science as well. If everything is relative to everything else, then causal relations--what is past, what is present, what is future--must also be relative to the position and speed of s/he who is perceiving such relations. This contribution can be described, again in a much simplified fashion, as--at the very least--posing a difficulty for ascertaining precise cause-effect sequences and, consequently, applying cause-effect logic to the world. Additionally, however, Einstein is important for his role in the development and criticism of quantum physics/mechanics.

Quantum Revolution: The Discontinuity and Uncertainty of the Physical World

In 1900, Max Planck (1858-1947) presented a hypothesis that would later land him the title "father of quantum physics." Planck's hypothesis was in direct contrast to Newtonian physics, which held that the movement of matter is smooth and continuous. Planck, however, suggested that, in fact, the emission and absorption of energy by atoms comes by way of discrete bundles called "quanta." Furthermore, these "quanta" behave

as abrupt bursts and are discontinuous. The impact on the world of science was by way of contradicting the modern conception of physical systems as "constituted by a continuous chain of causally related events" (Matson, 1966, as cited in Best & Kellner, 1997, p. 214).

What this means on a broader scale is that the "most basic elements of reality. . . cannot be isolated, precisely identified or predicted, or "grasped 'as they really are'" (Best & Kellner, 1997, p. 214). Coupled with understanding that the observer always influences the observed--and, hence, the absence of the necessary condition of neutrality needed for objectivity--the realization that the physical world itself is subject to "bursts" that disrupt its continuity renders prediction of its behavior unattainable (ibid.).

Werner Heisenberg (1901-1976), with these very limitations in mind, described what has come to be known as the "uncertainty principle." The nature of the physical world is such that it is impossible to accurately ascertain both position and momentum of subatomic particles. The degree of "uncertainty" that ensues cannot be eliminated and, consequently, must be provided an informative role in quantum physics. In the light of uncertainty, the laws of physics must be reoriented as statements, no longer about absolutes, but about relative certainties. This constitutes one of the fundamental differences between Newtonian physics and quantum physics. Both, to be sure, are interested in predicting the behavior of matter. The latter, however, understands that "the element of uncertainty in the subatomic world prevents exact understanding and that the predictions it makes involve only probabilities, statistical regularities, and not certainties" (Best & Kellner, 1997, p. 214). Where Newtonian understandings of the world promised

certainty, quantum mechanics promised the un-representability of the basic core of our physical reality. By way of this, Niels Bohr (1885-1962) and others offered that science must come to terms with the indeterminacy that defines the physical world. Chaos theory would be a step in this direction.

What Chaos Is

The present chapter has been concerned with exploring the ways in which the recent appreciation for disorder and its standing refutation of the Newtonian "modern" paradigm is the maturation of an evolving lineage of scientific and philosophical criticism. These criticisms and refutations have only recently been reconceptualized as constituent elements of a more holistic understanding of the role of disorder in systemic behavior. Collectively, they represent a point of commencement for fashioning a portrait of a world determined by the laws of chaos, rather than those of order. Perhaps the best way to appreciate what this means is to attain a familiarity with the principles of chaos theory that are presented in the following chapter. For now, a provisional definition of what chaos is and what chaos theory explores is offered.

It should be noted at the outset that the terms "chaos" and "chaos theory" have been increasingly employed in reference to a vast array of physical and social behaviors of relevance to a range of investigative domains. What is important is not to understand the precise ways in which chaos theory is utilized in, for example, mathematics or biochemistry, but to obtain a working knowledge of that which is common to each of these investigations. In other words, it is important to understand the existing

commonalities that allow all of these explorations to utilize what chaos theory has to offer. The most illustrative means to describe what chaos theory studies, is to describe what chaos is.

The "chaos" described in the study of nonlinear dynamical systems is not analogous to, nor does it have the same connotations as, its common linguistic employment that generally communicates a state of complete disarray or that which inspires utter confusion. (Stewart, 1989). Chaos, in the latter sense, is indicative of complete disorder. The chaos of nonlinear dynamics, however, "is not the logical antithesis of order" (Best & Kellner, 1997, p. 220). Rather, phenomena of relevance here is characterized by an underlying order within a seemingly disorderly system. This is often referred to as "order within chaos." Additionally, chaos theory describes the emergence of order out of chaos. The latter is often developed as part of "complexity theory" rather than "chaos theory." The degree of overlap between the two, however, is such that they are often catalogued as component elements of a single line of inquiry. For our purposes, both phenomenon will be referred to as within the domain of chaos theory (see e.g., Horgan, 1996, on the variations of chaos and complexity theories).

The characteristics just mentioned--order within chaos and order from chaos--are more thoroughly introduced in light of the principles of chaos theory. For now, the intent is to describe that to which chaos theory applies itself, or that which is characterized by the principles of chaos theory. Perhaps the most elaborate, yet straightforward, definition of chaos theory has been suggested by Kellert (1994). In the interest of developing a provisional definition of chaos and chaos theory, Kellert's proposal will now be explored

in more detail. Kellert (1994) notes that chaos theory is "[t]he qualitative study of unstable aperiodic behavior in deterministic nonlinear dynamical systems" (p. 2).

Systems

In the context of chaos theory, the term system refers to a collection of elements that are identifiable as having an interdependent relationship with other elements that collectively function toward some greater purpose or organization. In other words, chaos theory reserves no special meaning for the word "system" itself. It refers, for theoretical purposes, to an assemblage of interrelated objects or processes within a particular realm of investigation (Kellert, 1994). Thus, a legal scholar undertaking the study of the system of law, for example, may draw a figurative frame around its objects and/or processes (e.g., courts, judges, attorneys, written laws, rules, and regulations, etc.), labeling the contents of that frame a "system" (ibid.), and subjecting it to sociological analysis. Similarly, a psychologist interested in the human system may understand her or his subject as an interrelationship between thoughts, affects, physiological functioning, and even extend that system to include external (e.g., sociological, environmental) elements that play a contributory role in individual behavior (e.g., a psycho-social system). The same applies, of course, to ecological systems, sociological systems, political systems, and the like. The systems of concern in the present critique are those of the individual, society, psychology, and the law.

The relationship between co-existing elements of a system at one point in time determines the "state" of that system. Thus, identifying (the position of) each element of

a system at a given time would reveal a portrait of the system as a "whole" of interacting elements. If the relative values of the variables of a system are identifiable, the state of the system is more easily identifiable. Ascertaining the state of the system, in turn, is often necessary for understanding the coordination of systemic components, the system's relationship to other systems, and the changes in state that the system has undergone or will undergo. The state of a system, however, will often change with time.

Dynamical Systems

A system that moves, or changes over time, is referred to as dynamical. Dynamics explore "the effect of various forces on the behavior of systems over time and the manner in which these systems seek optimal stable states" (Barton, 1994, p. 5). In other words, the study of dynamical systems is interested in ascertaining the component elements of a system, the "state" of that system, the variables that influence that state, and the ways in which the system changes as a result of or in response to those influences. Ideally, once a figurative frame has been drawn around the system's components, the "state" of a system is ascertained by quantifying the value of those component variables at a given time. This process allows, based on mathematical processes, the prediction of future or past states of the system. The assumption is that, knowing the "initial conditions" of a system and the appropriate mathematical rules or procedures, the future conditions of the system can be accurately predicted. This is the "law and order" approach to assessing systemic behavior that is attributable to "modern" science and the Newtonian paradigm.

This paradigm, however, can be problematic--particularly when applied to certain types of systems, namely, nonlinear systems. First, the calculations needed to ascertain the future state may be too difficult (Cohen & Stewart, 1994). Second, knowing the exact state of a system is effectively impossible--"real measurements always involve small errors" (ibid., p. 190). This is, in part, because the most precise measurements available to contemporary physics are not sufficiently exacting to allow for a necessary degree of accuracy. This is where the dynamic nature of a system is significant. Small errors in measurement will, if the system does not change, remain small errors. If, however, the system changes, what were initially small errors may become large errors that falsify predictions. This will be more apparent in the next chapter when the principles of chaos theory are explored.

The systems implicated in our present critique are dynamical systems. The legal system, for example, is dynamic in that its components (e.g., laws, agents) change with time. Statutory revisions and additions, the emergence of new case law, and changes in court personnel are several relevant (and significant) examples. Individual systems are dynamic in much the same way. In addition to changes in social relations, environment, and the like, the psychological "state" of an individual is one of continual flux. Thus, a "depressive" episode may appear, disappear, and reappear. In addition, these changes may be related to changes in other components of the individual system such as interpersonal relationships, change of residence, and innumerable other factors. The "systems" of the present critique, then, may be thought of as dynamical systems subject to the same general characteristics of other dynamical systems.

Nonlinear Dynamical Systems

Nonlinearity is a descriptive term applicable to the behavior of certain types of dynamical systems. Other dynamical systems, however, are linear. Linear dynamics is premised upon the assumption that systemic variables change in a smooth or continuous fashion (Kellert, 1994) and, thus, can be modeled using equations that account for this continuity. In practice, the results of two or more equations are combined to obtain another solution. Linear dynamics is somewhat successful in describing the behavior of systems in which "small changes produce small effects and large effects are obtained by summing up many small changes" (Briggs & Peat, 1989, p.23). In psychology, for example, linear equations are the "cornerstone of statistics" (Barton, 1994, p. 6). In performing an ANOVA or entering data into a multiple regression equation, for example, linear equations are used to describe the relationships that exist between variables (ibid.).

Linearity is a product of differential equations (i.e., equations involving rates of change), where the sum of two solutions is again a solution (Stewart, 1989). The mapping of linear differential equations would reveal a straight line (Hayles, 1990). As noted, these equations work well with most dynamical systems, as they change in a continuous (i.e., smooth) manner. With a differential equation, the "state" of a system at one point in time can determine the state of the system at a later (or earlier) time, by incrementally changing the variables and adding smaller solutions to obtain a larger solution (Kellert, 1994). In this way, linear differential equations may be thought of as additive.

These additive equations do not, however, work well when addressing natural systems in which behavioral change may be sudden or occur in quick "jumps" (Barton, 1994). These sudden changes or behavioral "jumps" are what define nonlinear dynamical systems. They change in ways that, while sometimes smooth or continuous, are at other times not. Thus, they cannot be modeled well using linear equations whose mapping reveals a straight line--their behavior is not a straight line but, rather, a straight line with occasional jumps. A distinguishing characteristic of dynamical systems that chaos theory pursues, then, is their nonlinearity. In addressing nonlinear dynamics, a different class of equations must be employed. Nonlinear equations are applicable to phenomena that are discontinuous, such as explosions or high winds (Briggs & Peat, 1989). In contrast to the proportional (i.e., small cause equals small effect, and large cause equals large effect) nature of linear functions, in nonlinear equations small changes in one variable can have a disproportionate impact on other variables (ibid.). In addition, solutions to nonlinear equations do not generally have explicit solutions (Hayles, 1990) and are not additive. Thus, they are difficult, if not impossible, to solve and are not generalizable to other solutions (Barton, 1994). Individual solutions are highly particular. Consequently, the system's future behavior, as a result of nonlinear "jumps," cannot be accurately predicted. With specific (closed-form) solutions unattainable, the behavior of nonlinear dynamical systems must be measured qualitatively.

As a qualitative measure, chaos theory "investigates a system by asking about the general character of its long-term behavior, rather than seeking to arrive at numerical predictions about its exact future state" (Kellert, 1994, pp. 3-4). Rather than concerning

itself with the prediction of a precise future state, qualitative analysis would be interested in determining what circumstances will lead to one future state, as opposed to another (ibid.). Qualitative questions may be asked about any dynamical system. Chaos theory, however, focuses on those that display unstable and aperiodic behavior (ibid.). Instability can be briefly described as the system "never settling into a form of behavior that resists small disturbances" (ibid., p. 4). In other words, the system is not sufficiently robust so as not to be significantly disrupted by small changes in its variables. A stable system, on the other hand, can be considered robust, or able to "shrug off" a small disturbance and continue without portentous disruption.

The aperiodicity of system behavior refers to "no variable describing the system [undergoing] a regular repetition of values" (Kellert, 1994, p.4). The effects of small disturbances continue to manifest in the overt behavior of the system, and behavior is never repeated. Thus, behavior appears random and prediction is impossible. An example of aperiodic behavior is that of history. While some events throughout history may appear as similar to previous events, they are never exactly the same. History never repeats itself exactly. Further, small disturbances throughout history have precipitated significant and long-lasting changes in all spheres of human concern (ibid.).

In the context of the present critique, nonlinearity can be thought of as characterizing all human systems--individual, and those organized and managed by individuals and/or groups of individuals. The future behavior of the law, for example, cannot be predicted with any degree of accuracy because of its nonlinear nature. Notwithstanding the role of precedent--which encourages the law to perform in a linear

manner--sudden "jumps" in behavior are identifiable throughout the history of law. The jumps may be regarded as breaks with precedent that may be encouraged by the influence of society, culture, individual circumstances, changes in legal agents, and the like. Similarly, on an individual level, sudden breaks play a significant role in the lives of all persons. While an individual's life may be characterized by stability and predictability for a certain length of time, this length of time is indeterminate. Any number of factors (e.g., death of a loved one, a new job or interpersonal relationship, or even spiritual "awakening") can encourage a loss of previously existing continuity. As such, it can be said that human beings, society, the law, and psychology are nonlinear dynamical systems that are characterized by instability, aperiodicity and, consequently, are better suited to qualitative analysis.

Deterministic Nonlinear Dynamical Systems

The final element of Kellert's proposed definition of chaos theory is the deterministic nature of nonlinear dynamical systems. The meaning of determinism in the context of modern science has been addressed. The determinism of nonlinear dynamical systems, however, is different in a very significant way. The future behavior of deterministic systems is determined by the initial state of the system. This is Laplace's "demon" who, once having identified the initial conditions or initial "state" of the system, can predict its future state based on mathematical laws. If the exact initial conditions of the system are known, the linear nature of its change (i.e., smooth or continuous) allows the future state to be accurately measured before it even appears.

Dynamical systems are deterministic because "they are composed of only a few differential equations, and because the equations make no explicit reference to chance mechanisms" (Kellert, 1994, p. 5). In other words, they are not affected by the "jumps" that characterize nonlinear dynamical systems and, consequently, are both determined and predictable. Systems displaying nonlinear behavior, however, are deterministic but unpredictable. Though characterized as deterministic, they are nonetheless unpredictable because of their inherent tendencies (e.g., instability, aperiodicity). As mentioned earlier, the deterministic nature of nonlinear dynamical systems is complicated by an inability to know the exact state of a system at any given time, and the difficulties with calculating future states using mathematical equations. Thus, chaos theory endeavors to understand systems which are both deterministic and unpredictable.

The ways in which nonlinear dynamical systems are deterministic will be examined in the following chapter on the principles of chaos theory. In short, while displaying behavior that is unpredictable and "jumps" into different patterns, they are patterned nevertheless. Within that pattern, the system has infinite possibility for movements--thus allowing it to "jump" essentially all over the place. It does not, however, "jump" outside of the global pattern and, thus, may be thought of as determined in the sense that its range for movement is limited to that allowed by its pattern. For this reason, chaos theory examined systems that are said to be globally predictable, but locally unpredictable. The ways in which the systems of law, psychology, society, and the individual are characterized by this element of nonlinear dynamics will be explored throughout our critique.

Chapter 3

THE PRINCIPLES OF CHAOS THEORY

In the following sections the basic principles of chaos theory will be surveyed. These principles, though not mutually exclusive, may be thought of as the defining features of nonlinear dynamical systems. In the previous chapter the general attributes of chaos and chaos theory were described. The present chapter should be read as a more detailed description of what it means for a system to be dynamical, nonlinear, deterministic, unstable, and aperiodic. Seven principles with which to work have been identified. These seven principles are presented in such a way as to best inform the reader as to how systems (might) progress from an orderly state into chaos and back into order. Accordingly, the chapter begins with principles that describe the movement from order to disorder to chaos and the scientific insights that have allowed us to "see" how this order-to-chaos transformation begins and progresses.

The second (implicit) category of principles describes the presence of order within chaos. Once a system has become destabilized, it tends to a certain order within the apparent disorder. This is best described as a system characterized by local disorder, yet governed by a global order. These principles are those that function to ensure a certain stability within a system that may have been perturbed by external and/or internal factors. They depict certain orderly dynamics that occur often beyond that which is immediately observable. Thus, they represent the positive nature of disorder--the continued orderly functioning of a system even within what appear as disorderly dynamics.

The final two principles, which comprise the third "category," explain the process of order arising out of chaos. They are descriptive elements of nonlinear dynamical systems that expose a process by which a disorderly or chaotic system will regain a certain stability. The "new" stability, however, is regarded as a better, more complex order than that previously defining the system. Again, the potentially beneficial nature of chaos is discernable. This aspect of nonlinear dynamical systems represents the movement back toward order once the system has progressed from a state of stability to increasing levels of disorder and, possibly, chaos.

Order to Chaos

The progression of a nonlinear dynamical system from a stable state into a disorderly or chaotic state is made possible by characteristics inherent in those systems. Namely, the principles of iteration, sensitive dependence on initial conditions, and bifurcation provide us with some sense of how and why this progression occurs. Each is intimately related to the others, and equally necessary for chaos. Iteration describes the propensity of nonlinear dynamical systems to behave as a feedback loop, engaged in a self-reinforcing cycle where disorder can increase exponentially. Sensitive dependence on initial conditions tells us that a system's future behavior is very much dependent on the precise state of the system at a given time, and very much sensitive to the effects of external variables at any given time. Finally, bifurcations describe a route to chaos whereby systems undergo qualitative changes upon reaching certain levels of disorder.

These qualitative change are made possible by the system's sensitivity to its external environment and its iterative nature.

Iteration

In its general linguistic employment, "iteration" refers to something that is repeated--a process of repetition or a repetitious phenomenon. The iteration that characterizes nonlinear dynamical systems is not significantly different. Iteration might be best described as "feedback involving the continual reabsorption or enfolding of what has come before" (Briggs & Peat, 1989, p. 66). Systems prone to chaos tend to "stretch and fold back upon themselves in self-reinforcing loops" (Van Eenwyk, 1991, p. 3). Mathematically, this "stretching and folding" process is modeled using equations that "work on themselves" such that the result is fed back into the equation as the basis for the next computation (ibid.).

For purposes of analogy, this iterative process might be likened to the feedback encountered when a "live" microphone is placed too close to an amplifier. In such a system, sound enters the microphone, is transmitted through the amplifier, and the amplified sound, in turn, re-enters the microphone. The original sound builds upon itself through a process of feedback or self-reinforcement, and will continue to do so endlessly--at least until the microphone is moved away from the amplifier or the volume is reduced. In addition to the increase in volume, however, the rate of increase of the volume also accelerates (Van Eenwyk, 1991). Thus, the value of the original sound has become

subject to self-reinforcement through its continual interaction with the amplifier. The "system" is iterative.

Unlike linear dynamical systems which are to some extent predictable, iterative systems are highly unpredictable--they "determine their own destiny. . . for where they have been often seems to have little effect on where they continue to go" (Van Eenwyk, 1991, p. 3). This phenomenon is largely attributable to a certain interaction: the intemperate growth that is inherent in the process of iteration, and the system's sensitivity to exact present conditions. Vast differences in future state are often observable when two or more systems differ only slightly with regard to beginning state. This effect is known as "sensitive dependence on initial conditions."

Sensitive Dependence on Initial Conditions

In nonlinear dynamical systems, seemingly minute variables can have a significant impact on a system's behavior over time. This is often referred to as the "butterfly effect," because something as small as a butterfly flapping its wings can, theoretically, alter the behavior of an entire weather system (Butz, 1992). Such factors have traditionally been dismissed as irrelevant, or, too small to be of significance for a large system. What nonlinear dynamics have found, however, is that the "state" of a system is extremely sensitive to such perturbations. The future state of a system is largely affected by the exact conditions of that system at the time of observation (i.e., its initial state). Thus, a relatively minor variable that alters the initial conditions of a system--even in ways imperceptible--may encourage the system to become something very different than

it would otherwise have. This finding assumes drastic importance, as it suggests that even slight variations at one time may produce enormous differences at a later time.

This phenomenon, referred to by chaos theorists as "sensitive dependence on initial conditions," was inadvertently exposed in 1961 by meteorologist Edward Lorenz while attempting to predict weather patterns using a classical linear model. As we have seen, traditional models of prediction were premised on the assumption that identifying the precise state of a system at a given time would make possible the prediction of that system's state at any future time. Lorenz identified the initial state of his system with the decimal code .506127 and allowed his computer to generate patterns based upon these numerically represented conditions. Lorenz, however, would one day round off the decimal code to .506 assuming, of course, that this would not affect the generated pattern. What he found, however, was something quite unexpected. The pattern based on the three-digit code looked very different from the original pattern created with the six-digit code. A difference in initial conditions of only 0.0001 (one part in a thousand) eventually led to widely divergent trajectories (see e.g., Briggs & Peat, 1989; Butz, 1997; Gleick, 1987; Stewart, 1989).

Lorenz' discovery continues to have profound implications for the study of nonlinear dynamical systems. In short, it represents a tendency of these systems to be extremely sensitive to initial conditions, inputs, or variables, and therefore extremely unpredictable in the long-run. Butz (1997) describes Poincare's work in meteorology as the "gateway back to Poincare's work" (p. 6) in that it demonstrates mathematically the unpredictability of the world. This sensitivity and, thus, unpredictability is worthy of

serious consideration in light of the dominant methods of social science research. Consider the neglect or disregard for minute variables that most often accompanies mathematical and statistical analyses. We are taught, for example, to "round" up or down as early as grade school and, in graduate school, to "throw out" outliers or anomalies that threaten to disrupt our linear statistical computations. Often, this "rounding" or dismissal of small pieces of data would, in reality, have little immediate impact. For this reason, it continues to be common practice. The influence becomes quite pronounced, however, when observing long-term behavior. Time, of course, provides an iterative system with an opportunity to iterate--to propel itself from stability, to instability, and finally toward chaos.

Iteration and Sensitive Dependence

Iterative systems, then, have a sensitivity to initial conditions. This is precisely how small differences can lead to striking differences over time--with increasing repetitions (iterations) of the equation. Mathematically, this is captured by the notion of exponential growth. A number or quantity that doubles after a time, and then doubles again after the same amount of time, ad infinitum, is referred to as having exponential growth (Ruelle, 1991). A nice example of exponential growth might be the interest one earns on a savings account. If one were to invest money at 5% interest, after a given amount of time the initial investment will have grown by 5%. After another cycle, the money will again grow by 5%, and so on. While the rate of interest does not change, the amount of savings gaining interest does. The initial savings has increased over a given

amount of time, and continues to increase, yet with each new growth continually re-invested. Thus, 5% interest on a $10,000 savings account would not merely grow by $500 a year. Rather, one would earn $500 of interest the first year, and progressively more each additional year because the account is self-reinforcing. At 5% interest, the original investment would double in about 14 years, rather than 20 years if the interest were not reinvested. Thus, the amount of initial investment, along with the interest rate, determine the "future state" of the investment. Because the investment grows by way of feeding into itself, it displays exponential growth--it gains momentum, growing more and faster as time passes.

Exponential growth exemplifies the potential effects of sensitive dependence on initial conditions. A small change in the "state" at one time, can produce a future change that grows exponentially. While the "savings account" example may be predictable or calculable, nonlinear dynamical systems do not necessarily or always display growth at a constant and definable rate (i.e., 5%). Thus, the future state of the system becomes unpredictable--we cannot ascertain the rate at which the system will grow, given the effects of external variables on that system's behavior. A more realistic example may be an investment in the stock market where the rate of growth is not set at 5%, for example, but can change unpredictably in light of any number of influential factors (e.g, international relations, political developments).

A more visual example is that of a game of billiards. Assume that there are two cue balls on the table. If one is even slightly (immeasurably--e.g., one-thousandth of a millimeter) different in starting place than the other, after reflections (e.g., off of other

balls or walls) the two will end up in entirely different places--the distance between them grows exponentially with time. Thus, the future state (i.e., position of the cue ball) is sensitive to the initial state (i.e., precise starting position) of the ball. If one ball has only a slightly different trajectory than the other, the longer they are allowed to continue their respective paths (i.e., the more they iterate), the farther apart they will be.

Sensitive dependence on initial conditions, then, is a product of nonlinear dynamical systems that complicates predictability. The lack of determinate predictability is a result of the system's future state or behavior being dependent upon it's precise initial conditions--coupled with the effects of iteration (i.e., encouraging these differences to be more pronounced with time). Thus, if two otherwise identical systems differ in initial condition by any arbitrarily small amount, their long range behavior will deviate dramatically from one another (Barton, 1994). These "tiny differences in input," can quickly become "overwhelming differences in output" (Butz, 1992, p. 1051). By the same token, a system's eventuality is critically contingent upon its state of origin. The less stable a system is, the more likely it is to experience the effects of sensitive dependence on initial conditions. A system that is in a far-from-equilibrium state, as indicated by the presence of disorder, is more prone to the effects of sensitive dependence on initial conditions. Given minor variations in the initial conditions of two systems, or subsystems within a system, their eventual relationship cannot be known, controlled, nor predicted.

Bifurcations and Period Doubling Points

Nonlinear dynamical systems may, at any given time, be characterized by any number of states. The progression toward chaos carries a system from a stable state through different degrees of disorder (representing different "states" of disorder) to, potentially, chaos. Each significant change in the qualitative state of a system (i.e., to a higher state of disorder) is marked by something called a "bifurcation" (Goerner, 1994). Bifurcations, then, mark qualitative changes in the behavior of a system that accompany the system's evolution into disorder and chaos. They are "critical points of destabilization" (Butz, 1997, p. 11) whereat systems are forced into a new "mode" of behavior in reaction to some internal or external stimuli that cause a "build-up" of stress. Thus, when a system reaches a certain level of "stress"--a level at which it is no longer capable of sustaining its stability--it reaches a critical point and, consequently, undergoes a qualitative behavioral transformation.

We may think of a bifurcation metaphorically as a "choice" in the evolution of a system. Coveney and Highfield (1996) define bifurcations as such a choice following the system's arrival at a critical point ". . . at which there are two distinct choices open to a system; similar to a fork at which a path divides in two. Beyond this critical point the properties of a system can change abruptly" (p. 360). Bifurcations occur when a system is in a certain state--stability, for example--and then something (i.e., an internal or external stressful influence) perturbs the system or knocks it off balance (Butz, 1994). In other words, when a system that is naturally unstable and, thus, sensitive to internal and

external influence, comes under the influence of a given stimulus, it is destabilized. Given the iterative properties of nonlinear dynamical systems, this "stress" builds upon itself and off of itself. Upon reaching a certain "critical point," the system is forced into a qualitatively different "state" or mode of being. The bifurcation is the point at which this "choice" or transformation occurs. While a system may regain stability following bifurcations, it can never regain the same stability. Nonlinear dynamical systems exemplify the "irreversibility of time."

Bifurcations in systems, then, arise from "vital instant[s] when something as small as a photon of energy. . . is swelled by iteration to a size so great that a fork is created and the system takes off in a new direction" (Briggs & Peat, 1989, p. 143). When the system increasingly loses stability, reaching more and more critical points at an increasing rate, it becomes trapped in what is called a "bifurcation cascade" (Butz, 1994). Bifurcation cascades can, with time, cause a system to "fragment itself" toward chaos (ibid.). These successive bifurcations can be charted by what are referred to as "period-doubling charts"--with each bifurcation, the amount of time that it takes a system to return to a stable state doubles.

When a system reaches the first critical point (i.e., period-doubling point)--mathematically valued at 3.0--it becomes demonstrably less stable and bifurcates. The system oscillates between two separate modes of behavior. If the level of disorder continues to grow, the system will approach another bifurcation--this time at the critical value of 3.45. At this point, the system branches again to produce four possible behavioral outcomes around which it oscillates. At the third critical value of 3.56, the

system again bifurcates and has 8 possible outcomes. Another bifurcation appears at the critical value of 3.5696 splitting the system into 16 possible outcomes. Finally, at the critical value of 5.56999, the system branches into infinity. This is the point of chaos. Beyond this point, known as the "point of accumulation" (see Gleick, 1987), periodicity (or periodically revisiting prior values through oscillation) has succumbed to fluctuations that never settle into an identifiable pattern. As we will see a bit later, however, there is a subtle pattern emerging--an order within the disorder or chaos.

The internal and external stressors that propel a system toward bifurcation are called "control parameters." Control parameters for a social system might include population, poverty, unemployment, education, etc. Changes in a system's parameters, if substantial enough to "push" the system to a critical value, will encourage the system to bifurcate and come increasingly under the influence of disorder. Thus, the stability of a society is largely dependent on that society's mechanisms for controlling its parameters. If poverty is kept "under control," for example, that society is less likely to evolve toward chaos because of poverty levels. If, however, the system is unable to "check" such economic influences, it may reach critical points at which it bifurcates and, consequentially, undergoes qualitative transformations from which it will be permanently affected.

Iteration, Sensitivity, and Bifurcation

We have thus far identified three principles associated with a system's transformation from an orderly state to one marked by disorder. In sum, the system's

sensitivity is responsible for its vulnerability. Vulnerability, of course, is what allows internal and external factors or "stressors" to influence the stability of the system. Once destabilized in this way, the system's iterative nature encourages the disorder--resulting from the loss of stability--to build off of and upon itself. Thus, the amount of disorder present in the system may increase exponentially. At certain "critical points," the disorder is sufficient to force the system into a qualitative transformation. These transformations occur at what are called "period-doubling points" or bifurcations. If such bifurcations continue, the system becomes trapped in a cascade of bifurcations which propel it increasingly toward chaos. At some point, the system's behavior becomes apparently random and unpredictable, yet chaos theory identifies this disorder as indicative of a different sort of order--order within chaos.

Order Within Chaos

Order within chaos describes a characteristic underlying order within the chaos of nonlinear dynamical systems. The principles that explicate this characteristic are those largely responsible for post-modern understandings of chaos, not as extreme disorder, but as orderly disorder. Within the apparent randomness of behavior that systems in chaos display, lies a governing attractor that maintains global, systemic order. The principles most identified with this phenomenon are those of the (strange) attractor and the fractal. The former describes precisely this process of governance--the "attraction" of systemic behavior to certain patterns of movement. The latter, in turn, presents a "picture" of this

pattern and describes the implications of unpredictable movement within a deterministic system.

Attractors

Attractors are patterns of stability that a system settles into over time (Goerner, 1994). The term stability, while prima facie contradictory in light of the description of disorderly or chaotic systems, is in fact a defining characteristic of nonlinear dynamical systems in states of disorder. The counterintuiveness of this statement is twofold: first, inherent instability is largely responsible for progression to and through states of disorder; and, further, "stable" is probably the last descriptive term we would use to describe a system that, upon initial examination, shows no signs of orderly conduct. Thus, we have seen only the ways in which stability is either not present or has been lost within a given system. The principle of attraction, however, shows us a different side of stability--one that reveals itself in each of the evolutionary states of the system. Most importantly, the stability present in the most disorderly states of a system is, perhaps, the most significant and beneficial to any given system.

Briggs and Peat (1989) refer to an attractor as "[A] region. . . which exerts a 'magnetic' appeal for a system, seemingly pulling the system toward it" (p. 36). Thus, attractors function exactly as one would expect: to attract the behavior of a system, thus producing order and stability. The quality of order, however, may be extremely complex. Attractors range from the very simple and stable, to those describing amazingly complex behavior that never repeats itself (chaos), yet, is marked by an underlying order.

Nonlinear dynamical systems typically display one of four patterns of attraction. In other words, they "settle" into, or converge on, one of four identifiable behavioral configurations (Abraham, Abraham, & Shaw, 1990). These patterns, one should note, correspond to the various "stages" of order and disorder that are marked by the process of bifurcation. Each critical point brings upon a system a new pattern of order and a new quality of stability.

Behavioral trajectories of a nonlinear dynamical systems behavior tend to converge (from simple to complex) on one of four common attractors identified as: (1) discrete point; (2) simple oscillating cycle; (3) quasiperiodic cycle; or (4) chaotic cycle (Barton, 1994). Those attractors "pulling" a system upon a discrete point are referred to as single-point or fixed-point attractors. The most common example of a point attractor is a pendulum. A pendulum that is in motion and not propelled further by some external force, will eventually come to rest. The point directly underneath the pendulum when it stops is such an attractor. It is a point that attracts the motion of the pendulum on each successive swing, bringing the pendulum to rest over that single point (Van Eenwyk, 1991). The single-point attractor governs the behavior of the pendulum (i.e., system) by "magnetically" pulling the pendulum toward itself. Thus, all movement (i.e., behavior) is attracted to a "single" point.

Attractors that pull a system into a simple oscillating cycle are referred to as limit-cycle attractors. Revisiting our pendulum example, if an external force (e.g., quartz crystal) were to keep the pendulum in motion such that it would never come to rest, it would continuously trace the same pattern of motion (Van Eenwyk, 1991). Another

example may be an attractor (magnet) at the bottom of a bowl which pulls a marble back and forth across the bowl (as opposed to a rest at the bottom of the bowl; Butz, 1997). A limit-cycle attractor reaches a steady, stable state, yet the state is marked by a repetition of motion--not a fixation of motion; thus, it encourages a "cycle" or cyclic path of movement.

The quasiperiodic attractor is called a torus attractor. A torus is a doughnut-shaped figure representing the movement of two limit-cycles interacting with one another (Briggs & Peat, 1989). Returning once again to the pendulum example, we may visualize two pendulums interacting with one another, but driven by the same force (i.e., motor, quartz crystal). Either of the pendulums' movement alone will form a limit-cycle attractor. Together, however, the independent limit-cycles will become "fastened together" to create a torus. We may also imagine a torus attractor as a pendulum that has been loosened in such a way that it can swing side to side as well as back and forth. Now, rather than a simple limit-cycle (i.e., back and forth) movement, we have a torus (i.e., back and forth as well as side to side movement). Together, the movement is governed by a pair of oscillators.

The final type of attractor, and perhaps the most important for chaos theory, is the strange attractor or Lorenz attractor. This is the chaotic cycle attractor. The dynamics of a chaotic system, unlike those of a discrete, oscillating, or quasiperiodic, are aperiodic--they never trace the same path twice. Consequently, fixed, cyclic, and torus mapping does not capture the behavior of a chaotic system. When plotted, the behavior displays attraction to a different form--the strange or "butterfly" attractor. Though it may be

difficult to grasp the notion that any attraction occurs in a system that never repeats itself, the strange attractor nonetheless captures such a pattern--an order within seemingly random disorder. Van Eenwyk (1991) refers to strange attractors as "the epitome of contradiction, never repeating, yet always resembling, itself: infinitely recognizable, never predictable" (p. 7).

Again using the example of a marble in a bowl, while the fixed-point attractor would attract the marble to a fixed point at the bottom of the bowl, the limit cycle back and forth across the bowl, the torus around the bowl--all repeating specific patterns of movement--the strange attractor would "pull the marble all over the bowl in a complicated, apparently random, pattern" (Butz, 1997, p. 13). There nonetheless would be a pattern to the movement--but a strange one at that. The importance of the strange attractor is that its magnetic effect is nonlinear (ibid.). This is what separates it from the other three attractors. While nonlinear, and apparently random, the movement of the system is confined to certain parameters or global boundaries--the marble, for example, cannot "leap" out of the bowl. Thus, even though unpredictable and (locally) disorderly, the behavior or movement still occurs within the (global) confines that the (strange) attractor places upon the system. Put another way, though seemingly random, unpredictable, irregular, and out-of-control (chaotic), with increasing repetition, the system reveals its boundaries--its pattern emerges.

Attractors provide us with important descriptive illustrations of a system's behavior over time. As Butz (1997) notes, "they indicate where a system is in its evolution across time and with regard to stability" (p. 13). Attractors allow us to mentally

conceptualize and physically see the movement of a system in a stable, semi-stable, or chaotic state. Thus, attractors provide insight into system behavior by suggesting that systems are indeed attracted to a definable shape (i.e., quality of order), and that the shape to which they are attracted is indicative of the state of the system with regard to stability. The concept of attractors and their relation to one another becomes much more clear when considered in conjunction with bifurcations and the period doubling route to chaos. Different states--marked by consecutive bifurcations--are governed by different attractors.

Bifurcation and Attraction

When a system is in a steady state (i.e., critical value of less than 3.0), it is governed by a single-point attractor. Thus, the attractor is pulling the behavior of the system to a single point or point of stasis. This is represented as a straight line on the diagram. Following the first bifurcation (i.e., beyond a critical value of 3.0), the system moves into a cyclic (limit-cycle) attractor. The system is oscillating back and forth between two points. At the second critical point (3.45), the system again bifurcates and is governed by a quasiperiodic (torus) attractor. It is now oscillating between four states, as opposed to two observable in the limit-cycle phase. Finally, when the system reaches the point of chaos (critical value of approximately 3.6), a strange attractor emerges. The system is now unpredictably "bouncing" between an endless variety of points, but always within the governance of an underlying order.

Thus, we can see how the system, over time and with increasing destabilization, continues to bifurcate upon reaching critical points. In each of these "phases" (i.e., the

state characterizing the system between bifurcations) appears an attractor. The steady system is orderly, stabilized by the single-point attractor. The semi-stable system oscillates between two points (the limit cycle). The system oscillating between four states is governed by the torus attractor. And, finally, the chaotic system is represented by the strange attractor. Attractors allow us to "see" how the system progresses through states of order to increasing disorder and eventually chaos. Within the context of "orderly disorder," the most important is that of the strange attractor, which is indicative of chaotic, unpredictable, but entirely determined and globally orderly states. The strange attractor, as we will see, is also a fractal.

Fractals

Fractals "refer to a particular type of structure created by an iterative, self-referential process" (Goerner, 1994, p. 40). What is important in fractal geometry, and for our purposes, is dimensionality. Mathematically, fractals are composed of fractal space. Rather than simply having one-, two-, or three-dimensionality, a fractal form can have a dimension of 1.2, 2.3, or some other non-integer value (i.e., they have a fractional dimension; ibid.). This fractional dimensionality has twofold implications: (1) a fractal is indicative of infinite complexity, and (2) its measurement depends on scale. The former is a product of the iterative generation of its form and its related self-similarity, the latter naturally follows from the complexity begotten by the former.

The infinite complexity of the fractal is best described by way of examples from nature. Fractals are, in fact, representative of most naturally occurring forms. Mountains,

snowflakes, clouds, and trees all exemplify the fractal form. What each has in common is a scaled self-similar layering. This is to say, "finer and finer magnification of the fractal reveals smaller and smaller versions of the same structure at all levels" (Goerner, 1994, p. 41). Thus, the form of any layer of the fractal is a microcosm of the whole and, thus, of equal complexity (ibid.). The reason for this "layering" and "self-similarity" refers us back to the concepts of iteration and bifurcation. In short, because iteration builds, not only on itself, but also off of itself, its new growth is representative of that which existed before. The bifurcation is important because it forces the system to "branch." The branching that occurs at bifurcation (i.e., when disorder brings the system to a critical point), creates a new region that is a smaller version of the whole. When a tree branches, for example, it creates a smaller version of its whole. This process is adaptive in that it generates a new stability--prior to branching, the tree had that much less room to grow. With increased room to move, it once again becomes stable yet in a more complex way. Thus, the self-similar development of the fractal that occurs at bifurcation and following the system's inability to adapt under its previous state of order, generates even greater complexity. This complexity is most obvious--and most inhibiting for observers--when factoring into the measuring process needed to define the form under observation.

It is within the context or possibility of measurement that we find the importance of scaling. Because fractals are infinitely complex in light of self-similar development, precisely measuring a fractal form is infinitely complex. The measurement of a fractal depends on scale. Similar to Einstein's objection to Newtonian assumptions about objective observation, scale-dependent measurement offers that "the world will not only

look different to two observers at different scales, it will also measure differently" (Goerner, 1994, p. 41). In other words, "the measurement you get depends on the size of your ruler . . ." (ibid.). This is perhaps best understood through the classic example of measuring a coastline (a fractal):

> A surveyor takes a set of dividers, opens them to a length of one yard, and walks them along the coastline. The resulting number of yards is just an approximation of the true length, because the dividers skip over twists and turns smaller than one yard, but the surveyor writes the number down anyway. Then he sets the dividers to a smaller length--say, one foot--and repeats the process. He arrives at a somewhat greater length because the dividers will capture more of the detail and it will take more than three one-foot steps to cover the distance previously covered by a one-yard step. (Gleick, 1987, p. 96)

Each successive measurement using a smaller ruler will increase the length of the coastline, ad infinitum. Thus, mathematically, since numbers (i.e., units of measurements) can be infinitely small, the length of the coastline is infinitely long.

Fractals, then, are characterized by infinite detail as a result of their iterative process of generation and the resulting self-similarity of the structure on successively smaller scales of observation. Consequently, the scale-dependency of measurement provides the fractal with an infinite length. Though seemingly confined by a finite area, the fractal provides infinite space for movement within that area. Though a tree may never grow more than 10 feet in height, 3 feet in width, and 5 feet in depth, it can "twist and turn" endlessly within that finite area. It is limited by a global order, but unlimited in local freedom.

Fractals and Strange Attractors

We have said that the strange attractor is a fractal. Systems in a state of chaos, governed by a strange attractor, are also fractal and, thus, self-similar. The strange attractor, then, might be thought of as nature's way of allowing the endless movement within a fractal space to always stay within some global pattern of behavior. Though somewhat counterintuitive, the infinite complexity and endless possibility engendered by the fractal is nonetheless governed by some "higher power." It has been said that this "higher power" is the strange attractor. While "stretching" taffy, for example, a taffy machine assures that any two "spots" of taffy that began in close proximity to one another will eventually stray quite far apart--their precise relationship will be unpredictable. By "folding" the taffy back onto itself, however, the machine ensures that no "spot" of taffy will stray too far. The "stretching and folding" process is that of iteration and, while contributing to the disorder within the system, is also responsible for the global order of the system. This folding back upon itself effects a self-similar, fractal structure whose local behavior (i.e., any one "taffy spot") will be unpredictable, but whose global behavior is determined by its "attraction" to the machine itself. Had the machine more closely governed the extent to which the taffy could move, it would exemplify a different variety of attractor and, consequently, would not facilitate the emergence of fractal space.

The antithesis of the fractal space that emerges from the strange attractor is, perhaps, embedded in the "orderly" system governed by the point-attractor. By contrasting movement within a fractal to that within a non-fractal form, we see the (positive) significance that chaos theory ascribes to disorder in the dynamics of systems.

If a system is bound by a non-fractal form (e.g., point-attractor), it is wholly governed by imposed laws or rules of movement. The potential behavior of that system is extendable only so far as the structured, defined form allows. Consequently, there is no room for movement outside and/or beyond that which the laws allow. If, however, the system were in a state of sufficient disorder, governed by the strange attractor and behaving within a fractal space, it would enjoy a certain freedom not present under other attractors and within non-fractal forms. The contours of the system provide it opportunity to move beyond that which would be permissible in the non-fractal form. Its behavior is able to be more complex without being completely random and uncontrollable. It demonstrates order within disorder, or orderly disorder. More importantly, perhaps, it allows the system to adapt and a new "strange" order to emerge with time.

Order Out of Chaos

Thus far, principles have been described that are responsible for the transition of a system from an orderly state into a disorderly state. Further, the underlying order that lurks beneath the perceptible disorder of such systemic states were depicted. The final theme in the present chapter describes the emergence of a new global order following periods of disorder and chaos. This process is attributable to the principles of chaos theory referred to as self-organization and dissipation. Each contributes both to order out of chaos, and also to order within chaos. Thus, the final two principles should not be read as mutually exclusive processes. Self-organization generally describes a new, more adaptive order that issues from periods of temporary disorder. Dissipation similarly

informs us that systems tend to seek a certain balance by adapting to the build-up of disorder at far-from-equilibrium conditions.

Self-Organization

A characteristic of nonlinear dynamical systems that encourages order rather than disorder and chaos is self-organization. Pioneered by Ilya Prigogine in the late 1960's and fully developed in Order Out of Chaos (Prigogine & Stengers, 1984), the approach (theory) focuses on the order that in fact emerges out of chaos. Barton (1994) describes self-organization as "a process by which a structure or pattern emerges in an open system without specifications from the outside environment" (p. 7). In other words, a system which is open (i.e., in constant interaction with its environment) may display an order which is generated from within, independent of influences from without. Davies (1989) describes it as a "spontaneous emergence of order, arising when certain parameters built in a system reach critical values" (p. 501). Thus, when a system reaches a state or level of disorder, it may "spontaneously" self-organize into a new, more complex order (Butz, 1992).

The concept is similar to what Kauffman (1991) refers to as antichaos. Kauffman describes a necessary transitory stage between periods of order, that is marked by disorder. In this sense, disorder performs a necessary and beneficial function in pushing a system from an obsolete adaptive state of order, to a "more flexible contemporary adaptive state" (Butz, 1992, p. 1052). This process is referred to as order-chaos-order. Thus, disorder executes the necessary role of forcing an orderly but stagnant system (i.e.,

an antiquated form of order) into a new, more adaptive order necessary to meet the changing demands of the evolving system in relation to its external and internal environment.

Prigogine recognized the process of self-organization when studying systems at far-from-equilibrium conditions, or, conditions created when a system is subjected to "great deal[s] of energy input from the outside" (Briggs & Peat, 1989, p. 136). What Prigogine found was that at far-from-equilibrium conditions, systems do not only break down, but new systems emerge (ibid.). This is the (re)organization of the system upon reaching critical levels of disorder. One of the most commonly cited examples of self-organization at work is the "chemical clock" described by Prigogine and Stengers (1984):

> Suppose we have two kinds of molecules, "red" and "blue." Because of the chaotic motion of the molecules, we would expect that at a given moment we would have more red molecules, say, in the left part of the vessel. Then a bit later more blue molecules would appear, and so on. The vessel would appear to us as "violet," with occasional irregular flashes of red and blue. However, this is not what happens with a chemical clock; here the system is all blue, then it abruptly changes its color to red, then again to blue. Because all these changes occur at regular time intervals, we have a coherent process. (pp. 147-148)

Such a degree of order stemming from the activity of billions of molecules seems incredible and, indeed, if phenomenon such as chemical clocks had not provided visual evidence, we might remain considerable skeptics. To change color all at once, molecules must have a way to "communicate." The system has to act as a whole. The idea that systems in chaos may "communicate" or "interact" from within is radical and profound for nonlinear dynamics. In times of chaos, the elements of a system interact--without

help from the outside--to form a new order. The concept is not so foreign to those of us who have driven on interstates:

> Driving between rush hours on the thruway, we're only minimally affected by other vehicles. But toward 4 o'clock, traffic becomes heavier and we begin to react and interact with the other drivers. At a certain critical point we begin to be "driven" by the total traffic pattern. The traffic has become a self-organizing system. (Briggs & Peat, 1989, p. 138)

Again, the implication is that "out of chaos a new stability forms" (Butz, 1997, p. 14). Further, as we have previously noted, it appears that periods of chaos are necessary for new adaptive stable states to be reached. The necessity of chaos makes sense if you consider that the system was disturbed enough by external forces, that instability and chaos ensued. Given this, we can assume that the system was not sufficiently adaptive to "handle" the forces. Thus, the process of stability to chaos to self-organization is necessary.

The interrelation of all the principles of chaos theory thus far described may begin to be evident at this point: natural instability creates a vulnerability to disruptive stimuli which, having perturbed the system, encourage stress or disorder to "build up" within the system. The iterative nature of nonlinear dynamical systems assists this disorder in continuing to build off of and on itself. Upon reaching a critical point of disorder, the system bifurcates--its behavior becoming increasingly unpredictable and falling under the governance of one of four attractors. The strange attractor, operative once the system has reached a state of sufficient disorder, dictates the global behavior of the system while allowing local disorder to continue. The system becomes re-defined in terms of fractal dimensionality wherein it enjoys an endless degree of movement within a finite space. In

part, the benefit of this freedom is that it allows the system room to grow, adapt, and re-organize into a more complex system capable of sustaining a greater degree of stress from within and without. In short, the system self-organizes into a "stronger" system.

Dissipative Structures

Dissipation refers to a dispersion of energy. For conceptual purposes, energy and disorder are analogous. The amount of disorder in a system is understood as the amount of energy in the system. To understand the concept of dissipation, we need to diverge momentarily and discuss energy and thermodynamics.

The second law of thermodynamics states that disorder always increases. The amount of energy in a system is always increasing because of the process of autocatalysis--the participation of energy in reactions in which they are necessary for further production of their own kind (see e.g., Jantsch, 1980). Conceptually, this process is analogous to iteration. Autocatalysis, along with cross-catalysis and autoinhibition, involve processes in which the "products of some steps feed back into their own production or inhibition (Briggs & Peat, 1989, p.140). In terms of chaos theory, the disorder in a system produces more disorder because of the iterative nature of the system--it builds off of and on itself.

Because the disorder is feeding off of itself, and consequently always increasing, the system must be able to order itself or dispel some of the energy so that autocatalytic self-reproduction does not blow it into pieces (Jantsch, 1980). This is the process of dissipation. Dissipative structures are open systems in constant and continual interaction with their environment. Thus, they continually take in energy from the outside and

produce energy, which they dissipate back into the environment. This energy produced from within is called entropy. Entropy is essentially waste, or excess energy in a system. Thus, iteration produces a continual increase in energy, an unnecessary quantity of which is entropy. Dissipative structures, then, must continuously dissipate the entropy into the environment while it is taking in energy from the environment.

Dissipative systems occur at far-from-equilibrium conditions for order to emerge beyond instability thresholds (Jantsch, 1980). Near equilibrium, order is destroyed, as is the system. Far-from-equilibrium conditions are what bring the order out of chaos--the new, more adaptive order. This brings us to one final point worth brief mention in chaotic systems. The notion of irreversibility. This concept logically follows the preceding discussion. In essence, it refers to the fact that systems can never return to a previous state of order. Living organisms and open, evolving systems must adapt to the structural changes that occur with time (Butz, 1997). "Despite one's wishes, a 50-year-old man cannot turn back into a 20-year-old man . . ." (ibid., p. 15). As Butz (1997) accurately sums:

> The reason for this is time, and the changes that occur across time at far-from-equilibrium conditions. As adaptations occur, the structure of the organism changes to accommodate these adaptations, and as such these changes cannot be reversed or undone . . . [T]ime is irreversible and so are developmental processes. (p. 15)

Thus, the system has progressed from order, to chaos, and self-organized generating a new, more complex, and adaptive order. There is never a return to the original order. Unlike human age, possibly, it is not a negative consequence of chaos. The new order(s) that emerges with time are theoretically better--they leave the system more prepared to

manage the (also new and changing with time) forces that will inevitably attempt to disrupt it.

Summary

The preceding sections have described the principles that constitute chaos theory. They have been addressed in such a way as to show the progression of a system from order to chaos and back to order. The following concepts have been discussed: (1) iteration--a self-reinforcing characteristic of nonlinear dynamical systems; (2) bifurcations and period doubling points--"forks" in the route to chaos; (3) sensitive dependence on initial conditions--the idea that small differences in input can quickly produce enormous differences in output; (4) attractors (point, cyclic, quasiperiodic, and strange)--a point or set of points that draws a system's behavior to it; (5) fractals--self-similar geometric structures that are infinitely complex; (6) self-organization--the idea that systems can spontaneously organize themselves in a state of chaos to a new, more complex and adaptive order; and (7) dissipation--the dispersion of energy in an open relationship with the environment.

Each principle or characteristic assumes a role in either propelling a system toward chaos, generating order within chaos, or establishing an emerging order out of chaos. In reality, many of these principles apply equally to systems at all stages throughout the process. This will become clearer over the course of the study. However elementary, the overview of these principles provided should be sufficient for an understanding of how chaos affects systems and the insight that is generated by analysis

of the chaotic tendencies of systems (for much more detailed and readable explanations of these principles and chaos in general see Briggs & Peat, 1989; Gleick, 1987; Prigogine & Stengers, 1984; Stewart, 1989; and Jantsch, 1980, on self-organization and dissipative structures).

Chapter 4

JURISPRUDENCE AND THE THEORY OF LAW

In contemporary society, the presence of law as an ever-present institution is a reality that confronts us all. Law has adopted a seemingly permanent role for itself in the affairs of our lives. While at times stifling, and at other times beneficial, law is nonetheless a fixture that effects everyone living under its dominion. While its presence and role are often taken for granted, the contours of law and the legal system are generally left unexamined by the majority of society. What is perhaps not realized are the various philosophical and social assumptions and criticisms that have been directed at law throughout history.

These assumptions are typically left examined in the philosophy of law, or, jurisprudence. As Murphy and Coleman (1990) describe, "the philosophy of law is the application of the rational techniques of the discipline of a philosophy to the subject matter of law" (p. 1). In other words, the philosophy of law comprises criticisms of the concepts of law, as well as evaluative inquiries into legal practice (jurisprudence will be defined with more specificity later in this chapter). Jurisprudence and the various critical conceptions of law have been concerns since the beginnings of law itself. While a comprehensive analysis is beyond the scope of this chapter, some of the more significant theorists and movements as they have occurred throughout the twentieth century will be traced. This discussion will provide a context for the discussion of the concepts and practice of law as it presently exists.

This chapter attempts to address those contours of law and the philosophy of law in a systematic, chronological fashion. Beginning with a discussion of the basic character of law, we will examine the forms of law and their relationship to society. This review will be informed extensively by the writings of Max Weber. While Weber's work is momentous as a sociology of law, it will be used more as a general typology rather than a critical theory or explanation of law. Typically, Weber's work is examined within the context of other sociologists such as Emile Durkheim and Karl Marx. The influential analyses of these scholars will be left unexamined for the purposes of the present study. The reader is, however, encouraged to refer to such works as Durkheim's (1964) The Division of Labor in Society and Marx's (1956) Selected Writings in Sociology and Social Philosophy (for a more general introduction, see Milovanovic, 1994) for a more informed understanding of their contributions to jurisprudence and the theory of law. The discussion of Weber in the present review is not intended as a comprehensive examination of his writings on law, but again, as rather a foundation for a further discussion of law--particularly legal formalism.

Once a basic understanding of the nature of law and legal formalism is accomplished, more specific approaches of jurisprudence and legal theory will be addressed. The chapter is essentially divided into three sections: modern jurisprudence, jurisprudence between modern and postmodern, and postmodern jurisprudence and chaos. Modern jurisprudence provides the foundations of legal formalism and contemporary legal practices, as well as some of the earlier critical approaches. The following discussion of modern jurisprudence, then, can be regarded as the basis for the

ensuing discussion of critical approaches as well as the application of chaos theory that is the focus of this study.

The section on modern jurisprudence will begin with definitions and the general assumptions and practices that designate it as "modern." The essentials of modern jurisprudence will be examined, including syllogistic reasoning, stare decisis, and law as a "science." In addition, what is arguably the basis of modern jurisprudence and practice, legal formalism, will be extensively discussed. Once the necessary components of the movement have been examined, we will turn to critical approaches or movements that have arisen in light of the foundations of modern legal thought and practice.

While modern jurisprudence is commonly regarded as providing the foundations of the law and legal system as it would, and continues to, operate, it also witnessed some early criticism of those very assumptions. Thus, under the broad heading of modern jurisprudence, we also find a number of pivotal critiques. As the present analysis is concerned primarily with chaos theory and its application to controversies in mental health law, a number of these critiques and notable authors will be purposefully omitted. When appropriate, however, the reader is referred to other sources for further review.

What is arguably the most significant criticism to arise from the modern era of jurisprudence is legal realism. The legal realist movement also provides the beginnings of what would continue to be a primary source for legal criticism. In light of this, legal realism will be covered in some detail, with particular respect paid to the aspects that will be revisited in later critical movements.

As noted, some of the primary theses of the realist movement were carried into later critical approaches to jurisprudence, legal theory, and practice. Section 3, "Jurisprudence Between Modern and Postmodern," explores these approaches. Again, not all legal movements of the period are covered. Those that are most relevant to the present analysis, however, will be examined in some detail. The goal is not to provide the reader with a comprehensive review of these movements and their associated authors, but rather a general overview consistent with the objectives of this analysis.

This provided, it is the contention of the present author that the reader will benefit from a review of several movements of the 1980's in particular. Namely, Critical Legal Studies (CLS), Feminist Jurisprudence, Critical Race Theory, and an elementary examination of legal semiotics. Each of these movements provides similar, yet somewhat different critical perceptions of the law as it exists and operates. Thus, each will be explored in relation to one another (though somewhat implicitly), while their relation to previous (Legal Realism) and later theories (including chaos) should emerge throughout the present analysis.

The movements of the 1980's set the stage for methods and philosophies that would follow in the 1990's. Among these is postmodernism. Though postmodernism typically draws from the works of a number of authors throughout the latter twentieth century, its application to law under the heading "postmodern" is more recent. Many of the movements of the 1980's are considered "part of" postmodernism and were unquestionably influenced by a number of the same texts. Thus, the reader is encouraged to consider the similarities between postmodernism, feminism, CLS, critical race theory,

and semiotics t the same time, several of these areas of inquiry have their counterpart and logical extension within postmodernism (e g , postmodern feminism) Thus, the movements of the 1980's and 1990's have much in common and contribute to one another

The section of "Postmodern Jurisprudence and Chaos Theory" will explore several of what are arguably the more significant scholars and theories advancing the postmodern inquiry Namely, "deconstruction" as informed by Jacques Derrida and "poststructuralism" as informed by Michel Foucault will be examined In addition, the postmodern feminist analysis of law will be explored While some significant authors and movements will be left out here, it is not a reflection of their importance to jurisprudence and the theory of law These omissions are often logical as they do not directly advance the aims of the present analysis Each of the theories, philosophies, movements, and authors reviewed in this chapter are critical in the sense that they are predecessors of the insights that chaos theory offers jurisprudential analysis

Toward a General Understanding of the Nature of Law

The establishment of law as a legitimated order in society rests accordingly on its contribution to promoting and maintaining certain societal values or social ideals Trubek (1977) provides a conceptual model for determining the relationship between the law and the stated societal values His model includes the dimensions of autonomy and generality of the legal order, as well as the dimension of social values. _utonomy refers to the degree of independence the legal order has from external influences (e g , individuals or

interest groups). Generality is "the degree to which decisions and rules are made according to previous rules, and applied to all without favorable treatment to any" (Milovanovic, 1994, p. 14). To the extent that the law is not influenced by external factors and is applied equally and indiscriminately to all, its status is high on the autonomy-generality scale. Trubek's second dimension, social values, is comprised of equality, individuality, and community. The extent to which the law promotes these three concepts is recognized as the degree that social values are fulfilled.

Trubek's two axes are important in that they allow us to understand the type of legal order that is operational in any given system of law. The legal order that is jurisprudential in basis--practiced by legal professionals and preached by legal teachers--is referred to generally as legal formalism (the terms liberal legalism, formal rationality, logical formal rationality, "rule of law," and simply formalism are synonymously mentioned in various literatures). As mentioned above, it has been the endeavor of the American law and legal system since the turn of the century to promote a legal order that is both high on the autonomy-generality axis, and equally high on the fulfillment of social values axis. Thus, it is autonomous (independent of any external power), general (equally applicable across situations and individuals), and has the potential for maximal fulfillment of equality, individuality, and community (Milovanovic, 1994).

The formal approach to law promotes its version of the ideal legal system that emphasizes correct legal reasoning, a system that utilizes "fine-tuned machinery," a bias-free system (i.e, independent of extra-legal variables such as race, gender, class, etc.), and a strict adherence to formal rules, logic, and rationality. This approach is noted as "the

ideal toward which we should strive" (Milovanovic, 1994, p. 16)--a system that would act in the best interest of society and its constituents. A prime example of such an approach is the "equal protection clause" of the Fourteenth Amendment--the equally situated should be equally treated (ibid.). Possibly the most influential critical explanation of legal formalism comes to us by way of sociologist Max Weber.

Weber and Formal Rationality

Weber's abbreviated legal undertakings are most pronounced in his book Economy and Society (1978). His concern with the rise of capitalism prompted the question, "Why has a form of law developed that is closely related to the internal dynamics of capitalism?" (Milovanovic, 1994, p. 39). Weber's answer to this question regards both the capitalist system and the legal system as formal. He notes:

> [T]he modern capitalist enterprise rests primarily on calculation and presupposes a legal and administrative system, whose functioning can be rationally predicted. . . by virtue of its fixed general norms, just like the expected performance of a machine (1394; 1978, as cited in Milovanovic, 1994, p. 39)

In Weber's historical analysis of types of legal systems and legal thought, he addresses the issues of law-making and law-finding (application). Like Trubek, Weber also provides us with a diagram of these types (a typology of forms of law and legal thought). Weber's axes consist of two dimensions: rationality and formality. Formality refers to the degree to which internal criteria, standards, principles, and logic are employed by the legal system. Thus, the degree to which law-making and law-finding procedures are intrinsically driven, marks the formality of the given system. In Weber's words, "Law. . . is 'formal' to the extent that, in both substantive and procedural matters,

only unambiguous general characteristics of the facts of the case are taken into account" (1978, as cited in Milovanovic, 1994, p. 41). In highly formal systems, external factors such as political, ethical influence, etc., do not impact the legal processes. Rationality is synonymous with generality. It represents the extent to which similarly situated individuals are treated in similar ways.

In Weber's typology, the form of law which is represented by a high degree of formality and a high degree of rationality is formal rationality (i.e., legal formalism). The rules are clearly stated (formal-substantive) and clearly followed (rational-procedural). No external factors influence the decision-making process--only the rules themselves. The rules are abstract and general--"only unambiguous general characteristics of the facts of the case are taken into account" (1978, as cited in Milovanovic, 1994, p. 41). Thus, in a commercial burglary case, only the "facts" of the case (e.g., entering the establishment, seizing property, leaving the premises) would represent legitimated considerations. External or extra-legal variables such as the motive, mental state at the time of the offense (MSO), relationship to the establishment, etc., would hold no relevance in the decision-making (law-finding) process. As Milovanovic (1994) notes, "abstract interpretations of meaning, aided by the use of given rules, are generalized in law, establishing precedents (stare decisis) for future cases. Legal cases. . . are supposed to draw from past resolutions of similar controversies" (p. 44).

The logical, formal rationality of the legal system rests on several underlying principles. As noted, the rationality of the law is a measure of reliance on rules that survive an unambiguous existence, and the formality is the degree to which intrinsic

standards are employed in decision-making processes. The law is logical to the extent that it employs syllogistic reasoning based on deductive logic to formulate "correct" decisions. This logical legal methodology will be explored in greater detail in future sections.

Weber and Substantive Rationality

In addition to formal rationality, Weber's form of law (ideal type) referred to as substantive rationality assumes significant import. Recall that rationality is consistent with the notion of generality or the extent to which the law is applied equally to all individuals across all similar situations, and formality regards the extent to which principles internal to the law itself are utilized in decision-making. Substantive rationality is similar to formal rationality in that each maintain a high degree of rationality, or generality. Differences exist, however, in the degree of formality. Milovanovic (1994) refers to formal versus substantive rationality as "insoluble conflict," as the tension between the two occasionally results in a "conduit between the external substantive principles and the internal formal ones" (p. 47). The external principles referred to are those falling outside of the dominant body of law and procedure (i.e., internal criteria). Weber (1978) includes ethical, utilitarian, and political influences as influential in substantive rational law. Milovanovic (1994) provides other examples: affirmative action, the necessity defense, the insanity defense, contract of equity, etc.

An additional, and perhaps more significant example of substantive rationality, is employed by the criminal justice system in its processing of cases. Milovanovic (1994)

has noted that our criminal justice system is based on formal rationality as an ideal. Thus, the system operates on the principle of adversarial processes, the prevention of mistakes, a presumption of innocence, and the like. "Fairness" is of primary import. This concept is most apparent in the "due process model" of the criminal justice system--"the stated ideal and one celebrated in the ideology of the rule of law" (Milovanovic, 1994, p. 49). In reality, however, the vast majority of cases (90%+) are disposed of through plea bargaining. Plea bargaining is in concert with substantive rationality as it relies on principles external to the law itself (e.g., efficiency, "clearance" rates). Thus, as Milovanovic (1994) notes, a reasonable conclusion is that substantive rationality is the norm.

Modern Jurisprudence

Gary Minda (1995) describes modern jurisprudence as the belief that "right answers" or "correct interpretations" are attainable by "applying a distinctive legal method based on deduction, analogy, precedent. . . and scientific method" (p. 5). Legal modernism thus emanates in a similar manner with scientific modernism--the progeny of Enlightenment projections. In other words, a similar faith in the existence of a universal Truth, realizable by reason and science ". . . penetrat[ing] to the essential truth. . . thus making them [social conditions] amenable to rational control" (Boyne & Rattansi, 1990, p. 3). Modern American jurisprudence (identified by Minda, 1995, as encompassing the period between 1871-1980), finds at the core of its infrastructure the work of several legal theorists. The foundations of the law, its philosophy, form, and thought (both praise and

critique) in the modern era are best expressed by such classic principles and scholars. The scholarship outside of those in the realm of law (e.g., sociologists, anthropologists, semioticians) comprises an equally important perspective on modern legal philosophy and practice. Accordingly, such scholarship is a necessary consideration when developing an analysis of the organization of the law and legal system. It is, thus, important to understand the foundations of the jurisprudential school of thought and its relation to the law and legal system.

Understanding the operation of the law and legal system necessitates an examination of the underlying principles upon which the system is constructed. Accordingly, historical consideration of the philosophy of law is requisite. There are several approaches to the study of law (see Milovanovic, 1994) including jurisprudence, the sociology of law, and more recently legal semiotics. Legal professionals and scholars, however, have traditionally concerned themselves with jurisprudence. Jurisprudence involves itself with, among other things,

> the formal, logical application of abstract and general legal propositions and doctrines. . . to "factual" situations by a specialized staff which provides a high degree of probability of resol[ving] the issue(s) in controversy. (Milovanovic, 1994, p. 2)

And,

> how all conflicts can be inevitably subsumable (self-referencing) to some abstract postulates which provide the body of core premises and criteria for the correct resolution of differences in a self-regulating (homeostatic) formal system. (ibid.)

The emphasis on abstract, general legal principles and their means of being formally and logically applied to legal scenarios, is internalized by legal practitioners and

scholars through education (law school), training, and everyday reinforcement through practice. Thus, the focus of legislators, practitioners (e.g., attorneys, judges, and justices), law professors, and legal academics is on the professions of jurisprudence. The system of codified rules (i.e., statutory and case law) is accepted as a "given," and forms the basis upon which all further analysis and practice is conducted. Thus, the abstract propositions of statutory law are unquestionably accepted and applied to "factual" situations involving legal disputes. Legal decisions are based on constitutional and/or statutory principles, and on precedents or previous case law decisions (i.e., stare decisis; Milovanovic, 1994).

The "good" legal practitioner learns to resolve cases by finding the appropriate rule and premise(s) and using formal logic, proceeding methodically toward the "correct" conclusion. The "Truth" is attainable by such a process, existing independent of all external influences (e.g., politics, subjective evaluation). Correct legal reasoning, as internalized by legal professionals, will determine the correct resolution of legal disputes. Thus, the basis for any decision is formed internally, within the system itself. In this way, the legal system is presumed to be homeostatic, or, capable of maintaining a consistency and order from within. The formality of the system provides (if properly practiced) this stability (Milovanovic, 1994).

The dominant factors in legal thinking and, presumably, practice, then, are "given" rules, forms of law, rights, abstract notions of the "juridic subject" or the "reasonable man in law." Such abstractions are said to exist outside of external influences or disturbances. The strength of legal formality (the internal frame of reference and basis for decisions) provides a certain resistance to perturbations and

anomalies that could propel the system into disorder. The law and legal system, then, are autonomous--independent of social factors. Thus, "equality before the law" is attainable and desirable. Two of the traditional canons of jurisprudential thought can be briefly summarized.

Syllogistic Reasoning and Deductive Logic

The process in which judges engage when determining a legal decision is driven by syllogistic reasoning. Syllogistic reasoning involves the use of deductive logic in applying legal standards to specific facts in order to reach a conclusion. In syllogism, a conclusion is derived from a major premise and a minor premise. The major premise is the legal rule. The minor premise is a set of facts taken from the dispute in question (see Calleros, 1994, pp. 56-57). Thus, a major premise is "found" in existing law. The library from which major premises can be extracted contains the United States Constitution, state constitutions, statutory codes, rules, regulations, and case decisions or stare decisis (see below). The minor premise includes the "facts" of the case. Once the "facts" are determined and the appropriate major premise is "found," the judge need only use formal, logical, deductive reasoning to reach a conclusion based on the established premises. The result of such a process is a legal system that is presumed to be uniform, formal, value-neutral, impersonal, certain, and predictable (Milovanovic, 1994). For example, in the case of a mentally ill individual who is faced with involuntary confinement, the judge need only locate the facts (i.e., the "mental illness" of the individual) and the appropriate major premise (i.e., statutory or case law setting the legal rules for confining mentally ill

individuals), and a logical conclusion is reached. Thus, if an individual is found mentally ill, the state statute provides that those found "mentally ill" may be confined for a given length of time, then the judge may reach a formal, rational, logical decision to subject the individual to involuntary confinement regardless of external factors. The decision (or conclusion) is considered valid ("correct") if it logically follows from the premises--if the premises are "true" than the conclusion is "correct."

Stare Decisis

Black's Law Dictionary (Garner, 1996) defines stare decisis as "the doctrine of precedent, under which it is necessary for courts to follow earlier judicial decisions when the same points arise again. . ." (p. 90). Previous court decisions often dictate or, at least, influence the conclusion to a particular legal dispute. Each court "endeavors to decide each case consistently with its own previous decisions. . ." (Calleros, 1994, p. 33). The doctrine of stare decisis is presumed to promote several goals: (1) promotion of efficiency such that judges are not required to re-visit legal questions that have already been decided by a previous court; (2) it assures a degree of certainty and predictability; and (3) it "satisfies the common moral belief that persons in like circumstances should be treated alike" (ibid., p. 33). Thus, judicial decisions are formal to the extent that the judge reads a case to be similar to a previously decided case and renders a decision consistent with the previous ruling. For example, if an individual has committed an armed robbery while under the influence of some ascribed mental disorder and a judge has ruled the mental condition of the individual to be of no consequence in deciding the

guilt of that individual, a case two years later--with similar circumstances--would similarly disregard the effects of the mental disorder on the criminal intent of the individual in the later circumstance. Thus, two similarly situated individuals are treated "equally" by the law, regardless of minor (judged insignificant) differences between the two.

The jurisprudential school of thought has dominated legal analysis since the latter part of the nineteenth century. This "narrowly construed domain" continues to be the basis for legal operation. The study of law is considered a "science." Consequently, the application of law is equally considered a "science." The conceptualization of the law as "science" and the legal system as a collection of "scientists" is best understood as evolving from the scholarship of Christopher Langdell. Langdell's modern jurisprudence has been not only the ideal toward which the law and legal system are predicated upon, but also the object of much of the criticism that would follow.

Langdell and the Origins of Legal Formalism

Langdell's (1871) Selection of Cases on the Law of Contracts was the first modern law casebook (Minda, 1995). Cases were to become increasingly significant for Langdell and his followers as they provided, in part, the basis for all legal decisions. Minda (1995) notes that it (Langdell's casebook and philosophy) "ushered in the modern era because it offered a new methodology and pedagogy for law study that was nothing more than an expression of faith in the scientific method" (p. 13). In the preface, Langdell summarizes his position noting that: (1) law is a science; and (2) "all of the

available materials of that science are contained in the printed books" (as cited in Minda, 1995, p. 13). Thus, the law library was the laboratory of legal science (Milovanovic, 1994). Knowledge of abstract law and careful analysis of case law would precede and ensure a scientific understanding of the law (Langdell's teaching method is regarded as the "pedagogy of the case-method"; Cardarelli & Hicks, 1993, p. 528).

Law is, thus, a "complete, formal, and conceptually ordered system that satisfies the legal norms of objectivity and consistency" for Langdell (Minda, 1995, p. 13). Complete in the sense that it was capable of rendering "right answers" for every case, formal in the sense that such answers were logically derived from abstract principles and previous cases, and conceptually ordered in the sense that general rules arose from a few abstract principles and concepts creating a holistic system. The form of law derived from Langdell's professions came to be known as conceptualism or the "law as logic" movement. Conceptual reasoning, the "dogmatic reliance on rules as objective and given" (Cardarelli & Hicks, 1993, p. 524) was the basis of the Langdellian method.

The "law as logic" movement was grounded upon the notion that formal logic could be employed in finding the "right answer" to a legal question by proceeding from premise to conclusions. Thus, judges are assumed to have little interpretive power as their "freedom to act is. . . limited by the legal texts they interpret, and by the reasoning process. . ." (Minda, 1995, p. 15). The autonomous and objective world of law provides the answers from within itself (i.e., formally--without need to rely on interpretation or external influences). Formalism, then, can be generally defined as a method whereby "legal technicians apply pure legal reasoning to reach conclusions independent of

personal values and political choices" (Cardarelli & Hicks, 1993, p. 516; Unger, 1986). Langdellian legal formalism, however, was not without its adversaries. While providing the framework for legal practice, it also provided the framework for legal critique. The 1920's and 1930's witnessed the first of such critical movements: legal realism and two schools of critical thought within (progressive and radical legal realism).

Legal Realism

Two movements in particular arose that would attack the philosophy of formal rationality that had evolved throughout the nineteenth century. These movements were pioneered by legal scholars such as Roscoe Pound (sociological jurisprudence), Karl Llewellyn, and Jerome Frank (legal realism). Pound's sociological jurisprudence has been identified as an outgrowth of Holmes' normative jurisprudence, and considered part of the progressive movement. Llewellyn and Frank's legal realism has been identified as more accurately fostering the development of the radical movement. Both sociological jurisprudence (progressive) and legal realist (radical) movements were critical of the form of law proposed by scholars in the classical, formalism of law. In particular, the modern jurisprudential movements enacted an assault on the model of law proclaimed by Christopher Langdell.

Pound's sociological jurisprudence attacked legal formalism throughout the early 1900's. It would establish the framework for the legal realist movement that would commence in the 1920's to 1940's (Milovanovic, 1994). Pound's pragmatism emphasized less the analysis of legal doctrines, and focused analysis on their social effects.

Additionally, Pound proposed a retreat from the mechanistic application of legal rules that had been so dominant in the formalism of Langdell. Pound contested that rules should be mere guidelines, and that judges should employ a degree of discretion in individual cases. Thus, the formal logic proposed by the Langdellian school should be adopted as instruments in reaching decisions (Milovanovic, 1994). Due consideration of the social effects of legal decision-making should appropriate a weighing of social and economic consequences by the judge in rendering decisions (Minda, 1995).

Pound's theory of interests is one of the key foci in his writings (Milovanovic, 1994). Interests, according to Pound, could be individual or social. A given legal system will legitimate certain interests--recognizing some and assuring their protection. The law should thus act to maximally fulfill the interests of society, reducing the conflict that occurs due to competition amongst such interests. This process Pound refers to as interest-balancing. The courts would balance a social interest such as general health, and weigh it against an individual's interest to remain free from government intrusion (ibid.). In general, Pound professed a need for social sciences in the study of the law. Thus, societal consequences would be considered, and public and social welfare would be valued over individual interests. Pound's discussion of the implications of social scientific analysis in legal studies would have profound effects in later developments.

The sociological jurisprudential movement of Pound paved the way for the legal realist movement that would thereafter develop. Generally, the realists rejected the notion of the law as an exact science. Similar to Pound, the realists were pragmatists. Thus, they were "hostile to formalism, the use of abstractions, and exclusive reliance on

strict deductive types of reasoning" (Milovanovic, 1994, p. 90). In contrast to the formalist notion of premise-to-conclusion, the realists' concern was with the finding of worthy premises. In other words, rather than mechanistic reasoning based on established rules, decision-makers should be result-oriented.

The legal realist affront on classical judicial decision-making practices (i.e., legal formalism or Weber's formal rationality) shared in criticism with that of sociological jurisprudence and other critical movements that would develop over the course of the century. In general, the application of specific rules in a mechanistic fashion to the "facts" of the case was challenged. In this view, established rules structure judges (Milovanovic, 1994). Judges, thus, have little if any independence in their subsequent interpretations of such rules. Existing bodies of law (e.g., Constitution, statutes, precedents) govern entirely the decision-making process. Thus, any decision is the result of a mechanistic, formal, and predictable process which excludes from consideration the play of extralegal variables in any given case.

The realists were, thus, critical of the syllogistic reasoning that dictated law-finding. Both "rule-skepticism" and "fact-skepticism" attacked the existing canons of judicial decision-making. "Rule-skepticism" suggested that rules on paper were significantly removed from rules that govern the real world. In other words, judges are supposed to do or appear to do one thing when in reality they are doing something quite different. Similarly, "fact-skepticism" suggests that "facts" are always disputable. The process of rule-facts-decision becomes substantially less legitimate when the facts are uncertain (see Milovanovic, 1994, pp. 90-94). In general, the legal realists questioned the

employment of linear judicial logic in decision-making. Syllogistic reasoning, though formal, impersonal, value-neutral, and logical in theory, was inherently flawed by the nonlinearity of actual practice and real-world influences.

In summary, both the sociological jurisprudence of Pound and the legal realist movement promoted by Llewellyn, Frank, and others criticized (or, more appropriately "attacked") the foundations of jurisprudence. In particular, both movements were critical of the formalism or formal rationality employed in judicial decision-making. The effects of sociological jurisprudence and legal realism would provide the framework for other critical movements later in the century.

Jurisprudence Between the Modern and Postmodern

In the 1980's a number of jurisprudential movements surfaced. The decline of modern jurisprudence (Minda, 1995) developed as legal scholars began to question their faith in the autonomy of law. Combined with the social and cultural movements of the 1960's, this questioning provided an inroad for the social sciences and social movements in general to be incorporated into the study of law. Though not necessarily reflected in legal practice, movements such as critical legal studies, feminist legal theory, and critical race theory had a profound impact on the way the legal scholars approached their subject.

Each respective critique challenges modern jurisprudential conceptions and practices. Each of these movements/schools of legal thought will be considered in the following section. The jurisprudential movements of the 1980's should be considered a break from modern jurisprudence, yet somewhat short of a fully developed postmodern

jurisprudence. Hence, they are between the modern and the postmodern. Their significance, perhaps, is an outline or the beginnings of a postmodern jurisprudence. By no means, however, have they been abandoned by contemporary legal scholars.

Critical Legal Studies

The late 1970's and early 1980's witnessed the emergence of the critical legal studies movement (CLS). CLS scholars varied on matters of general epistemology, method, and approach to legal scholarship (e.g., Minda, 1995; Tushnet, 1991). Though inconsistency and diversity in strands within the movement existed, the foundations of CLS scholarship are rooted in similar critique. Generally speaking, CLS perceived the existing formalist practice of law to be inconsistent with reality (Milovanovic, 1994). Within the strands of the CLS movement, several key elements constitute the foundation of critique. Among them is a skepticism consistent with that of the realist movement and a questioning of the legitimacy of the law (ibid.).

The skepticism of the realists was adopted by CLS scholars and marked a continued distrust of the traditional canons of formalism. Thus, neutrality, linear syllogistic reasoning, objectivity, predictability, certainty, and stability based on stare decisis are regarded as fallacious (Milovanovic, 1994). The neutral principles in law (e.g., justice, fairness, equality) were deemed "hopeless" and "dangerous illusions" (Murphy & Coleman, 1990, p. 52). In this sense, an inherent link is said to exist between politics and law. Law cannot be value-neutral, objective, etc., because its behavior is fundamentally influenced (and, perhaps, defined) by political agenda. Any guiding legal

theory is only a "reflection of a political system that dominate[s] and control[s] the existing judicial system" (Cardarelli & Hicks, 1993, p. 512).

This ideological dimension of CLS scholarship has led many to characterize it as the skepticism of the legal realists with an added left-wing political agenda (Cardarelli & Hicks, 1993, p. 512). The justifications and rationalizations of law (as indicated by reliance on legal and moral doctrines) are merely after-the-fact attempts to conceal the fact that its behavior (and social reality) is essentially and necessarily value-laden (Milovanovic, 1994; Murphy & Coleman, 1990). Social reality embodies hidden power relations and deep inequalities that doctrinal legal analysis works to sustain. The model of law as a "neutral medium" (Cardarelli & Hicks, 1993, p. 515) merely accommodates the status-quo while masking exploitation and injustice (e.g., Russell, 1986). The purportedly "objective" principles of law are merely "superstitions" that the power elite employ to maintain the power structure in society (Murphy & Coleman, 1990, p. 52). The illusion of equality as stated by the existing legal doctrines provides the powerless with "principled objections" to pursuing any reform that may disrupt the power structure (ibid., p. 52). Thus, if the powerless are under the impression that the law provides them with equal rights, etc., there remains no legitimate reason to revolt. In general, the law and legal doctrine were said to "reflect, confirm and reshape the social divisions and hierarchies inherent in. . . capitalism" (Unger, 1986, p. 21).

CLS scholars describe the legitimacy of the law as simply a mechanism to reinforce domination by the elite. The governing of society by a "rule of law not of men" is allegedly inconsistent with a legal reality that is essentially a "rule of men." Thus, law

is primarily ideological and functions as such. Reification and hegemony are processes by which such an ideological mechanism is maintained. Reification describes a process by which the people contribute to their own subordinated status by creating structures and institutions that preserve the power elite. Hegemony is a process by which the ruling elite continue to legitimate their government of the oppressed by attaining active consent (Milovanivic, 1994; see Gramsci, 1971). In general, the second criticism of the CLS movement (beyond the neo-realist attack on formalism) equates the law as primarily an apparatus for maintaining the status of the ruling elite.

Thus, the CLS movement (or school) attempted to demonstrate the indeterminacy of the legal doctrine, refuting (perhaps vehemently attacking) the formalism and neutral principles that were generally agreed to "hold true" in legal practice. Its primary purpose was to "critically judge" the practice and teaching of law, as well as the role it played in maintenance of the status-quo of the social structure (e.g., Gabel & Harris, 1983), as well as exposing the "contradictions and incoherence of [formalism]" whose (supposed) rationality "conceals social power" (Cardarelli & Hicks, 1993, p. 515). Perhaps most importantly, CLS scholars drew attention (by way of Marxist, neo-Marxist, and, to a lesser extent, Weberian insight) to the inherent class inequalities and power maintenance that were sustained and guised by the existing form and practice of law. The focus on social inequalities opened the door to the feminist legal scholarship that would assume significance in the 1980's.

Feminist Jurisprudence

The feminist jurisprudence or feminist legal theory movement has been commonly regarded as a branch of the critical legal studies movement (Murphy & Coleman, 1990). Some feminist scholars, however, have noted the significance of influential sources of the movement that are rooted outside of CLS and perhaps even as a critical response to CLS (see e.g., Bartlett & Kennedy, 1991). Notwithstanding the categorical debate regarding feminist legal philosophy and theory, the movement can be regarded as having been both influenced by critical legal studies, and as posing a challenge to certain aspects of conventional CLS wisdom (Milovanovic, 1994). The importance of feminist jurisprudence and legal theory cannot, however, be understated. It represented a significant movement in the 1980's, attacking conventional legal theory and practice.

The collective feminist perspective (there are many types of feminism) essentially maintains two criticisms of society: that it is patriarchal--shaped and dominated by men; and that it correspondingly subordinates women to men (Minda, 1995). Subsequent feminist examinations of the law and legal system found that these two general beliefs are also relevant to the theory and practice of the law. Thus, in the same manner that society as a whole is patriarchal and subordinates women, the existing law and its doctrines promotes the same inequality and privileging of men.

Feminist theorists maintain that law prohibits the realization of social values for women by presenting a number of limitations. First, the reliance of the law on stare decisis is criticized. To the extent that existing law (precedent) was established on the patriarchal sentiment of society, so too must future decisions. Thus, by affirming

previous decisions that were phallocentric (i.e., privileging male), the legal system simply reinforces and reaffirms the phallocentric law. Put simply, if the "old" law was dominated by male and "new" law must be consistent with "old" law, then change cannot be realized that would further the feminist cause (i.e., rid the system of existing and historically derived gender-based inequalities). The status-quo is likely to continue to dominate because issues arising that necessitate the female perspective have no historical significance in law. Thus, these issues are less likely to be brought before the court and/or attain a resolution that would promote gender equality in the law and society. The reliance on precedent segues well into the second limitation that the law imposes on woman's realization of social values: a necessity to work within the existing legal framework (e.g., Milovanovic, 1994, p. 105).

Bartlett and Kennedy (1991) provide the example of the "battered woman's syndrome" in the legal milieu. Noted is the reality that such a defense must be mounted as "diminished capacity" due to the absence of any "battered woman's" defense in the context of contemporary law. The "diminished capacity" defense is more acceptable in the legal sphere and, thus, is the only opportunity for the "battered woman" to attain a favorable resolution in such a case (Milovanovic, 1994). Thus, the historical and abiding absence of the woman's perspective in law necessitates a search for justice within the existing framework of the legal patriarchy. The reliance of the legal system on precedent and established legal norms denies the feminist voice in legal theory and practice.

A third feminist criticism (and, perhaps, internal debate) is that of equality before the law. The formalist doctrine of "equality" encourages a certain polemic for women.

Bartlett and Kennedy (1991) note that it ". . . requires comparisons, and the standard for comparison tends strongly to reflect existing societal norms. Thus, equality for women has come to mean equality with men--usually White, middle-class men" (p. 5). Perhaps women do not want to be like men? Equality in law, however, demands this form of comparison and, thus, demands that women become "like men" to be treated "equal to men." Once again, this reflects the legal "norms" that are the result of laws' historically-driven patriarchal existence.

Generally, the feminist jurisprudential movement (or critique) stresses the degree to which the existing legal doctrines contain biases against women. The exploitative power of men over women in a patriarchal society is sustained by the law (Murphy & Coleman, 1990). Feminist jurisprudes underline the importance of "asking the woman question," or articulating the silenced, excluded voice of the woman (Bartlett, 1990; Milovanovic, 1994, p. 108). Thus, the totalizing, heterogeneity of the law must consider the multiple perspectives of society. The dichotomizing practices of the court (e.g., yes-no, man-woman, good-evil) are opposed in favor of degrees and differences.

Critical Race Theory

Critical race theory emerged in the 1980's (the term was adopted officially in 1989) as a movement to include the tradition and perspective of "people of color" in legal thought (Minda, 1995). The "African American movement" approached issues of race and law from the unique standpoint of the African American--a standpoint that was purportedly very different than that of traditional (modern) legal scholarship. Similar to

feminist jurisprudence, critical race scholars argued for the insertion of silenced, excluded voices into legal doctrine, or, as Culp (1991, p. 40) refers, "different and blacker voices speak new words and remake old legal doctrines." The critical race movement essentially called for a new "race consciousness" in the construction of legal knowledge (Minda, 1995, p. 167).

One of the primary foci of critical race scholars is the role of "color" in American law. Equality, for example, is measured by the degree to which people of color are given the same formal rights and processes as the dominant (i.e., White) constituent (Minda, 1995). The argument posed, however, asserts that such a standard merely disseminates the idea that "color blind" law is the only method of removing racial discrimination (Crenshaw, 1988). The "color blind" ideal, however, is arguably not the ideal toward which society and the law should strive--it merely reinforces prevailing racist attitudes and justifies the oppression of minorities (Minda, 1995). This generalization, in fact, is consistent with the historical tendency of society to subordinate all people of color (Crenshaw, 1988). The generalization of minorities in the name of neutrality suppresses the local knowledge, attitude, and experience of different cultures and racial groups.

Like feminist jurisprudence, critical race theory asserts that the supposed "neutral" language of the law was, in fact, not neutral. Neutrality cannot exist because it was written and created by the dominant White culture whose own subjective values, views, etc., were and are embodied in contemporary law. Though critical race theory drew much from the feminist movement and critical legal studies, it criticized the disregard for racial issues within these movements. The ideas were much the same: the inclusion of silenced

voices (e.g., class, gender, race) into a discriminatory legal language and practice. Listening to the "black voice," then, would have profound implications for the law as it stands.

Legal Semiotics

In addition to CLS, feminist jurisprudence, and critical race theory, another field of inquiry into the theory and practice of law made its presence felt in the 1980's. The field of inquiry known as semiotics (or semiology) had been around long before its employment in legal studies. It was not until the mid-1980's, however, that a significant body of literature was being generated that would warrant a separate theoretical approach known as legal semiotics. While not as prominent and universally appreciated as the other movements of the 1980's, legal semiotics was beginning to have a profound impact on the way many would think about the law. Though legal semiotics is rarely mentioned in literature on jurisprudence and the theory of law (as even today it remains largely unfamiliar to the majority of legal scholars), the significance of its input necessitates a brief and general discussion.

Simply put, semiotics is the study of signs. It attempts to understand the meaning that is created by signs within a broader field of sign systems. Anything that generates meaning, such as language, images, objects, etc., is considered a sign. Collections of these signs, such as the language of the law, constitute a sign system (that of law). Thus, all words, phrases, gestures, etc., within the legal system carry a meaning. Legal semiotics, then, is concerned with the meanings that are generated, and evolve, through

the signs of the legal system. For example, with the abolition of the insanity defense in Montana, the sign of "abolition" lends itself well to an analysis of the meanings, both explicit and implicit, that are generated from such an implementation in law (Arrigo, 1997).

Legal semiotic analysis is generally rooted in one of two primary strands: European or American (Jackson, 1985; Milovanovic, 1994). The European tradition is typically informed by the general semiotic works of Ferdinand de Saussure, and the legal semiotic followings of Algirdas Greimas and Bernard Jackson. The American tradition is typically informed by the general theory of Charles S. Pierce and the legal approach of Roberta Kevelson. The differences between American and European traditions is unnecessary for the present analysis. Both approaches, however, endeavor to analyze legal signs and the system of legal signs to attain a greater understanding of the meaning of law.

Postmodern Jurisprudence

The late 1980's witnessed the emergence of a new brand of legal scholarship that would have a profound impact on the academic community in the 1990's. The new legal academicians claiming their position as postmodern jurisprudes would further the developments of the critical movements of the 1980's. Given the critique launched by the legal realists in the early 1900's and the ensuing insight furnished by the likes of CLS, feminist, and critical race scholars, the postmodern school was essentially a logical extension in legal studies. Continuing the assault on formalism and the Langdellian

approach to the law, postmodernists embraced the essence of earlier critical movements, combining insight from philosophy, literary theory, sociology, anthropology, and semiotics. The postmodernist jurisprudes have propelled a new wave of critical scholarship that has not yet been fully realized.

Alongside postmodernism and, perhaps, an important aspect of postmodern studies itself, arose chaos theory. While chaos theory provides insight that has been instrumental to postmodern thought, chaos theory's influence in the 1990's has been more than simply an aspect of postmodernism. Chaology is arguably an approach to jurisprudence itself. As noted earlier, chaos theory has not been extensively utilized in legal studies. It does, however, provide a logical extension beyond postmodernism and is an instrumental part of it. Thus, chaos theory can be considered the successor of the critical legal movements of the 1900's. Postmodern jurisprudence will now be explored in more detail.

Postmodernism

Postmodern jurisprudence asserts that the search for a grand legal theory or jurisprudence that would effectively solve all legal problems has been exhausted (Minda, 1995). New ideas and theories were merely old theories recycled under new names. Thus, no singular theory exists that can account for all legal phenomena because the culture, society, and law are relative and changing. Knowledge is said to be mediated by current conditions of society, culture, language, and the overall historical condition of the time. Similarly, truth is a social construction that is mediated through language and, thus,

incapable of characterizing reality (ibid.). Truth is relative and, consequently, so must be the law. Considering that postmodernism is essentially a rejection of much modern scholarship, it is perhaps most effectively described if examined in light of modernist assumptions.

Jurisprudential modernity was characterized by the traditional belief that, using fundamental propositions about the nature of law in general, legal knowledge and, thus, practice could be systematized (Minda, 1995). Law was autonomous (i.e., independent of external pressures and influences), and lent itself well to grand narratives and discourses that could be equally applied to all legal situations. Thus, a distinct legal method was discoverable and would be used to determine all legal "truths" (Minda, 1995). The role of the jurisprude was to discover and subsequently define that legal method.

The faith of modern scholars in the existence and discoverabilty of legal truths was an outgrowth of Enlightenment scholarship. The general focus was one of maintaining order, equilibrium, homeostasis, and normative structures through control, prediction, linear progress, and rationality. Progress was attainable through the discovery of objective, scientific truths that could be inscribed in universal, all-encompassing theories of life and law (the laws of life). Postmodernism, however, rejected these notions.

Influenced heavily by the works of European scholars such as Deleuze, Guattari, Lyotard, Baudrillard, Foucault, and Lacan, the postmodernists refuted the very ideas of the Enlightenment and, thus, modern scholarship. Their focus is on the inconsistencies, the change, and spontaneity in life. Heterogeneity and diversity are privileged. The

concept of all-encompassing, totalizing theory is considered fallacious, as difference renders such explanation necessarily impossible. Perhaps most importantly, and consistent with the critical movements of the 1980's, was the realization that realities are socially and culturally constructed. Thus, each individual, group, culture, nation, etc., has her, his, or its own perspective. The diversity of perspectives is celebrated if life and law are to be truly respected (as opposed to simply understood or predicted). Like CLS, feminist critique, and critical race theorists, postmodernists contend that such diversity is hidden and homogenized. The emphasis should therefore be placed on a multicultural, multiperspectival approach to law and social concerns.

Postmodernism, then, has much in common with the critical scholarship of the 1980's (postmodernism is considered by many to be part of the CLS movement). Its primary theses reject many of the modern claims to jurisprudence and modern theory in general. While postmodernism encompasses a number of different but related areas of study, it is perhaps best understood with some discussion of several of these areas. In general, postmodernists attempt to ". . . bring attention to the diversity of the current cultural condition by contrasting how the language and theories of modernists attempt to hide, marginalize, and homogenize the fragmentary and chaotic nature of our multicultural society" (Minda, 1995, pp. 228-229). The methods employed by the postmodernists in this pursuit have assumed a number of forms. These methods, however, can generally be understood as within one of four forms: psychoanalytic, poststructuralist, deconstructionist, and postmodern feminist. Thus, the following subsections will explore a few of the primary streams of thought that define the

postmodern realm of inquiry. Three key areas of inquiry will be focused on: deconstruction, poststructuralism, and feminist postmodern analysis. These three perspectives share much with one another, and by no means constitute the entire postmodern critique of the law. They do, however, present an overview of some of the primary ideas embedded within postmodern legal analysis. The psychoanalytic inquiries of the postmodernists generally rely on the previously mentioned work of Jacques Lacan. Lacan's work is extremely complex and is, thus, beyond the scope of the present analysis.

Poststructuralism

The revealing of deep structures that the semiotic approaches to law endeavor, is understood as not entirely possible by poststructuralism. The "structure" that semiotics argue is present and able to be understood is contested. The sign system of law, which semiotics suggests can uncover meaning if analyzed, is understood by poststructuralists as void of any absolute meaning or truth. Poststructuralists maintain that the "texts" (verbal, written, image-oriented) that semiotics assesses, tend to explode and scatter "defying the certainty of any one particular truth. . ." (Arrigo, 1995, p. 450). Thus, the meaning attached to law is beyond the efforts of any exact measurement--they are relative and varying.

The key figures within the poststructuralist movement are French theorists such as Roland Barthes (literary theory), Jean Baudrillard (sociology), Jacques Derrida (philosophy), Jacques Lacan (psychoanalysis), Michel Foucault (philosophy), and Jean-Francois Lyotard (philosophy). Each of these authors has contributed substantially to the

postmodern understanding of the world in general. Their application to law, however, has often been through the work of other authors. While each has focused his attention on different aspects of the world, through analysis of different disciplines, their objectives are similar. The general thesis of each is that the underlying structures of knowledge, whether relayed through literature, psychology, socio-cultural practices, or law, are the result of interpretation rather than a foundational truth. Thus, all texts, knowledges, etc., are socially and culturally situated.

Thus, while poststructuralism professes that no deep structure of knowledge or meaning is able to be uncovered and understood as "total," a second strand of postmodernism endeavors to turn those very structuralist assumptions upside-down. Deconstruction is perhaps the most commonly employed postmodern method of legal analysis (both theory and practice). A discussion follows of deconstruction and its relation to the assumptions that law is structured and, thus, neutral, fair, and inherently discernable.

Deconstruction

"Deconstruction" is a term coined to describe the analytical methods pioneered by French philosopher Jacques Derrida that have come to represent one of the primary strains of postmodernism. In relation to other approaches to law, deconstruction has much in common with, or perhaps may be regarded as an instrument of, the CLS movement. It is variously described in literature as part of CLS and as part of the postmodern approach to law. Its precise categorization, however, is irrelevant

(deconstruction would reproach the very effort to categorize anything). Deconstruction will be discussed here as "part" of the postmodern approach to legal analysis. Its relationship to CLS should be evident.

Arrigo (1995) describes deconstruction as a ". . . method of analysis that shows how all human affairs are assembled, and how they can be disassembled and eventually reassembled to incorporate excluded 'voices' or multiple and sometimes contradictory images of reality" (p. 450). Deconstructive analysis generally approaches law as a text involving implicit and explicit messages that can be identified in the interest of incorporating such excluded voices. In this sense, it shares much with the CLS and feminist movements of the 1980's. In particular, deconstruction practices two techniques: the reversal of hierarchies and the "liberation of the legal text from the original author" (Milovanovic, 1994, p. 101). As an example of a deconstructive technique, we can briefly describe the objective of one of these methods.

The reversal of hierarchies approaches value positions. Thus, any given position assumes a value that is in opposition to another value. The first becomes the dominant position, while the second becomes inferior and repressed. The dominant position is privileged as "presence," while the subordinate position is repressed as "absence" (Milovanovic, 1994, p. 101). The absent position, however, is always implied and inferior. For example, when one speaks of "sanity," "insanity" is always implied and necessary for the existence of "sanity." In this example, "insanity" is repressed and therefore absent, while "sanity" represents the privileged term and is "present." Reversal of hierarchies attempts to read a text "upside down" to reveal the significance of the

opposition and the necessity of each of the terms (positions) in a relationship (ibid.; Balkin, 1987).

Thus, deconstruction as a postmodern approach to law is a valuable tool for discerning unseen images of reality and inherent contradictions and exclusions. Consistent with postmodernism in general, it establishes a basis for productive critique--that of the existing status-quo of the law and the inescapable consequences that society incurs as a result.

Postmodern Feminism

Perspectives on the philosophy and sociology of law as informed by a feminist postmodern perspective can be identified as assuming one of several directions. A substantial portion of postmodern feminist literature employs a semiotic method primarily as articulated by Jacques Lacan. Lacanian semiotics can be generally described as performing psychoanalytic semiotic analyses. Thus, a Lacanian feminist approach to law attempts to understand the subordination of women through the psychoanalytic study of signs and sign systems.

A second direction of postmodern feminist critique of law assumes the form of standpoint epistemology. The assumption of standpoint epistemology is that the ". . . position of women. . . gives them a [perspective] which makes possible a view. . . that is more reliable and less distorted. . ." (Jagger, 1983, p. 370). Thus, the experiences (epistemology) of women as an oppressed and neglected group within the law provides a

viewpoint (standpoint) that contributes to the understanding of the law in a more realistic and informative manner than the male.

Standpoint epistemology, however, has more recently taken the form of multiple-standpoint epistemology. Thus, in addition to women (gender), race, class, sexual orientation, and other subordinated groups have been included as contributive standpoints. Rather than regarding women alone as having a position that is more objective, all subordinated standpoints are united in a multiple-standpoint epistemology. It is here where postmodernism, feminism, CLS, critical race theory, and other critical theories merge in their analysis of the law.

PART II: THE CONTROVERSIAL

Chapter 5

THE MEANING OF MENTAL ILLNESS

In this chapter, the first of our critical examinations, the meaning of mental illness will be explored. This will be done in several ways. First, the legal definitions of mental illness and its role in the legal context will be examined. Although establishing the legal meaning of "mental illness" for purposes of civil commitment, its meaning in the criminal context will be briefly addressed in the interest of comparison. Next, the definition(s) or concept of "mental illness" as described and utilized by the discipline of psychology will be briefly looked at. The most significant limitations of both legal and psychological attempts to give shape to a phenomenon such as mental illness will then be explored. Given this necessary background, the application of the principles of chaos theory to the controversial issue at hand will then be presented. In other words, the endeavor of the present chapter is to understand the existence (or non-existence) of mental illness in the psycholegal sphere, and to explore what chaos theory may tell us about the meaning of "mental illness" as currently employed in psychology and the law, as well as the future implications of the semantics of illness for justice and society.

Overview

The meaning ascribed to the term "mental illness" by psychology, the law, and those endeavoring to create and sustain an amicable rapport between the two is of critical

importance. What is suggested by the use of the words such as "illness" and the very idea that such a thing can be psychological rather than purely physical marks the point of commencement for psychology's affair with the institutions of law in society. To be sure, such controversial issues as involuntary civil confinement (see Chapter 7), insanity defenses, competency issues, the right of the State to impose treatment upon individuals and of individuals to refuse such treatment (see Chapter 8), the imposition of sentences on criminal offenders (see Chapter 9 on execution of the mentally ill), and the extent to which individuals are treated "differently" than others by the State are all contingent upon an initial determination that an individual is "mentally ill." Thus, absent the assignation of "mental illness" to a given individual, psychology would not exist--nor would the intersection of law and psychology, which is the topic of the present critique.

Despite its unique and highly consequential status in both law and society in general, "mental illness" continues to be a source of substantial disillusion for those studying and/or practicing in the fields of psychology, the law, and elsewhere. In short, the tension results from the frustrated attempts of many years of psychological study to reveal anything resembling a conclusive definition of "mental illness." While many have tried--indeed psychology and the various legal institutions of the United States all maintain definitions that are in some way unique and arguably "better"--few have agreed as to the precise character of mental illness and the implications it may or should have for the law. Thus, given the prominence of "mental illness" in legal discourse coupled with its lack of definitive characterization, the meaning of mental illness stands as one of the more controversial subjects in psychology and the law. It also stands as a point of

commencement for our critique of psychology and the legal system that has, through its increasing reliance on the concept of "mental illness" for various dispositive purposes, essentially demanded a fuller appreciation of the reality too often concealed by authoritative labels.

Legal Definitions of Mental Illness

The concept of mental illness in the legal system generally has a slightly different character depending on the purpose for which it is being employed. Two of the most common situations in which a determination of mental illness is necessary are insanity defenses and civil commitment proceedings. The definition of mental illness is somewhat different in each context--one being civil, the other criminal. Given that civil commitment will be a recurring theme throughout this analysis (e.g., Chapter 6 on dangerousness; Chapter 7 on civil commitment; Chapter 8 on treatment refusal), particular emphasis will be placed on "mental illness" in this context. To examine the different approaches the legal system takes toward a determination of mental illness, however, a brief treatment of its role in the criminal context (i.e., insanity defenses) will be helpful.

All tests of insanity or MSO (mental state at the time of the offense) evaluations require a finding of "mental disease or defect." Each of the standards for determining whether a defendant is "insane"--McNaughtan, Durham, Substantial Capacity, and Federal standards--have as a prerequisite that the individual be suffering from a mental disorder. Additionally, the mental disease or defect must have assumed a causal role in

the commission of the offense (Melton et al., 1997). Generally speaking, the term "mental disease" is synonymous with "mental illness," and "mental defect" with mental retardation (ibid., p. 195). In determining the presence of a mental illness, the law has historically relied on the medical model of mental illness (Arrigo, 1996). In other words, mental illness is presumed to have a physical, internal basis (e.g., chemical imbalance, neurological impairment), thus rendering the defendant incapable of arriving independently at rational decisions concerning her or his actions. The rationale is that a physical basis of mental illness renders the disorder beyond the individual's immediate control and, consequently, the individual should not be held legally responsible for certain of her or his behaviors.

The medical paradigm has gained support with more recent findings suggesting that mental illnesses such as schizophrenia, bipolar disorder, and major depression result from brain and/or biochemical abnormalities such as chemical imbalances. Historically, most successful insanity defenses have been based on the presence of either psychosis (e.g., schizophrenia) or mental retardation (Goldstein, 1967). Thus, the eyes of the legal system have continued to regard mental illness, in cases of the insanity defense, as a "sickness" that is more rightfully considered a medical condition. While this model may rule out certain cases of purely psychological impairment (i.e., conditions without a physical basis) as not constitutive of mental illness for legal purposes, it still does not conclusively define the term. The lack of consensus regarding mental illness for purposes of the insanity defense becomes even more apparent when considering a number of other jurisdictions in which the presence of, for example, personality disorders and certain

"syndromes" have led, in some cases, to successful insanity defenses (Melton et al., 1997).

For purposes of civil commitment, the term "mental illness" assumes a slightly different meaning (or lack thereof) than in cases where it is in the context of an insanity defense. Civil commitment differs from the insanity defense in that rather than an individual defending her or himself from criminal sanctioning by employing mental illness to her or his advantage, the State is attempting to justify involuntarily confining a person to a psychiatric hospital on the grounds that s/he is mentally ill and therefore in need of treatment (see Chapter 7 for a more extensive treatment of civil confinement). Thus, the motivations in each case are very different. Accordingly, definitions of mental illness for each show some disparity. Civil commitment, for example, is sometimes justified under the parens patriae power of the State. The emphasis here is of a "care-giving" nature and, consequently, the State has generally employed this emphasis to rationalize the comparative leniency with which persons are found to be "mentally ill" for commitment purposes. It is in the best interest of the individual (and the community), it is argued, to be subjected to treatment against her or his will on grounds that s/he is "mentally ill" and "in need of treatment," whereas it is potentially harmful to the community for a criminal defendant to be acquitted of criminal charges because of mental illness and, perhaps, be released back into the community at some time in the future.

It has been argued, for example, that with regard to issues of civil confinement, the legal and psychiatric communities favor a presumption of mental illness (e.g., Scheff, 1984). As civil commitment is intended to "protect" either the individual from her- or

himself or the community from the individual, more leniency in determining the meaning of "mental illness" is arguably justified. The consequences, however, have been anything but justifiable. Legislative attempts to define mental illness have spawned more criticism and confusion than understanding and pragmatic value. Efforts to operationalize mental illness have been generally disabling in that their practical utility is precluded by the encumbrances of vagueness, circularity, and general lack of limitations (Arrigo, 1992, 1996; Winick, 1995; also Dusky v. United States, 1960). Consider the following legal definition of mental illness from a 1982 Texas statute: "A mentally ill person is a person whose mental health is substantially impaired" (Melton et al., 1997, p. 307). This definition is vague in that it could describe no one and everyone at the same time. More importantly, it is circular in that is ultimately establishes as "mentally ill" a person who is "mentally ill"--without providing any sense of what mental illness is. The term "mental health" as employed here, for example, is a meaningless term without some construct of "mental illness" against which to judge it. While most legislatures (including that of Texas) have since set forth what are intended to be more specific definitions, there remains a demonstrable and disabling presence of generality and, most often, a tautological component in statutory definitions.

Despite these crippling ambiguities and generalities, the law has done little throughout the years to provide detailed and operationally effective contours for the construct of mental illness. Its various efforts rely on categorizations that are generic and broad and on terminology that is equally vague and ambiguous. Ascribing mental illness to an individual who is judged incapable of meeting the "ordinary demands of life"

(Melton et al., 1997), for example, requires that "ordinary demands of life" be given ample attention as a definitive construct. Unfortunately, this is rarely, if ever, accomplished. Rather, the precise meaning of "mental illness" is often left to the discretion of others. Arising from the legislature's failed attempts to provide precision and the consequent "void" left in statutory law, individual courts have been given (or left with) the role of fashioning a definition for themselves (Arrigo, 1992). Generally, courts have left the ascertainment of mental well-being (e.g., "illness" or "health") to be determined on a case-by-case basis--informed, from a legal perspective, only by the vague and general legislative guidelines provided by that particular jurisdiction.

The problem faced by these courts, however, concerns a necessary regard for individual liberty interests. That is to say, "reasonably clear guidelines" (Smith v. Goguen, 1974, pp. 572-73) are necessary before the State can intrude upon individual liberty, thereby contesting Fourteenth Amendment rights to freedom from restraint and unwanted invasions of body and mind. Given that determination of mental illness has implications for a number of potential intrusions of this sort (e.g., civil commitment, involuntary treatment), fashioning a definition of mental illness to be used in such situations is a resolution that courts cannot and should not arrive at in an arbitrary manner. In response to this moral impasse, courts have generally relied on the "expertise" of mental health professionals to amend their lack of constructive input into something more consistent with current psychological/psychiatric perspectives and, thus, arguably more conducive to the service of justice.

It is in the determination of the existence of mental illness in particular cases where the court's relationship with psychology begins. Many courts rely on mental health "experts" such as psychologists and psychiatrists to provide professional judgements about the existence of mental illness. In so doing, however, a certain dependency asserts itself. Namely, that the law defers to psychology in matters that are arguably legal. Thus, the "opinion" of mental health professionals becomes the determining factor in many cases involving the possibility of mental illness impacting judicial decisions. While reliance on mental health professionals to provide input in cases where mental health is at issue seems appropriate, this process is not without controversy of its own. Where criticism ensues is, again, in the arena of definition. Mental health professionals have displayed anything but a consensus concerning the character of mental illness (or health). In fact, medicine and psychology have pursued a definition of mental illness to an even greater extent than has the law--ultimately, however, with no less discouraging results. This being said, we now turn to the psychological construct of mental illness and its impact on the law.

Psychological Definitions of Mental Illness

Psychiatry and psychology often use the term "mental illness" in a very broad sense to refer to a multitude of conditions whose presence (or absence) may be appropriated as "treatable" conditions or life situations. The purpose served by the term in the mental health profession is very different from that of its usage in legal scenarios. In short, mental health professionals employ the term "mental illness" for purposes of

diagnosing and subsequently treating a number of human ailments. Its broad connotations often serve a positive function--it is an inclusive term that may refer to medical problems (i.e., physical etiology) as well as more general socio-cultural concerns. This inclusiveness aids the profession in allowing for the treatment of many mental health issues that may not constitute "mental illness" in a legal context. For example, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 1994) allows for substance abuse to be regarded as a form of mental illness provided that certain diagnostic criteria are met. In legal contexts, on the other hand, the majority of State statutes specify that drug and/or alcohol abuse are not to be considered mental illnesses for purposes of legal inquiry. Thus, in the interest of treatment, regarding substance abuse issues as "mental illnesses" is conducive to the therapeutic aspirations of mental health professionals. It allows for a person experiencing a certain condition to be treated. It is therefore in the interest of both clinicians and clients to conceive of "mental illness" as an "elastic" concept (Winick, 1995).

The American Psychiatric Association (APA; 1994) provides a "working" definition of "mental disorder" with the cautionary admittance that ". . . no definition adequately specifies precise boundaries for the concept. . . [and]. . . like many other concepts in medicine and science, [it] lacks a consistent operational definition that covers all situations" (p. xxi). The manual states that each of the included mental disorders

> is conceptualized as a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and is associated with present distress or disability or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. . . [which] must not be merely an expectable and culturally sanctioned response to a particular event. (p. xxi)

The DSM-IV excludes deviant behavior and conflicts that are "primarily between the individual and society. . . [unless] the deviance or conflict is a symptom of a dysfunction in the individual" (p. xxii).

It is clear from this brief statement that mental illness is something of an elastic concept with clinical motivations. The use of the phrase "clinically significant" ensures that the definition is intended to cover certain conditions or experiential realities that provide the possibility of amenability to therapeutic and/or drug treatments. Thus, it is clear that psychology's conceptualization of "mental illness" is for the benefit of mental health professionals and their clients and is not intended to serve as a conceptual foundation for forensic purposes. It is intentionally elastic, covering a wide array of possible behaviors, thought patterns, feelings, etc., so that the mental health community may best serve its prospective clientele.

Psychiatry, however, has occasionally prepared statements concerning the meaning of mental illness for forensic purposes. In another statement by the American Psychiatric Association concerning the definition of mental illness for purposes of the insanity defense, it is noted that "the terms mental disease and mental retardation include only those severely abnormal mental conditions that grossly and demonstrably impair a person's perception or understanding of reality" (APA, 1982, as cited in Melton et al., 1997, p. 196). Thus, the proposed definition of mental illness for forensic purposes is significantly more narrow. It is evident that the institutions of psychology and psychiatry recognize the limitations of adopting a broad and general description of what constitutes mental illness when questioned in a legal context. In short, there is a recognized

difference between the psychological approach to mental illness and the legal approach. "Mental illness" is to refer to two different psychological realities in the two different contexts. It would be expected, therefore, that the law fashions its own definition of mental illness. Unfortunately, its failure to do so effectively has led to critical appraisals such as those in the present chapter.

Limitations of Legal and Psychological Definitions of Mental Illness

The inclusiveness of psychological "working" conceptualizations of mental illness and the imprecision of legal definitions has far-reaching implications for the debates that blanket the intersection of law and psychology. Bestowing psychological "experts" with the power to make decisions that are theoretically legal decisions arguably has an erosive impact on the justice system. Winick (1995) notes that the breadth and imprecision of legislative attempts to define mental illness ". . . allow and mask arbitrariness and discrimination in the application of the law" (p. 555). This, of course, in direct interaction with the generality of psychological definitions: ". . . because of the unavoidably ambiguous generalities in which [psychology] describes its diagnostic categories, the diagnostician has the ability to shoehorn into the mentally diseased class almost any person he wishes, for whatever reason" (Livermore, Malmquist, & Meehl, 1968, p. 80). Thus, limitations of both legal and psychological definitions have a cooperative or allied effect that beget subjective and often whimsical evaluations of individual persons.

The limitations of legislative attempts to define mental illness are recognized and appreciated by the legal system. The general practice of granting mental health "experts" the power to make decisions (e.g., perform evaluations, provide reports, and testify as to the mental status or state of persons) makes apparent this realization on behalf of the courts. Thus, the legal system has taken some measures, however ineffective they may be, to absolve itself of its controversial shortcomings. But does this substitution of legal power for "expert" knowledge in the court suffice to ensure justice?

The answer is provided, in part, by the institution of psychology and psychiatry themselves. The American Psychiatric Association, in its Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) has included a cautionary statement concerning its employment in forensic settings:

> When the DSM-IV categories, criteria, and textual descriptions are employed for forensic purposes, there are significant risks that diagnostic information will be misused or misunderstood. These dangers arise because of the imperfect fit between the questions of ultimate concern to the law and the information contained in clinical diagnosis. In most cases, the clinical diagnosis of a DSM-IV mental disorder is not sufficient to establish the existence for legal purposes of a "mental disorder," "mental disability," "mental disease," or "mental defect." (APA, 1994, p. xxiii)

Thus, in addition to the legal system's recognition of its lack of precision and effective description of "mental illness," the prevailing institutions of mental health also recognize the ineffectiveness of its own standards when forensic questions are at issue. But is such caution recognized by those psychologists performing forensic evaluations and those courts employing psychologists to perform them? Melton et al. (1997) state that:

". . . lawyers and judges often ignore DSM-IV's cautionary injunction and demand that an

expert give a diagnosis even when it is not particularly helpful, in the belief that, without one, no 'mental disease or defect' exists" (p. 197). Thus, despite the limitations of psychology's involvement in the legal system--limitations recognized by both professions--courts continue to rely on psychological input and, more consequentially, input that is often forged and/or inconsistent with the goals of the legal system.

So where does this leave the relationship between psychology and the law? The answer to this question is the focal point of our critique. In short, the relationship between psychology and the law, for example, in defining mental illness for forensic purposes, is one that is in question more so now than ever. The debates begotten by the seeming lack of effective cooperation are, at present, not nearing conclusion. Does psychology have a role in answering a question that is arguably legal? Why has the law met futility in endeavoring to establish a definition of its own? And, perhaps most importantly, can a satisfactory definition or even conceptualization of "mental illness" even exist? It is believed that chaos theory can provide some helpful insight into this issue. We will now turn to chaos theory--its application in the context of the meaning of "mental illness"--to examine what it does or does not tell us about this controversy.

Chaos Theory and the Meaning of Mental Illness

The element of chaos theory that implores fractal geometry for insight into the nature of things provides, perhaps, the most telling story of "meaning" in any context. Meaning is a timeless and enduring concept present in every culture in every historical context (though philosophical inquires into "meaning," per se, are a more recent

phenomenon). The question of meaning is related to questions of knowledge and Truth in that it essentially asks what we know of ourselves and of the world and, further, how this knowledge is expressed, understood, and used for human purposes. In our present age, the world is often described through the use of words and other symbols. Thus, the question becomes "What is the relationship between words and the world." What do the words "mental illness" tell us about the reality of the world that confronts us?

The meaning of "mental illness," then, is a question of knowledge concerning psychological "being" employed for purposes of understanding an individual's reality. As such, it is best understood as a fractal phenomenon--a reality that shares much with the reality of all things open to human interpretation. We have chosen to concentrate our application of chaos theory to the meaning of mental illness on the surmises of fractal geometry. Coming to terms with the way that meaning is understood as an interpretive and flexible phenomenon best prepares us for the analyses given in the remainder of this critique. It should be noted at the outset that the fractal of chaos theory is not being employed hereinafter to reveal some heretofore undisclosed Truth about the nature of mental health or illness. Rather, an understanding of fractal geometry has more of an affirmative role in that it serves to support, if not strengthen, existing perspectives on the reality of mental health in the social world.

Geometry is about space. It intends to grasp such spatial phenomena as points, lines, angles, and surfaces in a way that allows for measurement and understanding of the properties of those phenomena. If one desires to understand the spatial relationship of a tree within the context of the greater area in which it lives, one traditionally relies on

geometric theory and formulae. Measuring the space occupied by that tree, for example, requires that one approach it from the right perspective--being conscious of the "unseen" portions that also assume space. More importantly, as chaos theory suggests, one must be aware that the tree does not exist in a perfectly three-dimensional world that may be accurately estimated by traditional geometric understandings. Rather, the space occupied by the tree depends to a large degree on the perspective one assumes in setting out to measure it.

It does not require a particularly athletic imaginative leap to understand that we may also set out to measure or estimate the "space" that "mental illness" (or any illness for that matter) assumes in the larger context of "health." This chapter is about defining mental illness--about measuring mental illness so as to understand its relationship in the larger social context in which it exists. As we will see, however, measuring (and, thus, defining) mental illness is not as simple as applying a standard geometric formula. Rather, we must again be conscious of perspective. This being said, we will explore several significant variations on this relationship. In short, the geometric element of mental illness in society, psychology, and the law will be recognized.

Presumptions of Objectivity and Absolute Truth

From the Enlightenment onward, meaning has been generally regarded as something to be "uncovered." That is to say, the meaning of mental illness, for example, has always been thought to exist in a very certain, very precise form. Our endeavors, then, should be directed toward scientifically investigating and subsequently uncovering

what this true meaning is. If it can be uncovered that mental illness, for example, means a condition related to an abundance of a given neurotransmitter in the brain, then we can define a "mentally ill" individual as one who meets that requirement. While theoretically this approach provides promises of an ideal world that we may understand, predict, and control to make life run more smoothly, the reality of mental illness--and the meaning of anything for that matter--is not such a willing and accommodating subject for scientific investigative scrutiny and discovery. As Margolis (1980) explains: "the idea that medicine. . . can claim to discover the natural norms or normative functions of human beings clearly depends on a premise that has yet to be supplied" (p. 9). In short, we have yet to "discover" or "uncover" the natural functioning of human beings--whether physical or psychological--in route to implementing a classificatory system based on these findings of natural truths. In fact, the reality of the world as a fractal reality suggests that there may be no "uncoverable" truths. Rather, the pre-Socratic sophist Protagoras said that "man is the measure of all things" (Wheelwright, 1966, p. 239). In the same vein as other historical representations concerned with the relative nature of things, chaos theory supplements Protagoras' concern with physical evidence that, indeed, reality is a less-than-certain and less-than-objective experience.

Similarly, the legal system has operated under the assumption of objective criterion for determining given truths--for example, guilty or not guilty, competent or incompetent. These truths are organized as binary oppositions and essentially circumscribe existing reality within predetermined categories or what might be called "schemes of convenience" (Margolis, 1980, p. 6) that are introduced, not as demarcating

absolute divisions of reality, but as necessary for purposes of expedience (see Boorse, 1975). In other words, a defendant can be either guilty or not guilty--but not greater than, lesser than, or in-between the two. For the legal system to function in an efficient and effective manner, it is judged necessary to implement these mechanisms of convenience. This is true for the determination of mental illness as well. An individual, according to the ideals of the legal system, can be either mentally ill or not mentally ill for legal purposes. Falling into one category or the other can mean the difference between liberty or loss thereof in both civil and criminal capacities. As we have seen, however, the imprecision associated with the legal criteria for mental illness creates a scenario where no absolute method exists for determining which individuals fall into which category, though the fluency with which the system operates depends on this classificatory scheme. The imprecision of the law's constructs is in direct contrast with its philosophy in this case--the need for organization, yet the failure to effectively organize. Why so much confusion?

Recall that chaos theory describes fractals as forms that are infinitely detailed. While confined to a finite area, closer examination reveals a reality which is infinite and immeasurable. The complexity of the fractal's form makes measurement, certainty, and absolute knowledge about its contents an impossible task. While mental "being" can never transcend natural boundaries (though the limits of these boundaries have yet to be ascertained), the "play" of difference within those boundaries is infinite. There exist endless possibilities for movement, endless qualities or states of being, and endless ways of measuring those states. To be sure, we can safely say that no two people are exactly

alike. If we attempt to place human beings into predefined categories of "healthy" and "ill," for example, we are met with a limited degree of success. What we are left with, rather, can be better described as a continuum with the two extremes being the natural limits of what human beings can experience psychologically. In between, we have an infinite play of variety, diversity, and ways-of-being--no two of which can be identified as absolutely similar. In other words, chaos theory tells us that there is no "mental health" or "mental illness." Instead, the fractal nature of psychological being tells us that there are only degrees of mental "being."

The search for objectivity and absolutes by both the law and psychology, in particular those assumptions advanced by the medical model of psychopathology, is laden with the acceptance of certain assumptions. Namely, that mental illness is an absolute entity that is qualitatively, and identifiably, different from mental health (Al-Issa, 1982). To rebut these assumptions, or at least the prevailing truths to which these assumptions have led, one need only observe the lack of contrast often found between certain hospitalized "mentally ill" and other, "normal" members of the community. For example, Braginsky, Braginsky, and Ring (1969) note that, upon observing schizophrenics on chronic wards, "they did not appear to us to be the disoriented, dependent, and socially inept creatures that the textbooks described" (p. 29). If indeed mental "illness" is to be qualitatively and identifiably different than mental "health," one would expect that a sharp contrast would be present rather than what amounts to a continuum of mental functioning.

In light of this, and somewhat consistent with the perspective that fractal geometry grants us, Eysenck and Eysenck (1982, as cited in Al-Issa, 1982) have proposed what may be referred to as a "dimensional" approach to mental illness. That is, rather than mental "illness" and mental "health" representing absolute qualities, pathology is regarded as merely an extension of what is generally regarded as "normality" or non-pathological behavior. Consistent with the pioneering criticism launched by Goffman (1961), Foucault (1965), Laing (1969), Szasz (1961), and others, a dimensional or fractal approach similar to that suggested by Eysenck and Eysenck would regard "madness" or "insanity" as potentially applicable to anyone and everyone. That is to suggest that, because "illness" represents merely movement toward one pole of a continuum rather than something to be placed at one pole of a binary opposition, it should be measured as such. "Illness" is to be perceived in light of its relation to other forms of "being" and, thus, is to be considered as a point along a continuum rather than an "absolute label on a discrete point" (Al-Issa, 1982, p. 18).

If the "dimensional" approach to "illness" is to effectively counter the historical perception (i.e., scientistic and medical) that searches for absolutes, it must support its conclusions through exposition. Several prominent philosophical movements shed light on this exposition by highlighting the ways in which reality can be differently perceived from various perspectives. Several interrelated approaches to the development of this position justify some consideration. Namely, the positions of the relativists, social constructionists, and perspectivism.

Historicity and Relativism

Attending to historicity and relativism allows for an approach to meaning that is sensitive to the historical and cultural influence under which interpretive endeavors are undertaken. Historicity (e.g., Gadamer, 1975) suggests that all knowledge and, thus, meaning is grounded in the prevailing historical conditions. There are numerous ways in which this historical conditioning might impact our conceptualizations of mental "illness" in society. For example, the prevalence of psychological depression during a period of economic depression may differ significantly from its prevalence during an economic upswing. The availability of mental health care under a socialized system may encourage more individuals to seek treatment and, thus, the prevalence of mental illness may appear to be greater than under other systems. In short, the role that "mental illness," for example, assumes in the consciousness of the age is readily affected by historical considerations.

Most importantly, perhaps, it is the available knowledge or prevailing theoretical orientations with which we approach phenomena that encourage variation. This is the aspect of history that most concerned Gadamer and Heidegger, among others. In short, the relationship between human beings and the quest for truth--what is expected, how it is approached, whether it is even wanted--is a product of the consciousness of an era. Though we may be aware that the way we conceptualize a phenomenon is different than those of the past or future, we cannot escape the historical conditions under which the phenomenon presents itself to our consciousness (Gadamer, 1975). All historical periods are beset by certain prejudices and biases, what Heidegger called "fore-understandings"

of the world. Historical periods are qualitatively different in that each is governed by different of these pre-judgements. The Enlightenment, as we have noted, developed the search for absolute truths, objective knowledges of the world. This perspective--one that believes that such understandings or truths are available--is merely the product of an historical frame of reference. As noted in the previous section, the disciplines of psychiatry and psychology, as well as the law, have been markedly influenced by this approach. Consequently, the quality of existence for those deemed "mentally ill" is contingent upon the historical period in which they (or we) live. In response, Gadamer (1975), for example, has suggested a "fusion of horizons" in which our understanding of phenomena might be "fused" with or enhanced by those of other historical eras.

Relativism, in turn, offers that knowledge and meaning are not only historically situated, but also culturally situated. Relativism has caused society to question whether traditional Western perceptions of groups such as women, African-Americans, and the "mentally ill" as inferior rather than merely "different" was justifiable (Sarbin & Juhasz, 1982). With regard to mental illness, relativism holds that definitions and meanings associated with "mental illness" can and do vary between and even within cultures. Consider the varying descriptions and assignations afforded those with alternative sexual preferences across cultures and even within various subcultures--not to mention the differing historical perspectives that have, in the latter twentieth century, encouraged significant changes in social (and, to a lesser extent, legal) perceptions of homosexuality, for example.

Or, consider contemporary Western perceptions of depression. While we are largely content to regard "symptoms" such as hopelessness and despair as "illness" that requires treatment, early Buddhists would likely perceive such melancholy as the first step toward nirvana. The Buddhist doctrine recognizes the pain and suffering that defines the life-world and this realization on an individual level is the first of the Four Noble Truths (Samyutta-nikaya in Thomas, 1927; Dhammacakka Sutta in Dhamma, 1997). This realization is then used to attenuate attachment, desire, and craving for objects that merely promote temporary happiness within a larger cycle of suffering. The dispassion encouraged by Buddhism (de Silva, 1995; Marks, 1995), then, that stems largely from a melancholic realization that life amounts to suffering, is a profound insight into the ultimate reality of the world and, consequently, the path that leads to the cessation of suffering (see also Berry, 1996). The Buddhist doctrine exemplifies the, at times, vast differences that can and do exist between cultures concerning issues of psychological "being."

Relativism in the social sciences grew largely out of the pioneering efforts of influential anthropologist Ruth Benedict (1934). In drawing upon field work, Benedict had the following to say about "abnormal" behavior:

> . . . [if a certain culture] chooses to treat their [persons displaying unusual behavior] peculiarities as the most valued variants of human behavior, the individuals in question will rise to the occasion and perform their social roles without reference to our usual ideas of [adaptive and maladaptive behavior]. . . . Those who function inadequately in any society are not those with certain fixed "abnormal" traits, but may well be those whose responses have received no support in the institutions of their culture. . . . It springs not from the fact that they are lacking in necessary vigour, but that they are individuals whose native responses are not reaffirmed by society. (1934, pp. 270-71)

Drawing attention to need for cultural sensitivity in our understandings of certain phenomena, Benedict anticipated many of the later criticisms of "mental illness" as a definitive construct. Why, for example, might one culture value certain behaviors while another chooses to involuntarily confine individuals displaying the same behavior? Benedict's early work, as well as the relativist movement in psychopathology that grew significantly thereafter, re-affirms the need for a fractal understanding of "mental illness." Again, when Protagoras said that "man is the measure of all things," he was not only anticipating the relativist movement by over two thousand years, but also the recent, more "scientific" understandings that chaos theory provides.

Thomas Scheff and the Social Construction of Mental Illness

The history of laws and regulations pertaining to the mentally ill tells us something about these degrees of mental being. It also tells us something of the social climate under which these conditions existed and under which they were ascribed meaning. To be sure, what we now term "mental illness" has not and undoubtedly will not remain a stagnant perception. Rather, the presence of "illness" is as much related to socio-cultural conditions and world-views as it is absolute, objective reality. Much like the distance between two points becomes greater or lesser depending on the angle one approaches it from (cf. the "coastline" example of fractal geometry), the precise meaning of mental illness can assume different characteristics depending on the angle, or perspective, from which it is understood. The perspective from which mental illness or

simply "difference" is approached depends to a large extent on the prevailing socio-cultural climate and conditions (e.g., world-view, economic system, state of technology).

Sociology has done much for our understanding of the socio-cultural context in which mental illness is substantiated. While mental illness is often regarded as a "disease" or "sickness," it is also a violation of social norms. Persons, for example, that display extreme emotionality, speak of "talking to the gods," or prefer the homeless life or that of a recluse to that of an accountant are in direct conflict with what is "normal" in present day society--what is considered "appropriate" social conduct. Several prominent and influential theorists (see also Goffman, 1961; Laing, 1967, 1969; Szasz, 1961, 1970) composed accounts of the meaning of mental illness as a social phenomenon. Whether one is inclined to regard mental illness as entirely constructed by culture and society, or merely influenced by it, these influences are nevertheless an important component of social definitions of mental illness--definitions that indubitably bear on psychological and legal definitions.

Perhaps the most acclaimed sociologist to propose a theory of mental illness was Thomas Scheff (1966). Scheff noted that all cultures have certain terms designating behaviors that are not congruent with the "norms" or normal behavior of persons in that culture. Some, such as murder and drunkenness for example, are well-defined and easily categorized. Others, however, are not so easily defined nor do they have explicit terms signifying them. These less-objective behaviors include such things as appropriate display of emotions, affection, interpersonal communicative style, etc. These behaviors are not governed by explicit rules, as is murder for example, and therefore such behavior

is perceived simply as "weird," "strange," or "different" rather than a distinct violation of rules. The social consequence of such behaviors is not so much physical harm or victimization of some sort, but creating an "uncomfortable" atmosphere for other persons.

Scheff tells us that such "residual rule breaking behaviors" are attributable to different sources depending on the socio-cultural context. For example, ancient cultures often ascribed theories of "demonic possession" to account for strange behavior. More recent cultures have identified what are believed to be organic origins and referred to such behaviors as manifestations of underlying psychiatric disease or illness--a perspective that has blossomed following the work of Freud. Exactly which persons become labeled in which ways depends on a number of factors--none of which are constant or universal:

> The diagnosis depends on such factors as the identity of the rule breaker, the particular rule broken, the amount of strange behavior a community will tolerate, alternative explanations that might rationalize the behavior, and the social context within which the rule breaking takes place. (Newman, 1995, p. 191; Cockerham, 1992)

Thus, a homeless person displaying socially inappropriate emotionality may be more quickly termed "mentally ill" than a 50-year-old attorney who has recently been through a painful divorce and lost her or his job. An artist living in an artist colony who displays behaviors that are normally regarded as "inappropriate" may be less likely to receive the label "mentally ill" (versus "creative" or "artistic") than someone displaying the same behaviors and/or emotions in a church or corporate organization. We are generally more inclined, for example, to regard such historical figures as Van Gogh and Baudelaire as men of ingenuity and profound creativity than "mad" and "dangerous." Even Freud recognized this when, in his introduction to Dostoevsky's The Brothers Karamazov, he

wrote "four facets may be distinguished in the rich personality of Dostoevsky: the creative artist, the neurotic, the moralist, and the sinner." This, of course, in recognition of the striking similarity between creative genius and psychosis. Simply put, a number of interacting factors may determine which persons are labeled as "mentally ill" and which are not--despite the reality that the manifest behaviors are very much the same in each case.

For Scheff, then, as with other social constructionists and labeling theorists, the origin or etiology of the behaviors, thoughts, and/or emotions is not as germane to sociological analysis as the social reaction that they elicit from those around them. For elicited reactions are ultimately what determine whether a person will be labeled as "sick," "deviant," or "mentally ill" as opposed to other, less consequential adjectives. To be sure, Scheff (1966) as well as subsequent research in the sociology of mental illness has shown that the number of persons sufficiently "free" of symptoms generally associated with "mental illness" is less than 20% (Srole, Langner, Michael, Opler, & Rennie, 1962). In other words, the vast majority of persons, at some point during their lives, have experienced what would generally be regarded as symptoms of psychiatric disturbance. This is, of course, one of the primary reasons why we have witnessed the mental health community's greater emphasis on detecting, diagnosing, and treating such "illnesses" as depression in recent years. Need for increase in treatment of psychological problems (e.g., more facilities, awareness, availability) is only one argument arising from these findings. The other argument is more consistent with Scheff's conception of mental illness as a socially constructed phenomenon.

The frequency with which persons experience symptoms of mental illness is a prime indication of the social reality of psychological illness. Scheff's conclusion is that, while the majority of persons experiencing these symptoms as well as those around them simply rationalize or "explain away" the symptoms (Newman, 1995), others with the same manifest symptoms but different social circumstances are labeled as "mentally ill" and "in need of treatment." Thus, individuals, family members, co-workers, etc., upon observing the "strange" behavior, may regard them as the product of "stress," "eccentricity," or the byproduct of a physical illness, while those in other situations, in other cultures, other time periods, may be deemed "mentally ill" because of the same behavioral manifestations and, perhaps, involuntarily confined, treated, and/or outcast from the family, community, and society in general. In short, what the social constructionist perspective tells us is that "normality" (and its binary opposition "abnormality") are the product of one's ecology. Not that the behaviors themselves are not traceable to some organic or physical "cause," but that those labeled as "mentally ill" because of these behaviors are so labeled because of their historical and cultural position.

Law and the Fractal of Mental Illness: Toward a Perspectival Approach to Meaning

If we can agree that conceptualizing "mental illness" is not as simple as applying some agreed-upon, objective criteria to a given individual, what consequences might this hold for the role that "mental illness" plays in the legal system? At present, the legal system allows for two findings: that of health or that of illness. The law bounds itself by

its insistence that reality be clearly defined and able to be "fit" into predetermined categories. The existing definitions of mental illness--those of psychology and the law--are useful to the extent that they are favorable to the binary aspirations of the legal system. In other words, criteria are only useful to the legal system if they absolutely define a person as either healthy or ill. The multiple perspectives that define the fractal geometry of meaning are of little value to these aspirations. Finding an individual both mentally healthy and mentally ill, or healthy in some ways and ill in others, is of no value to the legal system as it currently operates. What would be more favorable--given the fractal nature of psychological being--is a fractal understanding of mental health; in other words, definitions of mental illness for legal purposes that allow for greater possibilities and more diversity.

Ideally, a legal system that is in harmony with the fractal nature of reality would allow for, or require, determinations of meaning outside of those that they currently provide (e.g., mentally ill or mentally healthy only). In other words, since mental well-being is about shades of health or shades of illness, the law would endeavor in its determinations of mental illness for various and varying shades to be incorporated. This may include, of course, sensitivity to cultural and subcultural variations in meaning as well as, perhaps, employing these different conceptualizations as a sort of "mirror" in which to reflect on its own shortcomings and myopic discernment. Clarke (1997) uses the phrase "corrective mirror" to describe this process of cultural reflection in light of other understandings of the world. Assuming a fractal perspective, then, would allow the horizon of possible meanings to expand and, thus, become more harmonic with the reality

of psychological being as it exists in the existential nature of things. Granted this possibility, the law's search for precision in definition would yield to definitions with boundaries that are loose and open to a variety of interpretations.

A precursor to the recent postmodern emphasis on appreciating and, perhaps, integrating cultural differences was Friederich Nietzsche. Nietzsche's "perspectivism" reflects and, in fact, predates many of the same concerns we have discussed thus far, namely, that all knowledge--all truth--is possible only from the perspective of that which is seeking after it. There are no eternal facts (e.g., no "mental illness" that transcends historical context) and no absolute truths (e.g., no "mental illness" discernable through objective criteria). Without digressing too much into Nietzsche's philosophy (see. e.g., Schacht, 1983; Clark, 1990; Thiele, 1990; Nehemas, 1985 on Nietzsche and the perspectival approach to truth and values), it is important that we consider the implications of such. Nietzsche's perspectivism, if granted value, has been interpreted by some (e.g., Best & Kellner, 1997) as warranting a "multiperspectival vision" (ibid., p. 66). That is to say, if each perspective has its own truth, its own value, its own meaning, then the more perspectives we explore the less partial and one-sided our understandings will be. With regard to "mental illness," this means that whatever understanding we (e.g., individuals, society, psychology, the law) may have of psychological "illness" or "health," assuming other perspectives and incorporating them into our black-and-white conceptions will carry us further toward the shades of meaning that fractal geometry tells us are definitive of reality. If fractal geometry provides an answer in any form, it is a robust form that embraces the "multi-determined nature of

existence and change" (Butz, 1997, p. 222). It is a form that figures away from totalizing, categorical, and objective measures of truth, knowledge, and meaning and toward a more qualitative understanding of existence--an understanding that validates the psychological being of individuals.

As we have seen, however, the psychological approach to mental illness--one that is nearly all-inclusive--is too inclusive for legal purposes. The approach of the law, on the other hand, has been to provide general, vague, and often ambiguous definitions and simply defer to the judgement of "expert" psychologists when mental illness is a question. Or, particularly in cases of the insanity defense, the law has been generally exclusive to the extent that persons experiencing significant psychological adversity at the time of their offense have been categorically deemed mentally "healthy" (i.e., legally sane) because they do not "fit" into pre-configured medical model conceptualizations of "mental disease or defect." Chaos theory and fractal geometry suggest that neither approach, neither exaggerated inclusivity nor rigid exclusivity, provide the answers concerning mental illness that the law desires. Rather, the meaning of mental illness falls somewhere in-between. Its meaning must be sufficiently robust to include non-medical understandings of mental illness, and sufficiently discriminating to prevent absolute chaos in the legal system. In short, searching for a "definition" of "mental illness" may be a futile effort--such a thing, along objective lines, does not and cannot exist. Rather, a qualitative understanding of individuality and socio-cultural factors is necessary to determine the existential reality of any one individual.

Summary and Conclusions

Recently, scientists studying the metabolic rate of animals discovered the "fourth dimension" factor that reveals the intricacies of the metabolic process as it relates to the mass of an animal (Couzin, 1999). Consideration of the area that presents itself to the perspective of the onlooker is consistent with traditional geometry (e.g., two- and three-dimensional representations). Yet accounting for (observable) surface area alone does not yield accurate answers as to why larger animals, for example, burn energy more slowly than smaller ones. To understand this complex phenomenon--to yield accurate mathematical results--the equation must consider a "fourth dimension." Where is this fourth dimension? The extra surface area is contained or, rather, hidden, in the folds of the animal's skin. Like the coastline, a birds-eye view does not reveal the intricate contours of the area under investigation. Rather, upon closer examination, there is an increasing complexity which makes accurate measurement nearly impossible. The "skin folds" of an animal such as an elephant could be said to have a fractal geometry--they "hide" a portion of the animal's mass and, consequently, frustrate attempts to account for that mass using traditional methods of mathematics.

What does this illustration from nature tell us about mental illness, the law, and consequent implications for justice? Simply put, it tells us that a human "being"--psychological "being"--has "skin folds" that confound attempts to measure it accurately or, for that matter, to even understand it in light of the goals of "modern" science and contemporary psycholegal practice (i.e., as a phenomenon conducive to objective classification and/or definition). Evidence of these "skin folds" has been discussed

throughout this chapter: in socio-cultural influences, political pressures and the impact of interest groups, historical climate, and the like. These factors act as undercurrents in our understanding of mental illness--though in ways that are, at times, beyond our conscious awareness. Consequently, they significantly effect the way we approach deviance and difference as psychology, as the law, and as a society. Their impact--much like that of the "skin folds" on an elephant--are generally unrecognized or, at least, unaccounted for in psycholegal "equations."

To be certain, the fractal of chaos theory does not give us a definition of mental illness. It offers nothing along objective lines that may help us narrow the boundaries of what constitutes mental illness for legal purposes. What the fractal tells us is precisely the opposite--that there is no one definition of mental illness (or two, or three for that matter). Rather, conceptualizations of psychological "being" (i.e., mental "health" or "illness") must account for the limitless perspectives from which such an experiential state can be approached. Any attempt to objectify psychological "being" is a futile concern. A clean three-dimensional world does not exist from the human vantage point. Instead, the world comes at us in dimensions of 2.25 or 1.76. The picture we take away depends on the perspective from which we approached the subject/object.

This is not to suggest that "mental illness" does not exist or is not, in some ways, discernably different from mental "health." What it does suggest is that we cannot categorically rule out or rule in anything as evidence of the presence or absence of mental illness. Behavior that is "normal" or persons that are "in need of treatment" are realities that do not and cannot exist on paper (e.g., in a psychiatric manual or legal code). They

are realities that are experiential--understood only from the unique perspective of the person experiencing them. Indeed, there may be extreme cases that are less controversial. The majority of persons, however, fall somewhere in-between the extremes and are not easily placed into binary categorizations of psychological "being." The fractal reality of human experience necessitates a fractal understanding, a fractal approach--a definition of mental illness that is colored, not in black and white, but in shades of reality.

Justice, then, like mental illness, must be considerate of the degrees of knowledge, experience, and truth that perforate our world. If the world is fractal, at least from the perspective of its inhabitants, justice must also be fractal. In this way, it must acknowledge and give treatment to the shades of reality that exist within nature. Equations of justice that apply universal, objective laws to that within its spheres are necessarily (self-)defeating. The extent to which psychology and law are prepared to embrace difference and, consequently, forego black-and-white conceptions of reality, is the extent to which--says chaos theory--they might promote justice and a just society.

Chapter 6

DANGEROUSNESS AND ITS PREDICTION

In the present chapter, the intent is to examine the controversy surrounding the legal concept referred to as "dangerousness." This controversy is twofold: dangerousness, like mental illness in the previous chapter, has lent itself to the "dangers" of semantic ambiguity. Additionally, and most attentively, we are interested in examining the more controversial issue of predicting dangerousness--whatever it may be. We begin with an examination of the legal concept of "dangerousness"--its meaning and role in the legal system. Next, we examine the relationship between psychology and dangerousness--most notably, in determining who is and who is not categorically "dangerous" for legal purposes. As with mental illness, there are certain limitations that emanate from both ends. The goal is to better understand these limitations and the consequent implications for justice that come into light through the lens that chaos theory offers.

Overview

The concept of dangerousness is, perhaps, the most elusive amongst psycholegal determinations. Elusive in the sense that an accurate definition of "dangerousness" has heretofore escaped the legislative imagination, and elusive because predicting which persons are dangerous and which persons are not is a deduction that has heretofore escaped the declared "expertise" of mental health professionals. Understanding the

concept of dangerousness is pivotal in the interplay between law and the civil liberties of individuals living under that law. It has been noted that the concept of "dangerousness" is "critical to at least fifteen different points of the decision-making process in the criminal justice and mental health systems" (Perlin, 1999, p. 102; Shah, 1978). Most often, for example, the law employs the notion of the "dangerous" individual (in addition to a finding of mental illness) to justify involuntarily commitment and/or to justify the continued detainment of individuals already confined or being treated against their will. Thus, with basic human rights such as freedom from restraint and the right to self-determination at stake, unearthing the differences between the "dangerous," the "potentially dangerous," and those posing no risk is one of critical import for a society endeavoring congruence with justice and a legal system that seeks a balance between the interests of the individual and the interests of the State.

The question arising from this differentiation is that which asks "under what circumstances is the state justified in using its power to infringe the liberty of the individual" (Shah, 1977, p. 91). The common response is that the State is justified under circumstances where the individual presents a "danger" either to others or to her- or himself (generally depicted as a gross inability to meet basic standards of self-care or as a more immediate physical threat such as suicidal behavior). Following this logic, the well-being of the individual and the community are of greater import than the liberty interests of that individual. The concept of the "dangerous mentally ill" individual becomes increasingly complex, however, when considered in light of the reality that, however

logical the argument may seem, we have yet to find justification for "protecting" the community from individuals known to be "dangerous" but not "mentally ill."

The continued validity of the State's proposed response to the "dangerous mentally ill" rests generally upon two assumptions: that the mentally ill are generally more dangerous than those not identified as such, and that the law has sufficient means to identify which mentally ill persons are "dangerous" and which are not. There is also, of course, an underlying assumption that the mentally ill can be effectively treated during incarceration and, thus, no longer present a threat to self or others upon release into the community--an assumption that calls into question the competence of the mental health profession more generally.

Dangerousness and the Law

Defining "dangerousness" has proven as much a problematic piece of legislative responsibility as defining "mental illness." Perlin (1999) notes that "no question in the area of the involuntary civil commitment process has proven to be more perplexing than the definition of the word 'dangerousness'" (p. 101). As it is generally understood, "dangerous" means either danger to self or danger to others as a result of an underlying mental disorder (see O'Connor v. Donaldson, 1982; also Note, 1974). Either determination is sufficient to justify the finding of "dangerousness" for legal purposes and, thus, for purposes of involuntary confinement. Statutory considerations of "dangerousness" are broad and, like those of "mental illness," often offer little more than a general guideline that encourages the legal system to rely on psychiatric evaluation and

testimony to clarify the ineptitude demonstrated by legislative bodies. It will be helpful to consider several examples.

Alaska's statute requires only that persons with mental illness be "likely to injure . . . others" to justify commitment (Melton et al., 1997, p. 308). Nebraska requires that a mentally ill person present "a substantial risk of serious harm" to self or others, while Wisconsin requires a "substantial probability of physical harm" (Schopp & Quattrocchi, 1995, p. 163). While each of these is conclusively vague, some states provide more specific statutory requirements for a finding of "dangerousness." An example is that of Florida, which requires a "substantial likelihood that in the near future [the person] will inflict serious bodily harm on. . . another person as evidenced by recent behavior causing, attempting, or threatening such harm" (Melton et al., 1997, p. 308).

Each of the above examples are drawn from State statutes that attempt to set a legal threshold for which persons constitute a danger to <u>others</u>. In the first three, terminology such as "substantial risk," "serious harm," "substantial probability," and "likely to injure" evoke an air of perplexity that pervades the notion of the "dangerous" individual. That is to say, what one judge, mental health professional, or community may designate as "serious harm," may differ significantly from what another would regard as either "serious" or "harm." Failing even to define "harm," Nebraska leaves open the possibility that "harm" may assume any of several forms that rely on subjective interpretation. The Florida statute, on the other hand, requires that "bodily harm" be the manifestation of "dangerousness." This limitation is typical of many states in that harm

to property and/or emotional harm does not constitute an infliction that justifies a finding of "dangerousness" for legal purposes.

In addition, the Florida statute requires a recent demonstration of violence or threat of violence. This recent manifestation requirement is generally referred to as the "overt act" requirement and has been adopted by a number of states. Pennsylvania, for example, defines this as conduct that has occurred "within the past thirty days" (Melton et al., 1997, p. 309). The overt act requirement is regarded by some as a safeguard against erroneous commitments. A recent suicide attempt, for example, is a much more powerful indicator that a person might pose a threat to her- or himself than simply a prediction not backed by demonstrable behavioral evidence (see Levy & Rubenstein, 1996, pp. 31-32). The overt act requirement, however, has not been adopted by all states, thus further conflating the various meanings assigned to "dangerousness" by legislative bodies (see Perlin, 1994, on overt acts).

In confronting the semantic instabilities of the term "dangerousness," Brooks (1974) has identified four variables that nearly always factor into legal determinations of danger to self or others: magnitude or severity of harm, probability of that harm occurring, the frequency with which the harm may occur, and the immanence or how soon the harm will occur. In factoring each of these variables into considerations of individual cases, Brooks believes that a satisfactory understanding of dangerousness--the ability to differentiate which persons should be regarded as legally "dangerous"--is possible. Perhaps the most informative element of Brooks's fourfold conceptualization of "dangerousness" is that which emphasizes both the interaction of variables and the

necessity of considering each case an individual case. These elements of dangerousness will play an important role in the treatment of "dangerousness" from the perspective of chaos theory (see also Hiday, 1981; and Shah, 1977, for other conceptualizations of the elements and dimensions of dangerousness).

Much of the material we have been discussing pertains to determinations of dangerousness where the (potential) harm is to another person. The "dangerousness to other" clause represents only one part of the role that "dangerousness" assumes in the legal system. The other part, "danger to self," represents a very different element of "dangerousness." Justification for each is subsumed under two different functions of the State--functions that are often confused or conflated in legislative as well as judicial endeavors to articulate the concept of "dangerousness" (e.g., Shah, 1977).

The involuntary confinement of individuals found to present a danger to others is justified under the State's police power function--a power that arises from a perceived responsibility of the State to protect its citizens (Perlin, 1989). Those mentally ill persons confined for presenting a threat to self are justified as subjects of the State via that institution's parens patriae power--a power arising from the State's "duty" to care for individuals unable to care for themselves. The latter function of the State requires some additional explanation in order to understand the legal conceptualization of "dangerousness."

The definition of "danger to self" is often similar to that of "danger to others." States that provide little explication of the "danger to others" criterion rarely provide sufficient pragmatic clarity in depicting which individuals present a "danger to self."

Every state provides, in statute, for the commitment of persons who are suicidal. An actively suicidal individual, however, represents only a select segment of the hospitalized population of individuals thought to be a "danger to self." The remainder of this population is composed of those individuals that meet the criterion effected by the "gravely disabled" metaphor (Arrigo, 1996, pp. 68-71). Individuals considered "gravely disabled" are typically not dangerous to others. Rather, they are persons who are distinguished by the State as being unable to provide for their own needs (e.g., food, clothing, shelter). This metaphoric treatment by the State poses unique semantic and pragmatic problems in that, much like the determination of "mental illness," exactly which persons are not providing for themselves because they cannot and which persons choose not to provide for themselves is not always clear. To be sure, imposition of treatment on the persons comprising the latter is arguably a Constitutional violation in that individual right to self-determination becomes usurped by the State.

These, in short, are some of the more controversial and significant issues pertaining to the legal conceptualization of "dangerousness." Lack of adequate legislative clarification creates a scenario much akin to that running through its articulation (or lack thereof) of legal mental illness. "Danger to others," for example, is typically not clear from behavior alone--save certain recent "overt acts" that may be more indicative of an immediate threat to one or more persons. Similarly, "danger to self" often becomes imbued with more socio-political coloring (Hermann, 1973)--providing it somewhat of an arbitrary character--than the legal clarity and demonstrable behavioral justification that is necessary for State power to intervene in individual decision-making. How, then, is the

dispute resolved? As with the conceptual problems that "mental illness" poses for the law, we must look to psychology's involvement in the legal sphere for answers.

Dangerousness and Psychology

The mental health profession has been subject to the increasingly acute predation of psycholegal critics since the concept of "dangerousness" was introduced as a substantive criterion for civil commitment. One reason for drawing psychology into the debate has been the legal system's unequivocal reliance on the mental health professions for diagnoses and predictions concerning the "dangerousness" of the mentally ill in general, and of individuals in given cases. Psychologists and/or psychiatrists are called upon by the legal system to testify as to both the presence of mental illness and the determination of "dangerousness." While these professions arguably manifest some degree of competence concerning the former, their understanding of and ability to predict the latter is much less appreciated and, consequently, besets the practice of violence prediction with an air of condemnation. To further the analysis of psychology's role in legal determinations of "dangerousness," its twofold relationship to this controversy needs to be examined: ascertaining whether there exists a relationship between mental illness and violence (the research dimension), and whether sufficient tools are available for predicting which individuals are or may be violent (the practical dimension).

Mental Illness and Dangerousness:
A Questionable Link

The correlation between the presence of mental illness and "dangerous" or "violent" behavior is one that has been a focal point for scholars of law and psychology. There indeed exists a certain stereotype, perpetuated by the media amongst other sources (Torrey, 1994), that the "mentally ill" are violent. It is not uncommon to witness the portrayal of the mentally ill as "homicidal maniacs"--portrayals common in films such as Psycho, Halloween, Silence of the Lambs, etc. (ibid.). The MacArthur Research Network on Mental Health and the Law recently released a "Consensus Statement" describing this very process:

> "Mental disorder" and violence are closely linked in the public mind. A combination of factors promotes this perception: sensationalized reporting by the media whenever a violent act is committed by a "former mental patient," popular misuse of psychiatric terms (such as "psychotic" and "psychopathic"), and exploitation of. . . narrow stereotypes by the entertainment industry. The public justifies its fear and rejection of people labeled "mentally ill". . . by this assumption of "dangerousness." (Monahan & Arnold, 1996, as cited in Perlin, 1999, p. 114)

Granted the minimal knowledge of psychological disorders found in the majority of the general population, it is not surprising that this stereotype continues to be perpetuated (e.g., Steadman, 1981). Wahl (1987), for example, found that 52% of college students surveyed believed aggression, hostility, and violence to be common characteristics of schizophrenia. Such representations inevitably contribute to the stigmatization of the mentally ill, but the question of import for both psychology and the law is whether they are justified.

In search of an answer, a host of literature has surfaced endeavoring to better understand this relationship (see, e.g., Monahan, 1992; Monahan & Steadman, 1994; Mulvey, 1994). It has been generally accepted over the last two decades, at least amongst mental health scholars, that the mentally ill are not more likely to commit violent acts than other members of the community. This assertion derived, in part, from early research suggesting that the link between mental illness and violent behavior was minimal at best (e.g., Mulvey, Blumstein, & Cohen, 1986; Rabkin, 1979). Despite several studies claiming that this contention may be premature (e.g., Mulvey, 1994; Otto, 1992), the majority of research remains supportive of the original conclusion. The relative mental "health" of individuals makes "at best a trivial contribution to the overall level of violence in society" (Monahan, 1997, p. 315).

Alcohol and drug abusers, for example, are far more likely to commit violent offenses than individuals with serious mental illness (Torrey, 1994). There is some evidence to suggest that those with serious mental illness whom are candidates for dual diagnosis--alcohol and/or drug abuse in addition to some form of mental illness--are significantly more likely to engage in violent behaviors (Mulvey, 1994; Reiss & Roth, 1993). This may be of especial significance when considering that, in some studies, as many as 33% of persons with serious mental illness presented substance abuse issues (Reiss & Roth, 1993). This correlation, however, does not make more valid the suggestion that mental illness alone contributes to violent behavior. It is more suggestive of the strong link that has been established between alcohol and drug use and violent or "dangerous" behavior.

With regard to the relationship between mental illness alone and violent behavior, recent research points to a correlation only within a small subgroup of the mentally ill population. In other words, the mentally ill as a whole are not more "dangerous" than the general population. Rather, a small percentage of the mentally ill population may be more prone to violence. Thus, the violent acts committed by mentally ill persons are attributable to a small minority of that population and by no means should the general population of persons with mental illness be regarded as "dangerous" individuals. Torrey (1994), for example, suggested that this small minority may be identifiable. In short, he finds that persons with a history of violent behavior, persons not compliant with medication regimes, those with neurological impairment, and symptomology including certain types of delusions and command hallucinations are more likely candidates for "dangerous" behavior. In response, however, Bell (1994) regards Torrey's conclusions as "overinclusive" and justification perhaps for outpatient commitment, but questionable as justification for "dangerousness" and involuntary confinement.

Thus, while the vast majority of mentally ill persons continue to prove "non-violent" and thus not legally "dangerous," medical and psychological research continues to search for indicators within segments of this population that may provide a more firm basis for a connection between mental illness and "dangerousness." Given the role that the legal system has fashioned for mental health professionals--that of predicting which persons represent a threat to the well-being of themselves or society--such efforts will undoubtedly continue. The vigor with which such efforts have been undertaken results, to a large extent, from the admitted inadequacy of mental health professionals in

demonstrating competence or reliability in generating such judgements. This inadequacy or incompetence represents the theme of the most passionate attacks on psychology's involvement in the legal system.

Psychology and the Prediction of Legal "Dangerousness"

Mental health professionals often find themselves with the responsibility of testifying as to both the presence of legal mental illness, and the probability that a given individual is likely to be "dangerous" to self or others. The ability of these "experts" to predict dangerousness "to any acceptable degree of professional certainty" (Schopp & Quattrocchi, 1995, pp. 159-60; also, e.g., Grisso & Applebaum; 1992) has been challenged and, consequently, psychology finds itself inescapably enmeshed in a heated psycholegal debate. The problem is twofold. Psychology has not demonstrated--to itself or others--the ability to predict "dangerousness" or even a mere sufficient understanding of "dangerousness." The legal system, on the other hand, finding itself in need of such understanding and prediction for purposes of civil commitment, for example, has few viable alternatives to mental health "expert" testimony. As such, there exists a conflict between what is called for and needed by the law, and the limits of professional expertise when predicting "dangerousness" is at issue (Mossman, 1994a, 1994b).

The clinician has essentially two roles in the legal context: that of diagnosis, and that of prognosis. Diagnosis is the finding of legal mental illness--the topic of the previous chapter. Prognosis, on the other hand, concerns the prediction of violence or the finding of "dangerousness." To this, Schopp and Quattrocchi (1995) suggest a third

component--the normative component. The latter is especially problematic from a legal perspective because it concerns the determination that an individual is dangerous enough to justify confinement. The normative component includes both legal and moral determinations that, under the present system of justice, are the responsibility of the legislature and the court. Arguably, then, the expertise of the clinician does not extend far enough to reach decisions that have legal and moral ramifications. The expertise of most clinicians is limited to descriptive concerns--describing and explaining impairment, describing and explaining the risk of harm associated with that particular level of impairment, and describing and explaining the available treatment and possible effects of treatment given the level of impairment. The legal determination of "dangerousness" requires consideration of both descriptive/explanatory and normative components. That is to suggest that, while mental health expertise may provide the court with information concerning those elements just described, the legal and moral elements--whether the risk justifies curtailing liberty--is ultimately the decision of the court. Thus, court over-reliability on mental health predictions of "dangerousness" as decisive in decisions to commit, for example, is arguably inconsistent with the foundations of an adversarial and "just" legal system. This distinction between the differing roles of legal representatives and representatives of the mental health profession becomes significant in understanding the implications of expert testimony concerning individual "dangerousness."

Psychology and Danger to Self:
The Need for Treatment?

The two-fold role of psychology in response to legal dangerousness--researching links between mental illness and dangerous behavior, and relatedly predicting which persons represent a danger--is more indicative of the need for psychology to understand danger to others in the context of the law. As noted, however, the law also allows for the involuntary commitment of individuals thought to present a danger to themselves (i.e., danger to self or "gravely disabled" criterion). This latter role of psychology carries critical significance for controversies discussed throughout the remainder of the present critique. Namely, the assessment of "danger to self" buttresses the majority of civil commitment cases and has implications for the right to refuse treatment. Further, our "case analysis" in Chapter 8 will focus primarily on cases of this sort. Though the controversy surrounding dangerousness is most often linked to the prediction of violent behavior, understanding its relation to non-violent mentally ill persons facing preventative detention necessitates some attention.

The goal of any assessment of "danger to self" or "grave disability" is to ascertain whether the individual:

> . . . is substantially unable to provide for some of his basic needs, such as food, clothing, shelter, health, or safety or will, if not treated, suffer or continue to suffer severe mental and abnormal mental, emotional, or physical distress. . . causing a substantial deterioration of his previous ability to function on his own. ("Guidelines for Legislation," 1983, pp. 674-677)

This proposed definition by the American Psychiatric Association clearly acknowledges the need to understand whether an individual is psychologically able to ensure her or his

well-being. Psychology, of course, is the most obvious functionary in light of the character of such judgements. The controversy arises when we question whose values or constructions of well-being are employed to make these decisions. Arguably, they are those of psychology.

Perhaps the most relevant assumption driving decision-making in these contexts in that of a "need for treatment." This assumption, one will note, is a recurring theme throughout the present critique. It is the core assumption that informs psychological decision-making concerning the presence of mental illness, dangerousness to self, civil commitment, and the right to refuse treatment. Given, in the context of civil commitment, the necessity of a finding of dangerousness in addition to the presence of mental illness, the "need for treatment" must be addressed, not simply as an implication of a person's mental illness, but as a precursory element of probable self-harm. What this means is that, in the context of psychological decision-making, mental illness must be shown to give rise to a need for treatment that, if not addressed, will result in "distress and deterioration." This, then, is the role of psychology in the context of predicting which persons are "gravely disabled" or pose a significant danger to themselves.

Limitations of Legal and Psychological Approaches to Dangerousness

As alluded to throughout the first part of the present chapter, limitations to an understanding and legal treatment of "dangerousness" come in two general, but interrelated, forms. The legal understanding of dangerousness is premised on the belief that the State has a duty to protect the community from dangerous persons and a duty to

care for individuals not able to adequately care for themselves. But what constitutes a "dangerous" individual from a legal perspective? Like "mental illness," the other substantive criterion for involuntary confinement, its meaning is not articulated with any sufficient degree of clarity by legislatures. What amounts to "dangerousness" varies significantly between states and undergoes legislative revision from time to time. The divergent understandings of "dangerousness" result, in part, from a lack of adequate understanding of the relationship between mental illness and violent behavior. For several legal purposes, however, the legal system must arrive at some conclusion as to which persons do and do not constitute a threat to self or others. In light of this necessity, the legal system has generally deferred to the expertise of mental health professionals for clarification.

To the extent that the law's treatment of dangerousness is contingent upon ongoing research, psychology plays an important role in fathoming statutory revisions concerning "dangerousness." To the extent that case-by-case decisions are necessary for a legal finding of "dangerousness" to justify commitment, for example, psychology plays an important role as "expert" in courtroom testimony. In a sense, then, the law and legal system depend for continued sustenance on what psychology brings to the "puzzle." Two identified areas have been chosen in which psychology has historically offered input: research pertaining to the link between mental illness and violent behavior (understanding dangerousness), and expert testimony as to whether a given individual is likely to represent a threat to self or others (predicting dangerousness).

In each case, psychology has performed at a less than satisfactory level. Research clearly demonstrates no conclusive link between mental illness, in general, and violent or dangerous behavior. Yet there continues to be a wave of research searching for such a link. In the meantime, psychology offers predictions of dangerousness based upon the little knowledge or experience that it does have. This predictive element of psychology's involvement in the legal system represents the greatest threat to the system's respectability and perceived reliability. Psychology, being unable as yet to provide predictions at a greater-than-chance rate of success, has opened the door of the law to infection in practice and criticism in theory.

Thus, the extent to which psychology is called upon to contribute to the legal decision-making process is one that requires careful consideration. It is generally accepted that courts tend to defer to the expertise of mental health professionals on issues of mental illness and dangerousness. Psychology's inadequate understanding and unreliable predictions of dangerousness have become "established fact within the profession" (Barefoot v. Estelle, 1983, p. 12). In addition, questions persist as to the extent to which psychology should be involved in ultimate decisions where civil liberties are at stake. Despite such controversial debate, psychology's involvement in predicting "dangerousness" is a current reality at the intersection where it meets the law. For this reason, the "futility" that arguably describes the predictive effort must be further examined. In other words, why has psychology been so unsuccessful in its endeavors? This question will now be examined in light of the appreciation that chaos theory brings.

Chaos Theory and Dangerousness

In the previous chapter, the concept of "mental illness" as against that of "mental health" was addressed--employing a range of critical theoretical and philosophical positions and augmenting these positions with the insight generated by a familiarity with the fractal of chaos theory. This examination was intentionally limited to a single principle both to ease the reader into the material, and because it arguably provides a necessary and helpful perspective for the critical examinations that will follow. It is contended, for example, that fractal geometry is the best available "scientific" tool for understanding how meaning is to be approached.

In the present chapter, an analysis utilizing additional principles of chaos theory will be undertaken. Namely, as the present chapter concerns itself, not only with meaning, but also with the notion of prediction, it will be beneficial to examine those principles of chaos theory that contribute to an understanding of predictive efforts. Additionally, as the employment of fractal geometry in the previous chapter was intended, for the most part, to buttress several positions that have come of age in recent years, the employment of chaos theory in the present chapter is an attempt to offer something more or something different than could be derived without the aid of the "new science."

Re-Conceptualizing Dangerous "Behavior"

Shah (1977) tells us that one of the biggest impediments to understanding "dangerous" behavior and, subsequently attempting to predict it, is our very

conceptualization of behavior itself. In other words, behavior "is often viewed as stemming largely if not entirely from within the individual, that is, as derived from his personality" (ibid., p. 105). The conflation of specific behaviors with personality characteristics is a not uncommon fallacy by both lay persons and mental health professionals. The consequences of such conflation can be enervating for efforts to understand the role that violent behavior, for example, plays in an individual's life. Conceptualizing behavior as stemming from personality engenders a tendency "to view behavior as a fairly enduring, consistent, and even persistent characteristic" (ibid., p. 105). In the context of understanding "dangerousness," persons labeled as "dangerous" because of previous acts are thought to remain so. Behavioral samples are regarded as indicative of typical behavior for that person. On the other hand, those with no history of violent behavior are often regarded as not dangerous. The link that establishes "dangerousness" as a personality characteristic rather than a "behavior" has profound consequences in its relation to legal determinations of "dangerousness." The suggestion that previous behavior is the best indicator of future behavior, for example, has reached the status of near fact in clinical circles (e.g., Monahan, 1981). Thus, it is not uncommon for the mental health professional determining the "dangerousness" of a given individual to emphasize previous violent or lack of violent behavior when arriving at a prediction.

Following this line of thinking, the process moves from the labeling of a <u>behavior</u> as "dangerous," to the labeling of the <u>individual</u> as "dangerous" based on that behavior. This was Foucault's (1988) concern as well, when he says:

> Legal justice today has at least as much to do with criminals as with crimes. . . . [F]or a long time, the criminal had been no more than the person to whom a crime could be attributed and one who could therefore be punished (p. 128)

Foucault's genealogy links the arrival of psychiatry into criminality with providing a new direction for examinations of mental illness and crime. In particular, he says, attention could be focused on the individual rather than the crime. Foucault refers to this development as the "psychiatrization of criminal danger" (ibid., p. 128) and links its emergence with attempts to impose labels of unreason or irrationality onto "crazy" people who committed unthinkable acts. The only way to "make sense" of such acts was to understand insanity as something "hidden" or as a danger that lay beyond the actor's control. Consequently, psychiatry created a crime--the crime of mental illness which would carry assumptions of latent danger. "Crazy" people would thereafter be criminalized because of what they represented (a threat to society)--not what did. Psychology's intervention into law, then, sanctioned, produced, and legitimized the causal link between mental illness and crime. As a result, "dangerousness" became equated with underlying personality (see also Arrigo & Williams, 1999a).

Not only does this deceptive trap allure with its conceptual shortcut, it confounds the ability to distinguish isolated incidents from enduring personality characteristics--a distinguishment that forms the basis of psychology's involvement in this context. Much like prematurely labeling persons as "mentally ill" based on eccentricity or cultural differences, labeling an individual "dangerous" based on isolated or specific behaviors may unnecessarily stigmatize or deprive otherwise harmless persons of their liberty. Arriving at predictions based on this line of logic may be fallacious since "physically

violent or other dangerous acts are usually rather infrequent, occur in specific situational contexts, and may not be representative of the individual's customary behavior" (Shah, 1977, p. 105; 1974, pp. 677-679). To understand this reasoning, we can employ several principles of chaos theory.

Ecology, Sensitivity, and Stability

Chaos theory encourages us to view behavior in its ecological context. That is to say, individual thoughts, feelings, physical comfort, and the behaviors that interact with these and other factors are determined, not by the individual alone, but by way of an ongoing and constant interaction with the environment. The individual, as a system her- or himself, is prone to the influence of the various and varying factors that impact the behavior of that system. We cannot, for example, identify and seek to understand individual behavior isolated from both internal and external variables. Internal variables may include many of the determinants of individual personality that psychology has assumed as the collective focus of its discipline. The extent to which an individual is able to control anger, effectively handle stressful situations, make rational decisions rather than succumb to the influence of emotion or desire, and other internal variables constitute only one half of the behavioral equation. The other half includes those environmental factors the individual has little or no control over. Here we might include variables such as family structure, the quality of familial support/interaction, neighborhood deterioration, weather conditions, and anything and everything else that may play a pivotal role in patterns or isolated incidents of behavior. While being raised by a single mother who is a

drug abuser and prostitute, for example, may play an obvious role in a young girl's life choices, chaos theory informs us that behavior is ultimately influenced by far less conspicuous phenomena.

The principle of chaos generally referred to as sensitive dependence on initial conditions furthers our understanding significantly. Recall the "butterfly effect" that we discussed in Chapter 3--the flapping of a butterfly's wings in China leads to violent storms off the coast of Florida a few weeks later. What chaos theory tells us here is essentially that the smallest effect--effects that are largely ignored if even realized--can have substantial impact on the system's behavior. Further, the effect that influences behavior could have occurred sometime earlier so as to delude us into examining a more recent phenomenon as part of a cause-effect process. This occurs, for example, in cases of panic disorder where a panic "attack" may be traceable to a moderately stressful event that occurred several weeks earlier. The influence of the event is largely unrecognized and, thus, our understanding of the relationship between the effect and later behavior (or thought/affect) is extremely difficult to ascertain.

System behavior, while at times static and predictable, is prone to external influences that may cause the system to bifurcate. Recall that bifurcations in behavior can occur when an external stimulus perturbs a system to an extent beyond what the system is capable of sustaining. The system becomes "knocked off balance" and its behavior is no longer static but moves somewhat unpredictably in response to the destabilization. If the system continues to lose stability, its behavior becomes

increasingly disorderly and susceptible to more subtle influences. Seemingly stable behavior, for example, can quickly become unpredictable if its parameters change.

The "order-to-chaos" transition describes, by way of sensitive dependence, bifuractions, and iteration, precisely this process. A sensitive structure (e.g., human being) may, quite unpredictably, fall under the influence of an (or several) external stimulus that distorts her or his stability or state of equilibrium. The human being is, as we have argued, a nonlinear system. This means, for one, that the effects that various external stimuli have on a given individual are self-reinforcing. Iteration describes this "stretching and folding" process whereby outputs (i.e., psychological effects or manifestations of external input) are fed back into the system in a self-reinforcing manner. Thus, when not effectively managed by, for example, adequate coping mechanisms, the effect can multiply ad infinitum or increase exponentially. We have seen as well that, when these effects become sufficiently disabling, the system can bifurcate and be propelled toward chaos. With regard to individual mental functioning, this might be thought of as the "breaking point" or point where "dangerousness" may be realized.

Consider an individual in what appears to be a stable state. The individual holds a steady job with a reasonable salary, has what appears to be a stable marriage, extended family living nearby with whom he maintains favorable relations, and, we might add, no history of behavioral displays that could be regarded as violent or contextually inappropriate. Now consider that one week ago he received a call from a school administrator informing him that his 14-year-old son had been caught selling drugs at

school, and two days ago his wife revealed to him that she had, on one recent occasion, been unfaithful. These may be considered perturbing stimuli in that his psychological and, perhaps, physical well-being will undoubtedly undergo a change for the worse. The once stable man has entered a phase in which his behavior, influenced as well by his thoughts and affects, is marked by instability and disorder. In this situation, it is not clear that the man would engage in violent or otherwise inappropriate behavior. What it does suggest is that he is more disposed to unpredictable behavior and behavior that may fall outside of his "normal" pattern. Further, the $600 worth of repairs that his car had to undergo several weeks ago--which seemed little more than an inconvenience and unavoidable expense at the time--now has the potential to play a much more significant role. The more unbalanced his psychological state, the more sensitive he becomes to external influences, and the more likely he is to manifest behaviors that are not customary for him.

What this suggests is that ecological concerns are ultimately of equal if not greater significance than the "internal" or "psychic" influences on individual behavior. Whatever traits may be identified as belonging to an individual, the complexity of life--described by such principles as iteration, sensitive dependence, and bifurcations--is of sufficient impact to render even a precise diagnosis of psychological "state" informative only to a limited degree. Rather, as in the described hypothetical, the sensitivity of the human psychology to ecological influence leaves behavior largely unpredictable and always subject to unforeseen deviations or "bifurcations." The extent to which this sensitivity and consequent unpredictability informs (or should inform) current civil commitment practice

will be addressed shortly. For now, the principles of chaos theory suggest that any conception of human behavior--past, present, or future--must acknowledge the limitations inherent in attributing such behavior to the individual alone.

An Ecological Perspective on "Dangerousness"

The simple hypothetical just related is the kind of situation that may, in certain cases, lead to "isolated" incidents of violence or otherwise "dangerous" behavior and, consequently, result in a label being unnecessarily placed on an individual--a label that, as Shah warns against, may attribute behavior to underlying personality. For this reason, it is imperative that in assessing given individuals as "dangerous" (or not so) we recognize the influence of external stimuli. Collectively, these stimuli will be referred to as ecological variables--variables whose influence is manifest in the individual's ongoing relationship to her or his environment.

Behavior must be conceptualized, not as a manifestation of personality, but as well with its contextual influences--be they social, cultural, environmental, political, situational, etc. (Shah, 1977). The MacArthur Risk Assessment Study has shown some movement in this direction (see, e.g., Monahan, 1997; Monahan & Steadman, 1994). In assessing risk factors, the study is attempting to incorporate a wide variety of variables. These variables are categorized into four interrelated domains: dispositional (e.g., age, race, gender, class, personality, and neurological factors); historical (e.g., family, work, mental health, violence, and juvenile delinquency); contextual (e.g., social supports, stress, physical environment); and clinical (e.g, current symptoms, drug and alcohol

abuse, and level of functioning). The movement toward an ecological understanding of violence risk assessment by the MacArthur Research Network is a step in the right direction, according to chaos theory. By attempting to identify the contextual variables, for example, there is an acknowledgment that behavior exists only in conjunction with influences outside the individual's own personality.

Behavior can then be re-conceptualized from an ecological perspective--as an interaction. For nothing in the world, at any level, occurs without interaction. The existence of water requires atomic interaction; the onset of a storm requires interaction amongst atmospheric conditions; the stability of an economy requires interaction between production and consumption; and even spousal violence, for example, generally requires some degree of interaction between partners. Beyond these immediate interactions, however, there are innumerable others. Crime (e.g., armed robbery) requires not only the interaction of victim and offender, but is also situationally contingent in such variables as time of day, amount of light, presence of potential witnesses, presence or absence of law enforcement, etc. Provided even slight variations in these circumstances, it is likely that that particular crime would not have occurred at that particular moment.

It should be noted here that most systems settle into patterns of behavior over time. These patterns are called "attractors." Without moving too far into a discussion of this principle (see Chapter 7 for a more detailed exploration of attractors), a couple of notes are worth stating. First, while these patterns are discernable, they are subject to perturbations from without. We have mentioned the principles of bifurcation and sensitivity to initial conditions in this context. Even an arbitrarily small change in the

system's relationship to its environment, for example, may be sufficient to disturb it, "throwing" it into a new attractor or new pattern of behavior. Thus, while the argument could be made that individual behavior generally conforms to certain discernable patterns, this argument would hold water only to the extent that both intrapsychic and ecological variables also remain in a fairly static and predictable state. Because of these patterns of behavior, researchers have enjoyed some success in predicting the near future (e.g., weather patterns/conditions for a period of several days). Even these short-term prediction are, at times, inaccurate. Long-term predictions concerning individual behavior, then, are generally fruitless endeavors if some degree of accuracy and reliability are desired.

Thus, behavior itself is better conceptualized as an interaction between the individual (i.e., personality and internal factors) and her or his social-environmental context (i.e., external factors). These external factors may serve as stabilizers in the sense that they may encourage order, or perturbing factors in that they may encourage instability or disorder. Individual behaviors vary in form, frequency, and magnitude (Shah, 1977). Contributions from without inevitably exert an influence on the range of possible behaviors as well as the form, frequency, and magnitude with which they are undertaken at any given time. This is of particular relevance when re-considering Brooks's (1974) four variables suggested as foci of predictions: the severity, probability, frequency, and immanence of potential harm. Each of these four variables cannot be considered outside of the interaction between individual and environment. But can environmental factors be integrated into the "dangerous equation" with any degree of accuracy?

The Fallacy and Futility of Prediction

Chaos theory informs us that nonlinear systems (e.g., individual persons) "behave according to properties than can be defined only through examination of the collection of the system components, not through reductionist study of any one system component" (Ruhl & Ruhl, 1997, pp. 418-19). Some behaviors are the product of what can be termed "emergence." Emergence may be generally construed as a process whereby something (e.g., a behavior) appears that would not be describable given the defining parameters of the system (ibid.). In other words, it is the manifestation of a behavior that one would not be able to "predict" based on what is observable or available through examination of the individual (e.g., her or his traits or personality) alone. This is precisely the result of the limitless influence of interacting variables on the individual at any given time.

Shah (1977, p. 106) proceeds to write that "efforts to understand, evaluate, predict, prevent, and treat an individual's violent or otherwise 'dangerous' behavior should not concentrate solely upon discovering or uncovering aspects of an individual's personality. . ." Rather, he suggests, "it is also very important to give very careful attention to the particular physical and social environment and the situational contexts in which certain types of behaviors are displayed" (p. 106). Shah certainly provides what amounts to a cautionary statement concerning the extent to which psychology, unaided by sociological insight, should rely on its evaluative measures to predict which individuals are harmless and which should be subjected to the abrogation of liberty interests. On the other hand, the value of Shah's offering stops there. Even given due consideration of socio-environmental factors, predictive efforts are likely to be futile. Notwithstanding the

fact that efforts such as those of the MacArthur Network represent a movement away from the premature conceptualizations of old, the efforts to predict violent behavior (as opposed to merely understanding it better) are likely to be in vain.

Chaos theory tells us that the behavior of a system (e.g., individual), while sometimes static and predictable for short durations, is ultimately prone to periods of disorder and, consequently, unpredictable in the long run. This is due, in part, to the reality that external influences on behavior are unpredictable in the "real world." Efforts to "understand, evaluate, predict, and prevent" may be met with a limited degree of success in experimental laboratories, yet the "life world" is far too complex for sufficient understanding. In part because of the immaturity of nonlinear science and in part because of the delusive impact that the Enlightenment's scientistic perspective has had on our optimism concerning understanding, we fail to recognize the "disorder" and nonlinearity that reality presents--a disorder that not only limits, but makes nearly impossible our endeavors to predict the future with any degree of accuracy.

To fully realize the relationships necessary for accurate prediction, we would have to fully realize the relationship and effects of every interaction that influences the individual or system. The problem, of course, is that

> if the effect of any particular interaction is tiny, we may not be able to work out what it is. We can't study it on its own, in a reductionist manner, because it's too small; but we can't study it as part of the overall system, because we can't separate it from all the other interactions. (Cohen & Stewart, 1994, p. 182)

Thus, understanding the effects of every intrapsychic and ecological variable as well as their various interactions is the necessary prerequisite for accurate prediction of nonlinear

dynamical systems. In terms more simple and in relation to predicting which individuals will engage in "dangerous" behavior, this means that the complexity of the world limits and, perhaps, eliminates any hope that we may have of reliable long-term predictions concerning anything from the weather to individual behavior.

Dangerousness, Prediction, and Civil Commitment

While the concern has thus far been with what chaos theory would suggest is the futility of prediction, it has not been addressed as to what, in psycholegal spheres, concerns the preciseness of measurement necessary for a finding of dangerousness in the interest of civil commitment. In other words, while chaos theory informs us that precise prediction is impossible in light of ecological influences, the law has, to some extent, addressed these concerns as a practical matter. In short, the law has acknowledged the limitations of prediction, but nevertheless continues to rely on its power for decision-making purposes. Why? The answer is a complicated issue and calls into question the prevailing philosophical assumptions under which the legal system operates. In short, by justifying the need to protect individuals from themselves and others from them (more on this in the following chapter), the law has shown a willingness to allow imprecision to guide its decisions. While the uncertainty of psychiatric opinions was the very reason for which the law was criticized and, subsequently, asked to raise the standard of proof in civil commitment cases, its response was to use this uncertainty for lowering the standard of proof (Levy & Rubenstein, 1996).

The precedent case is that of Addington v. Texas (1979). In Addington, the United States Supreme Court offered the "clear and convincing" metaphor to rectify the conflict over the necessary (and plausible) standard of proof in cases of civil commitment (Arrigo, 1996). The Court recognized the need for due process protection when deprivation of liberty was at stake. By proposing the "clear and convincing" standard of proof, the Court took a step in this direction, yet fell short of affording persons facing civil commitment the same protection granted to criminal defendants ("beyond a reasonable doubt"). The Court offered that requiring such stringent standards in civil commitment cases "may completely undercut efforts to further the legitimate interests of both the state and the patient that are served by civil commitment" (ibid., p. 430).

What this means, essentially, is that due process requires that predictive efforts need meet only a 75% degree of certainty (see e.g., Stone, 1975). Criminal defendants are afforded the necessity of proof "beyond a reasonable doubt"--amounting to at least 90% certainty. Of importance here is the relationship between predicting dangerousness and the "clear and convincing" standard of proof. In short, to meet due process requirements in civil commitment cases, psychologists/psychiatrists must be able to predict that a person is dangerousness (i.e., will commit a future dangerous act) with a 75% level of certainty or, more accurately, a 75% level of success. Current figures, however, suggest that mental health professionals are able to predict dangerousness with an accuracy rate from somewhat "less than chance" to moderately "better than chance" (e.g., Mossman, 1994a, 1994b). Despite what some claim to be improvement or at least the "undervaluing" of predictive success (Lidz, Mulvey, & Gardner, 1993), the currently

indisputable conclusion is that psychologists and psychiatrists are not able to predict future violence with anywhere near the 75% success rate necessitated by due process standards. This criticism, of course, notwithstanding the more obvious philosophical contestation that persons facing loss of liberty--even in civil cases--should be granted protections equal to those facing confinement because of criminal conduct.

Cocozza and Steadman (1976, 1978) suggested that attempts to civilly commit individuals based upon a finding of dangerousness--requiring an accuracy rate anywhere above 50%--would be "futile." This statement is consistent with our analysis of prediction from the perspective of chaos theory. The question that encouraged pursuit of this "standard of proof" examination was "How futile are predictions according to chaos theory?" Accordingly, it can be said that they are too futile to be the basis of civil commitment. The law, as previously stated, has acknowledged the imprecision and error with which predictions of dangerousness are made and has subsequently implemented a lower standard of proof for such findings. Chaos theory, however, responds by claiming (in conjunction with accuracy studies) that prediction is futile--even when only a reasonable degree of accuracy is required. Thus, any standard of proof or, more accurately, any civil commitment reality that includes a finding (i.e., prediction) of dangerousness as a substantive criterion is demonstrably opposed to the promotion of justice.

Danger to Self, Grave Disability, and Civil Commitment

Before progressing to the issue of civil commitment in the next chapter, it is worth briefly re-visiting the concept of danger to self or "grave disability" in the context of chaos theory. For the most part, the arguments offered concerning the futility of prediction are equally applicable when the object of danger behavior is the self. The difference lies, primarily, in the type of danger. Dangerousness to others implies violent behavior; dangerousness to self implies self-neglect or something more akin to negligence than overt action. Thus, it is important to concede that, in the context of "grave disability" (or its jurisdictional equivalent), predictions are informed less by what an individual will or will not do, and more so by valuations of the individual's quality of life.

The problem with ascribing values to individual lives based on "common sense" understandings of appropriateness will be considered in the following chapter, as well as in the case study chapter. For now, it may be helpful to recall the notion of the fractal that was described in the previous chapter in the context of understanding mental illness. A similar logic applies in the context of dangerousness, to the extent that identifying persons based on the "distress and deterioration" standard as dangerous or severely impaired are more obviously examples of the process of labeling (Arrigo, 1996). That is, individuals whose chosen lifestyle is one of homelessness, for example, might be labeled as those whose psychological state is one giving rise to abnormal functioning (i.e., the decision to be homeless) and, consequently, the person may be thought "in need of treatment" to save her or him from inevitable deterioration. What is "normal," as we

have seen, is not always equivalent to socially constructed understandings of normality--more on this in the next chapter.

Summary and Conclusions

The pre-Socratic philosopher Heraclitus is thought to have once said that "you cannot step twice into the same river, for other waters and yet others go ever flowing on" (Wheelwright, 1966, p. 71). By way of this realization, attempts to predict the effect of stepping into the river based, for example, on a previous experience would be futile--for waters change and, consequently, the experience must change with them. Thus, an historical encounter that was harmless may not be so again--and an historical encounter that was "dangerous" is not necessarily so again. While Heraclitus was not a psycholegal scholar, nor a mental health "expert," he pre-dates our understanding of the "universal flux" that defines our world by over two thousand years. While the fluxual nature of reality alone should be sufficient to cause some apprehension in predictive endeavors and expectations, the innumerable influences, however subtle, that impact this ever-changing reality should be sufficient for realization that we will unlikely ever have the understanding necessary to predict "dangerousness," much less life.

Heraclitus also reputedly wrote that "seekers after gold dig up much earth and find little" (Wheelwright, 1966, p. 69). It is unfortunate and "dangerous" in itself that the legal system has shown a preference for the findings (or mere opinions) of "gold diggers" when questions of human liberty confront it. The unreliability of "expert" testimony has encouraged Grisso and Applebaum (1992) to suggest that clinicians should never attempt

to predict dangerousness. Unlike diagnosing mental illness that, despite the considerations in the previous chapter, continues to lie closer to the clinician's expertise, predicting something as elusive as "dangerousness" in light of the vagueness with which it is defined by most legislatures and the nonlinear and ever-fluxual nature of reality is a practice that could rarely advance justice.

We are all aware of the impact that significant events or stressors can have on our life. We are also, to some extent, aware that more subtle phenomenon such as the temperature outside can also effect our behavior--however unbeknownst those effects are at the time. What becomes apparent when we consider the "everyday" involvement of the principles of chaos theory in our lives and in those of others is the critical impact that seemingly insignificant events can have. Much of the time, in fact, we are never made aware of such impact. Something as small as waking up two minutes late--which causes you to have to stop at a traffic light and listen to the obnoxious music coming from the car that stops next to you, which gives you a bit of a headache, which then contributes to your throwing a memo in your boss's face after he offered constructive criticism 20 minutes later at work--can significantly alter thought/affect/behavior. In this case, your "memo incident" may be considered only distantly related to "dangerousness," yet it is not difficult to imagine similar situations that have consequences far less harmless.

What does this all mean for psychology, law, and justice? It has been attempted in this chapter to address the role that "dangerousness" and its prediction play in the psycholegal sphere. In doing so, we have called upon several principles of chaos theory--iteration, bifurcation, and sensitive dependence on initial conditions--to inform our

analysis. An argument was offered with implications that are twofold: first, the law has failed to communicate to psychology exactly what it is referring to when asking about the "dangerousness" of certain individuals or classes of individuals. This is a semantic concern which, notwithstanding its import, is ultimately not a primary concern. Secondly, however, it was suggested that--even without the added confusion generated by the vague definitions of "dangerousness"--predicting anything as sensitive to external influence as behavior is an effort to be met with little, if any, success. This latter point, of course, was made despite the alleged degree of "expertise" claimed by those practicing such predictions. When Monahan (as cited in Levy & Rubenstein, 1996), an "expert" on dangerousness himself (see Barefoot v. Estelle, 1983), wrote that ". . . our crystal balls are terribly cloudy" (p. 30), he may have been better served using the phrase "terribly unstable," referring to the quixotic efforts of mental health professionals as just that.

While there are undoubtedly patterns of behavior that persons settle into over time, and there are undoubtedly less-than-subtle "warning signs" available on occasion, the latter is the exception rather than the rule and the former is valuable only to the extent that the pattern does not shift as a result of variables often beyond the immediate control of the individual and those in direct contact with her or him. To be sure, we have shown that, employing the insights that chaos theory offers, behavior can be perceived only in light of the myriad of interactions that directly effect it. Thus, "dangerous" behavior must not be attributed to an individual personality but, rather, attributed to the interaction of countless factors--past, present, and future--at a given time. This light, however unfortunately, is not one that shines on Monahan's "crystal ball."

What this leads us to conclude is that the civil commitment of individuals presumed or, more accurately, predicted to be dangerous, is a practice that results both in the abrogation of liberty when such abrogation is unjustified, as well as the provision of liberty to individuals who may indeed represent a threat to themselves or others. If justice requires that we do not deprive persons of liberty, freedom, and the right to self-determination under arbitrary guidelines, then the practice of predicting dangerousness is demonstrably not consistent with justice or a just society. Rather, justice--through chaos theory--demands that we respect the unpredictability and indeterminacy that governs individual and group behavior.

Chapter 7

CIVIL COMMITMENT

The previous two chapters addressed the current psycholegal controversies concerning the meaning of mental illness and issues concerning the legal concept of "dangerousness" and its prediction. On the civil side, these two controversies culminate in what is an even greater controversy: involuntary civil confinement or civil commitment. In the present chapter, this much debated phenomenon is explored. In contrast to the previous two chapters that explored what might be considered individual variables that factor into civil commitment policy and practice, in the present chapter the critique takes a different turn in that the social position of civil commitment is explored. That is to say, the place of civil commitment in contemporary societywill be explored. In keeping with the outline of the present critique, both the legal approach to confinement of the mentally ill and the psychological approach will be examined. Again, there are identifiable limitations or, perhaps, objections to both approaches. These objections are such that they encourage us to respond to the extent that justice is promoted or not promoted by the practice of civil commitment. The principles of chaos theory, it is hoped, will help to further this debate.

Overview

Civil commitment may, perhaps, be regarded as the most eminent and academically appreciable controversy in civil mental health law. This is, in part, because

of the moral impasse at which it places the systems of law and psychology. Confining an individual to a psychiatric hospital against her or his will represents the ultimate deprivation of liberty. In contrast to criminal confinement in which cases the institutionalized individual is theoretically suffering the consequences of her or his deed, the civilly confined individual has generally committed no wrongs against society--none, at least, that factor into her or his present engagement with the system of law. S/he may be perceived as representing a threat (i.e., potentially harmful or criminal) to society based on past behavior or predicted conduct, but has not committed acts for which criminal sanctions are traditionally imposed. Thus, in short, the moral element runs much deeper than in criminal cases where the deprivation of liberty is arguably justified.

This moral impasse has divided the legal and psychiatric communities into several opposing, and generally irreconcilable, sides. The first--proponents of civil commitment--suggest that a temporary loss of freedom, liberty, and individual rights is necessary and, thus, justified to protect the community from unstable individuals who may engage in behaviors that would be considered injurious--either to themselves, other individuals, or, in some states, property. These "mainstream legalists" (Arrigo, 1996, p. 48) argue that incapacitation is necessary to protect the interests of the community and the individual (Gutheil, Applebaum, & Wexler, 1983; Pollock-Byrne, 1989).

Critics of civil commitment, however, have been somewhat successful in creating a balance through contrast by presenting a variety of other angles from which to perceive the issue. These other angles are represented by those, at one extreme, who would argue that the loss of liberty associated with civil commitment should never be regarded as

justifiable. Such "abolitionists" (Arrigo, 1996) claim that no justification exists for civil commitment and thus, its practice in contemporary society should be outlawed (Ennis, 1972). Notable abolitionists such as Thomas Szasz (1963, 1987) claim that the liberty interests of individuals should not be sacrificed simply in light of an individual's mental state. Employing the language and conceptual work of anti-psychiatry, abolitionists continually reference the effects of institutionalization (Goffman, 1961), labeling (Gove, 1975; Scheff, 1984; Warren, 1982), the questionable reality of mental illness itself (Szasz, 1961), and the influence of social, economic, and political motivations on our conceptualizations of mental illness and practices of confinement (Deleuze & Guattari, 1977; Foucault, 1965, 1977; Laing, 1967, 1969; Marcuse, 1966).

Between these two extremes are a number of other critical points that fall somewhere on the continuum of liberty and "protective" confinement. Less extreme critics suggest that, while individual civil liberties are always to be granted more weight than community or State interests, there may be other, more strict and thus less inclusive, standards or guidelines for determining which individuals are subjected to such treatment. Some maintain that only the most extreme cases, for example individuals exhibiting a present and demonstrable threat to themselves or others, should be subject to the laws of civil commitment. The arguments for and against, then, form a continuum on which the legal system must find an amicable rapport with both the civil liberties of individual persons and its "duty" to protect the community from danger.

The Law of Civil Commitment

Civil commitment, as used in the present chapter, refers to the involuntary hospitalization of individuals who are in need of psychiatric treatment and/or in need of detainment because they are thought to be mentally ill and represent a threat to themselves or the community. Civil commitment is state-sanctioned and, thus, the State reserves the right to determine which persons qualify categorically. In other words, where there is question as to whether an individual is legally "dangerous," the decision is ultimately made by a court of law. The role of the mental health professional is, theoretically, to assist the State in determining whether individuals are mentally ill and dangerous to themselves or others. In practice, however, courts have almost unfailingly deferred to the judgement of such professionals (Holstein, 1993; Reisner & Slobogin, 1990). In light of the commitment process ultimately having, in theory, its foundation in the law, there are several legal features of civil confinement that need to be addressed for an adequate understanding of the role of the law in this context. Substantive criteria for commitment were concentrated on in the two previous chapters. Both mental illness and dangerousness to self or others must be shown before an individual may be subjected to civil commitment. In the present chapter, it has been chosen to focus on the jurisprudential basis for commitment, or, why the State has (or should have) the power to commit. The discussion will be largely historical as the present basis for commitment is the result of a number of smaller reforms and criticisms occurring mostly throughout the latter half of the twentieth century.

The "power" of the State to commit individuals who meet the substantive criteria for commitment stems from two separate but often interrelated State functions. The first is known as the "police power" of the State and justifies both criminal confinement and increasingly the civil confinement of persons thought to be dangerous. It provides states "a plenary power to make laws and regulations for the protection of the public health, safety, welfare and morals" (Note, 1974, p. 1222). The second of these justifications is known as the parens patriae power of the State and is applicable to cases with a civil basis. Parens patriae represents the paternal function of the State. These two functions mark the jurisprudential basis for commitment, both criminal and civil, in the United States. Each of these jurisprudential bases for confinement requires some explanation to fully understand the rationale of usurping individual freedom by what may be termed "State interests."

The parens patriae ("parent of the country") function of the State is paternalistic in nature. It stems from feudal England and is intended to allow the State (then King) to perform its traditional role of guardian for persons who may be "incapacitated," such as minors or persons with a mental disability (Levy & Rubenstein, 1996; Melton et al., 1997). Its primary purpose in England was to protect the property interests of those individuals who had lost the use of their rational capacities. Thus, the State assumes the role of parental authority and, consequently, the power to make decisions for persons unable to make them for themselves (Reisner & Slobogin, 1990). In the United States, it was not until the mid-1800's that this practice was widely observable (e.g., Melton et al., 1997). The beginnings of involuntary confinement based on the State's paternal role

arose concurrently with the inception of the "asylum" (Rothman, 1971). While asylums were often warehouses for the violent mentally ill and other "undesirables," it was also commonly believed by psychiatrists that the "cure" for insanity (i.e., mental illness) lay in the "moral" treatment of these persons which could be best accomplished within the confines of the asylum (Rothman, 1971).

By the twentieth century, medical advances created an air of optimism concerning the efficacy of treatment regimes for the mentally ill (e.g., Isaac & Armat, 1990). Because of this increased optimism, many of the early reforms in commitment law were driven by a desire to make commitment easier to accomplish (Melton et al., 1997). Until the 1970's, physician-certified findings that an individual was "mentally ill" and "in need of treatment" were sufficient to commit in the majority of states (see Dershowitz, 1974). When combined with the routine practice of deferral to medical opinion and the medical model philosophy of psychiatry that was operational, the optimism that beset the mental health community and the lack of legal safeguards for the mentally ill opened the door for large-scale violations of human rights. The mentally ill population facing involuntary confinement, for example, were rarely provided even an approximation of the rights afforded the criminal population (Applebaum, 1997).

This lack of legal protection from the persuasions of the medical community, however, began to change in the 1970's. While the parens patriae power of the State had always been regarded as the jurisprudential basis for the commitment of the mentally ill (e.g., treating those who needed treatment, helping those who needed help), this assumption began to be questioned. In challenging the medical model itself, critics such

as Thomas Szasz (e.g., 1961, 1970) helped admonish popular sentiment concerning the character of mental illness. The relationship between public perception of "normality" and mental illness was exploited in the literature and the courts themselves were sufficiently persuaded to enact warnings about the generality that plagued findings of "mental illness" (e.g., Jackson v. Indiana, 1972; Lessard v. Schmidt, 1975). The suggestion by Scheff (1966), for example, that mental illness was merely a socially constructed means of social control over unwelcome but harmless deviants became sufficiently meritorious to sway the courts. In short, the need to redress the statutory definitions of mental illness found support in the legal system itself. This redress was thought necessary to protect those persons being subjected to involuntary hospitalization merely because they failed to meet the medical community's (or individual psychiatrist's) standards for normal human behavior.

In addition to criticisms of the meaning of mental illness, there grew mass protest against the perceived inhumanities brought about as consequences of the commitment process. In particular, attention was drawn to the unsanitary and unhealthy conditions of overcrowded mental hospitals and the loss of individual rights that accompanied the individual's commitment to such new "asylums" (e.g., Stone, 1975). Existential themes such as "alienation," "institutional dependency," and concerns about stigmatization became popular grounds for criticism. As a result, legal rights began to be provided to the institutionalized mentally ill (e.g., the right to refuse treatment) as countervailing elements in the struggle for humane disposition and treatment of that population (Stone, 1975; Isaac & Armat, 1990).

Perhaps most importantly, a number of challenges arose in response to the process by which persons were being committed against their will. In short, it was felt that the agents of the State should not maintain a position of omnipotence in the decision-making process. As the civilly committed were being deprived of their freedom in much the same way as the criminal population, it was felt that they should enjoy the same due process protections. The most significant manifestation of this criticism as it concerns this discussion of the jurisprudential basis of commitment, is that mental illness and need for treatment alone were becoming no longer regarded as sufficient for commitment. In other words, the parens patriae power of the State as sole justification for commitment was becoming increasingly questionable. Instead, it was proposed that civil commitment should be regarded as a "police power" exercise of the State. The argument being that, in order to rationally assert that individuals should be confined against their will, it should be shown that they are not only in need of treatment for mental illness, but also represent a danger because of that illness (see Note, 1977, on the history of confinement and necessity of an overt act).

While involuntary confinement was widely practiced throughout the history of the United States, its constitutional limits began to receive attention in the 1970's. In O'Connor v. Donaldson (1982), the first landmark case concerning commitment of the "mentally ill," the Court considered the case of a 55-year-old man who had been hospitalized against his will for 15 years without specific treatment for his "illness." The man was thought not to be dangerous to himself or others and was arguably capable of earning a successful living outside the confines of the hospital (Donaldson, in fact,

obtained a job in hotel administration after his eventual release). The Court ruled in favor of Donaldson and in doing so established boundaries on the dominion of State power. The Court held that "a State cannot constitutionally confine without more a nondangerous individual who is capable of surviving safely in freedom by himself or with the help of willing and responsible family members or friends" (O'Connor v. Donaldson, 1975, p. 576).

Thus, by the 1970's, there was a movement away from committing the "mentally ill" simply because they were deemed "in need of treatment" by the mental health community. Consequently, the first steps toward requiring a finding of "dangerousness" were taken. The basis for commitment had moved away from parens patriae and toward the State's "police power." It became increasingly necessary to demonstrate that individuals were, in some sense, a danger to themselves or others if they were to be subjected to involuntary hospitalization. Today, this "danger" assumes two forms: dangerousness to others, and dangerousness to self or grave disability (see Chapter 6 of the present critique). These two forms mark, when embodied by individuals found "mentally ill," the present justification for civil commitment in the United States.

Psychology and Involuntary Civil Commitment

The role of mental health professionals in civil commitment is a complex and uncertain issue. As discussed, the medical profession, at one time, held almost complete authority in commitment decisions. With the progression toward a more legalistic model versus a strictly medical model (e.g., affording legal rights to the committed and

potentially committed), the role of the mental health professional was theoretically lessened. Yet, in practice, the majority of courts still rely on "expert" opinion when reaching decisions in individual cases. The extent to which this opinion factors into legal decisions varies from state to state, court to court, etc. Legally, however, the psychiatrist who once had the power to commit on her or his own, is now relegated to a role in the process that necessitates interaction with the dynamics of the legal system. Without question, the mental health professional has something to offer this process that could not be attained through proceedings relying strictly on knowledge of the law. The psychologist or psychiatrist, however, does not generally possess the requisite understanding of the law to reach fully informed decisions about an issue that is ultimately a legal one. Thus, the ideal role of the mental health professional is one of controversy and confusion.

Perhaps the most important statement to be made concerning the role of mental health professionals in civil commitment cases is that psychologists and psychiatrists do not, theoretically, make long-term commitment decisions. Decisions such as whether to involuntarily confine an individual on a long-term basis is one that is made by fact-finders, for example judge, jury, or council. This concept is critical, especially when considering that this difference is often misunderstood by mental health professionals. It is not uncommon for clinicians to infringe on the territorial responsibilities of fact-finders, or for fact-finders to relinquish their own responsibility in favor of deferral to psychology or psychiatry.

In the previous two chapters the lack of clarity in defining the substantive criteria for commitment and, further, the demonstrable failure on the part of most legislatures to provide any guidelines of pragmatic value when commitment is in question was examined. In part because of this vagueness, and in part because many legal professionals have little knowledge and/or experience when mental health becomes the topic of inquiry, the opinion of mental health professionals has assumed a definitive role in the decision-making process. Thus, while commitment decisions are and always have been legal decisions, in practice they more closely resemble decisions made on the basis of the opinion(s) of those in the mental health profession. This deferral to the judgement of psychology and psychiatry would be less controversial if the mental health professions assumed the same approach to mental illness, dangerousness, and commitment as does the law. The respective approaches of the two, however, vary considerably and a consequent controversy has beset the practice of civil confinement on these grounds.

Generally speaking, psychology and especially psychiatry have assumed a need-for-treatment approach. That is to say, while the law provides certain safeguards against denial of human rights and freedom, the mental health professions have traditionally concerned themselves, not with relevant aspects of human rights, but with precisely what they have been trained for--treating those who are deemed "in need." Thus, it is not surprising that psychology and psychiatry have preferred to treat the mentally ill rather than protect the mentally ill. This preference is clearly recognized in cases of involuntary confinement. While the legal players represent the parens patriae and police power of the State on one end, and the rights of individuals on the other, the mental health professions

ultimately confront questions concerning the existence of mental illness, dangerousness, and need-for-treatment on an individual level.

All-too-often, however, mental health professionals have been prepared to offer conclusive decisions concerning individuals. The presence of mental illness and dangerousness, while seemingly psychological inquiries, are ultimately legal questions with answers to be reached by legal fact-finders. For example, consider the finding of "dangerousness." There are essentially two separate concerns for inquiry in any individual case. First, there is an issue of psychological concern--what are the individual's behaviors? Treatment needs? Factors that may influence that individual's behavior such as family, community, substance (ab)use? These questions are best left to psychology, psychiatry, and social work. They represent an area of inquiry into an individual's life that legal experts and professionals are not often equipped to execute. This is the psychological side of dangerousness.

Second, though, there exists another series of related issues or questions. What are the behaviors that are considered "dangerous" for purposes of the law? If an overt act is required for a finding of dangerousness, what is the period of time in which that act must have occurred? How accurate must predictions of dangerousness be, or, what is the operative standard of proof? These questions obviously are of a legal tone. They represent the legal side of dangerousness and are best left to legal professionals. This is the side of dangerousness that mental health professionals are often ill-equipped to confront--however often they may feel a professional or social "duty" to do so.

In practice, then, it is the role of psychology to provide professional "opinions" concerning the first series of questions (and others like them). It is the role of the law to integrate these opinions into its own conclusions about the second series of questions. Psychology, then, is a consultant to the law in theory. In practice, when issues of involuntary confinement arise in everyday life, these roles often become confused, neglected, or simply misused. Generally speaking, courts often demand that mental health professionals provide conclusive information about the "dangerousness" of an individual, for example. Or, on other occasions, mental health professionals may feel that their role extends beyond what is theoretically expected of them and venture into territories of the legal domain--such as representing the final decision as to which persons are committed.

Limitations of Legal and Psychological Approaches to Civil Commitment

Despite the movement toward ensuring the civil liberties and legal rights of mentally ill persons that has marked late twentieth-century society, many critics continue to provide arguments and evidence of a contrary nature (e.g., Arrigo, 1996). The main thrust of these criticisms of civil commitment differ little from those of the past. Essentially, it is argued that civil commitment of mentally ill persons who have committed no criminal wrongs is a barbaric practice that denies humanity a proper role in society. The primary difference between involuntary confinement now and involuntary confinement 50 years ago is that the established legal safeguards are a step forward in

theory only. That is to say, while persons facing involuntary commitment may have more legal rights on paper, in practice there is little observable difference.

Applebaum (1997), for example, notes that, despite initial optimism about increased legal safeguards against arbitrary confinement, it has been difficult to demonstrate that significant changes in commitment practice have issued from the changes in commitment law. Though findings of dangerousness have become necessary for commitment, many studies have shown no change in rates of commitment following legal reforms (ibid.). In addition, the population of civilly committed individuals has changed little, if any, demographically and diagnostically since the reforms.

While many reformists called for more precise definitions of "mental illness" and "dangerousness" to protect those presenting themselves as different, for example, a discernable statutory vagueness remains--making decisions as to who qualifies for commitment no less arbitrary than in the past. Despite the limitations placed on the role of the mental health professional in commitment decisions, these limitations are not always and, perhaps even rarely, acknowledged. In short, the inhumanities committed against the mentally ill have merely grown more surreptitious. The appearance of justice does not and has not amounted to justice in practice. There remains a powerful myth of the mentally ill as unstable and dangerous, and a tendency by society, the law, and even the mental health community to treat them as such.

The persistence of this myth is, perhaps, evidenced by failure of decision-makers to thoroughly acknowledge the reforms in commitment law. Judges, for example, and other decision-makers not clinically trained may tend to rely on "commonsense" notions

of who should be committed (Applebaum, 1997; Hiday & Smith, 1987; Warren, 1982). It has been suggested that many decision-makers apply intuitive criteria in cases of involuntary commitment, even when the guidelines of the law lead elsewhere (Applebaum, 1997). Lawyers, as well, may be less adversarial than anticipated in pursuing the release of mentally ill patients--choosing, instead, to follow their own intuitions about particular clients (Poythress, 1978; Warren, 1982). Finally, as has been noted, mental health professionals are nearly always driven by intuitive clinical instincts. The primary interest of the psychologist, for example, lies in treating, not careful consideration of the laws that are intended to shape the contours of their professional opinions (Applebaum, 1997).

In theory, the rights afforded the mentally ill and the limitations placed on the omnipotence of mental health professionals is a considerable step forward. As noted, however, practice does not always follow theory. The danger with either party (i.e., the legal system and the mental health system) reaching beyond its grasp in matters of involuntary confinement is that persons may become almost arbitrarily selected and subjected to commitment. Without legal safeguards, psychology could simply confine any individual that it--the individual psychologist, for example--felt did not meet its personal standards of "health," however those standards are defined. Without psychological input, on the other hand, the law may confine individuals who present themselves as "different" (e.g., "weird" or "strange") and apparently dangerous without more convincing clinical evidence that the individual is "ill" or some way unable to live outside the confines of an institution. Both of these scenarios are, unfortunately, far too

common in everyday civil commitment practice. When too much power is afforded the mental health profession, for example, it is the mental health profession's operative definition of mental "health" that becomes the dominant factor in decisions about liberty, freedom, and individual rights. This definition is shaped, not only by professional opinion, but also by public opinion. What amounts, in short, is a society governed by public definitions of appropriate standards of living and being, and prevailing myths concerning public safety and well-being. When psychology, law, education, and the like are provided some power to "fix" those who do not meet the prevailing standard, our society comes dangerously close to one of overt social control--a society governed by fixed ideals and the policing of deviation from these ideals.

When considering the psychological perspective on illness and commitment, we encounter a self-serving discipline that rarely looks beyond an individual's need for treatment. Because individual needs are individual--because what ails one may not ail another to the same degree--it does not serve the interests of a "just" society to afford psychology ultimate decision-making power. That is to say, while psychology may be more familiar with issues of mental health, its definitions, standards, treatments, opinions, etc., its perspective is established from within the profession itself. This alone makes its perspective necessarily limited and linear.

It is often jokingly noted in psychology that everyone is diagnosable--everyone has her or his place or places within categories of psychological "illness." There is a significant degree of truth to this statement. Indeed, the "perfect picture of mental health" does not and will not find embodiment in a living being. This, of course, leads us to the

conclusion that everyone can benefit from psychological treatment in one form or another. Where, then, is the line drawn? The answer to this question is posed by the law and the legal system. The law has, theoretically, established the difference between those who need treatment for mental illness and those who would merely benefit from treatment. As we have seen, however, the line is not drawn with much confidence and, consequently, it is often difficult to articulate.

Chaos Theory and Civil Commitment

The application of chaos theory to the subject of involuntary civil confinement relies largely on a single thesis--yet one that has established itself as the basis or groundwork for much criticism in the area of mental health law and policy. Namely, the thesis states that confining individuals against their will--those having committed no criminal wrongdoings--is, in effect, a method of social control. That is to say, it is a legal and medically justified means of "shaping" those whose moral or hygienic standards, whose chosen life goals, whose productivity, etc., do not "measure up" to the standards that society has set for itself. From this perspective, committing the mentally ill is a means of "policing" public hygiene--of ridding society of the "undesirables" so that it need not confront them on a daily basis and/or of "curing" the "dysfunctional" behavior of such persons such that they may resume (or start) a life consistent with social norms. The social control thesis implores the very definition of mental illness. It is argued, consistent with some of those cited in Chapter 5, that "mental illness" is simply deviation from social norms (as opposed to something like physical illness, which is better regarded

as a disease of the body). If this is true, then psychology's efforts to "cure" mental illness are merely efforts to promote conformity to accepted social norms. Involuntary commitment, then, would be a manifestation of the extreme--those whose thoughts or behaviors are so different that the rest of society is threatened.

If civil commitment may be thought of as an exercise in controlling the quantity and quality of difference that pervades society, then chaos theory offers insight that cannot be neglected if it is endeavored to achieve a "healthy" society. In short, what it offers is an alternative and more "natural" conceptualization of "health" itself. Additionally, chaos theory warns of the consequences of controlling social boundaries en route to establishing conformity and a linear perspective of individual and social health. Thus, in addition to the insights achieved by looking closer at our definitions of "mental illness" and our approach to "dangerousness" through the lens that chaos theory offers, we can begin to understand how social control impacts culture and society. The analysis will begin by treating, somewhat extensively, the social control thesis that pervades the writings of Michel Foucault. Foucault provides fertile starting grounds for a philosophical examination of the role of both the law and psychology in civil confinement. Thus, a discussion of the principles of chaos theory necessarily follow a discussion of social control as applied to matters of mental health and civil confinement.

The Social Control Thesis

Twentieth-century French philosopher Michel Foucault proposed, over the course of his life, a critique of institutions (e.g., psychiatric hospitals, prisons) that draws

attention to the unseen or surreptitious motivations of confinement for the mentally ill. Foucault's critique is arguably consistent with that of a social control thesis (Arrigo & Williams, 1999a). He perceived confinement in both the criminal and civil senses as means of isolating and, thus, controlling the undesirable element of society. What policing society's undesirables amounts to is ridding society of the inevitable and natural difference that exists under its horizon. What the law and psychology do, knowingly or not, is contribute to the control of diversity by responding to public opinion and by ensuring that their unique "knowledges" are represented as "truths"--thereby justifying proactive involvement in the abrogation of freedom and self-determination for those whose chosen ways of being are divergent from the norms that have been set by society.

Foucault describes psychologists and psychiatrists as "functionaries of social order." In this light, mental health professionals serve as agents of a State and society who are driven by the demands of the moral majority. The rise of the mental health professions as mainstays in the social order has created a bridge between medical and police practices over which the distinction between the two often becomes blurred. This is particularly the case when psychology and psychiatry, acting on behalf of public morality, assume the position of State agent in making existential decisions for others. That is to say, so long as mental health professionals are in the unique position of determining which persons require commitment for "treatment" and which persons do not, their role in the social order is not overtly differentiable from that of the police officer patrolling the criminal element in her or his responsibility to maintain public or social order. If one were to expand this metaphor, as did Foucault, one could see how the

"psychiatric hospital"--a more agreeable term for the asylum of old--becomes rather a prison for those who have committed civil rather than criminal wrongdoings.

The difference, as Foucault sees it, is that between being perceived as a "dangerous" individual and engaging in injurious behavior. . .

> [W]hen you look closely at the penal code. . . danger has never constituted an offense. To be dangerous is not an offense. To be dangerous is not an illness. It is not a symptom. And yet we have come. . . to use the notion of danger, by a perpetual movement backwards and forwards between the penal [law] and the medical [psychiatry/psychology]. (1988, p. 191)

Foucault concerns himself particularly with the advent and subsequent employment of the concept of the "dangerous" individual--a concept that, as we have seen, has continued to be a source of psycholegal controversy without foreseeable closure. The arrival of psychiatry into criminality allowed an examination of links between mental health and criminality. Of especial interest to Foucault is the degree to which attention could be shifted from a focus on the crime itself to the individual responsible for the crime. It is here where "danger" as a characteristic of individuals established a permanent role for itself in analyses of crime and society. Crime is committed by individuals who are dangerous (i.e., possessing the characteristic of dangerousness) and, consequently, the identification of such individuals allows for the possible prevention of crime. Psychiatry, then, provided a means of both understanding criminality and preventing future criminality--to the extent, that is, that mental illness is correlative with dangerousness and dangerousness with criminality.

Consequently, Foucault maintains, psychiatry created a new crime--a crime that was mental illness. In searching for psychological explanations for crime, the danger that

the mentally ill presented came to constitute a crime itself. If mental illness was linked to criminal behavior in that the mentally ill were potentially dangerous to society, then this link justified control of the mentally ill to control crime and social problems. Thus, the intervention of the mental health professions into law produced a causal link between mental illness and crime and, further, made the control of such a link a legitimate practice in the interest of the greater society.

But what, one may ask, of the legal protections that are meant to curb overt practices of social control such as those articulated by Foucault? As we have noted, in some sense, the law has come a long way since the age of the asylum. In another sense, however, the legal reforms instituted for this very purpose have been far less than substantial in their impact. It is important to acknowledge the never-overestimated power of the social on systemic practices such as civil commitment.

Society and the Moral Tradition

How "dangerousness" is defined and how it is subsequently handled by psychology and the law is decidedly influenced by power relations (Shah, 1977). While almost any individual could, at times or under certain circumstances, fit the criteria for inclusion in the category of dangerous individuals, those who confront the law are most often those embodying certain stereotypical characteristics of dangerousness. For example, persons of lower economic status, educational achievement, race, etc., are treated much differently than those with means of social and economic influence (ibid.). We are unlikely to witness a "dangerous" individual with social and economic means

confined in the same institution, under the same conditions and stipulations, as a sexual psychopath without such means (ibid.). This reality has encouraged some to argue that the operative jurisprudential bases for commitment in the United States are merely conflated attempts to disguise the primary social objective of controlling the feared and misunderstood (e.g., Shah, 1977). Chambers (1972) suggests that, in addition to providing care and treatment and preventing harm to individuals and the community, we should add a fourth function of civil commitment: concealing the social element that evokes a feeling of uncomfortableness in the community.

Other evidence for this thesis lies in the extent to which statutory vagueness can be manipulated to suit the occasion. Despite the dangerousness provision that was intended, in part, as a reform measure assuring that civil commitment was not used for purposes of social cleansing, the flexible nature of many statutes allows for concepts such as "grave disability" to justify the commitment of non-dangerous individuals. Research has demonstrated, for example, that many persons thought to be "in need of treatment" but who are found not to meet the dangerousness criterion, are committed on the basis of "grave disability" or inability to care for self (Cleveland, Mulvey, Applebaum, & Lidz, 1989). What this suggests is simply that there are "back roads" to commitment that allow clinical or legal "intuition" to negate the standards or criteria set forth by the law. If social control is indeed a motive in some, if not many, cases of commitment, the inadequacy of statutory language allows this goal to be accomplished despite the absence of a danger to self or others.

Thus, the process of civil commitment often bears little resemblance in practice to its articulation (or lack thereof) in legal language. Why? As we have alluded, social norms, moral sentiments, myths, fears, etc., all play a role in shaping the law. Ultimately, the law is molded to fit prevailing social sentiment (Applebaum, 1997). Most often, the law is created or modified in light of social demands. If the law fails to present itself as consistent with these demands or sentiments, it is molded in practice. Civil commitment is a perfect example of the latter. A society driven by fear of the unknown, for example, is unlikely to allow that unknown element a substantial role in its being. If the interests of freedom, liberty, and justice compel the dominant institutions to assume a role that is not entirely consistent with social ideals, the contours of these institutions are too often adjusted to account for the inconsistency. Thus, social control is achieved surreptitiously--"behind the scenes" of daily life.

Chaos, Social Control, and Mental "Health"

The social control thesis provides an important perspective from which to pursue the topic of involuntary confinement. What chaos theory offers is a conceptual glance at the role of disorder in society. That is to ask, should disorder (e.g., difference, non-conformism) hold a place in the social order?--must it have a place? Or, rather, should society--by imploring the law and psychology, for example--attempt to "cure" the disorder through therapy, drug treatment, involuntary hospitalization? These questions provide an opportunity to employ one of the most important elements of chaos theory for social analyses: the attractor. In short, the issue and practice of civil commitment as

consistent with what chaos theory terms the point attractor will be explored. Further, an alternative approach to this sort of social control by exploring the implications of the strange attractor will be offered.

Point attractors and social control. Recall that the point attractor (or fixed-point, single-point) encourages a system to approach a stable end state in an effort to maximize equilibrium conditions and minimize the effects of disorder that could propel a system into far-from-equilibrium conditions. In other words, the diversity that represents a system in its natural dynamic is compelled toward a point of stasis that attenuates that diversity to counterbalance the natural effects of disorder that would define a diverse system. The end-state of the system is homogenous, stable, and applied to the system's components with displays of sovereign control. The example of the pendulum shows this sovereignty--the pendulum has no choice but to settle into a very specific dynamic that is defined by the "magnet" of the point attractor. The point attractor, then, exemplifies penultimate control over systemic behavior or, at least, an attempt at such control.

Like the magnetic effect of the point attractor seen in the pendulum, similar types of control in social relations can be observed. In particular, it is argued that the discipline of psychology and its role in civil commitment is a representative example. Psychiatric hospitals may be regarded as institutions that remove the disorderly element from society--the diversity that inevitably defines any society governed by a natural dynamic--and "healing" or "curing" this disorder, such that order may be restored and the possibility of ensuing chaos significantly diminished. The hospital, then, serves two interrelated

functions: to keep the disorder safely away from the social, and to employ its "knowledge" (cf. Foucault's power-knowledge thesis) to correct the disorder or difference.

Contemporary civil confinement, then, may be perceived as a self-justified effort to normalize the mentally ill--normalization here being metaphorically equivalent to the effects of the point-attractor. Psychology draws all diversity to it by seeking out and labeling all individuals who sufficiently deviate from normal social behavior and, subsequently, channels or attempts to coerce--through therapy, drug treatment, etc.--these individuals toward an end state that is essentially the socially accredited conceptualization of health or healthy behavior. Successful treatment means that the individual is reinstated into the increasingly homogenized whole of society; failure means that the individual continues to be confined against her or his will such that the disorder that s/he represents does not infect or impact the outside world to some greater or lesser extent.

The suppression and repression of difference and disorder that is civil confinement is one of the most operative, yet insidious mechanisms of social control in contemporary society. Psychology's primary function, then, is to ensure that social homogeneity is maintained by serving as advocate and infantry of the magnetic point attractor. Ways of being human are limited to pre-defined conceptualizations of appropriate behavior, interaction, values, goals, etc. The attractor draws human being to an end state that represents normalcy, health, herd morality, and conformist integration on both individual and social levels.

The point attractor's magnetic energy is a means of ensuring that social parameters are well-defined and maintained. Stifling behavior that threatens these pre-defined boundaries allows the system (i.e., society) to avoid the otherwise inevitable periods of disorder and, perhaps, chaos that intermittently arise. Healthy individual functioning, then, is linked to healthy social functioning, which amounts to an orderly society free of the corruptive influence of alternative ways of being. Civil commitment serves to eliminate the unpredictable--the otherwise uncontrollable behavior--that is the nemesis of advanced capitalist society. But while the point attractor, served by civil commitment, attempts to establish social order, the more interesting question concerns the definition of "health" more generally. That is to ask, is the order that is imposed upon society a "healthy" phenomenon? Do the various mechanisms of order (e.g., psychology, law, and their respective practices such as civil confinement) contribute to or hamper the pursuit of a "healthy" society? To examine these questions, we turn to another attractor in chaos theory--the strange attractor.

Strange attractors and the "healthy" society. The lesson that the attractor, and chaos theory more generally, provides can be briefly summarized in the following statement: order and health are not synonymous. Order is not necessarily healthy, and health does not issue from a perfectly ordered world. Order, in fact, restricts the room that a system has to breathe--to adapt, change, and become something more in-tune with the greater environment. Strange attractors, unlike point attractors, represent this possibility of change and growth. They provide an unrealized vision of a society without

the strict control embedded in the dynamics of the point attractor--yet one that maintains a dynamic conducive to individual and social well-being. While the point attractor offers opportunity for a critique of existing social (point) dynamics, that is, the social control thesis, the strange attractor allows us to move into the realm of possibility.

The strange attractor is a governing force whenever systems are at far-from-equilibrium conditions, or, whenever there exists a conspicuous absence of tight control and fixed order. The statement that there is an attractor that governs a chaotic system suggests that chaos--and society without strict measures of control and public hygiene--are not what we generally think them to be. Rather, the order-within-disorder thesis of chaos theory finds its fullest explication in the notion of the strange attractor.

The dynamics of the system governed by the strange attractor ensure, among other things, that the system never repeats the same behavior or path of motion. Rather, the system remains within broad, natural boundaries of movement while enjoying limitless possibility for movement within those boundaries. On a more micro-level, the system's behavior appears random and unpredictable. From a perspective that encompasses macro-systemic behavior, patterns emerge and the system appears loosely ordered--unpredictable, but not random and not without its natural order defining the boundaries.

What does the strange attractor of chaos theory tell us specifically about the mentally ill and the system of law and psychology? The system of medical justice tends to deny the nonlinearity that is inherent in human behavior. Behavior is, as we have seen, unpredictable and generally unmanageable. If notions of "appropriate" behavior are too closely demarcated, disorder will not only be present, but will define society as a whole.

Rather, the law, psychology, and society would be more attuned to the natural reality of human being if it were prepared to "accept variations around a theme" (Young, 1992, pp. 448-460). These variations are linked theoretically to the non-repetitive, endlessly varied dynamics that govern the patterned behavior of the strange attractor--never tracing the same path twice, but always within the boundaries naturally developed around the "theme."

The point attractor, as exemplified by the psycholegal system of control, draws human behavior and social being to a theme rather than letting it naturally fluctuate around a theme. As human beings are, at best, only vaguely similar to one another and never precisely identical, this "strange" theme is more appropriately one of general well-being. In contrast, the theme under which the psycholegal system operates is one of pre-defined standards of well-being. Inevitably, these standards are, as we have noted, influenced by prevailing societal notions of what a person should be. This, of course, is an amalgamation of the influence of patriarchy, capitalist economics, politics, the presence of religion, etc.

By pre-defining and normalizing reality (attraction to a single point), psychology and the law make certain presumptions that are, in some cases, not only wrong but unjust and injurious in result. Civil commitment is a prime example of the latter. A mildly depressed individual, for example, may be "in need of treatment" (e.g., therapy, anti-depressant medication) yet is rarely subjected to involuntary hospitalization. On the contrary, it is not uncommon to find a paranoid schizophrenic whose diagnosis concedes that s/he is "out of touch" with reality subjected to such loss of liberty. What is lost when

the point attraction of the law, with its categorical assumptions about well-being, becomes operative in practice, is the nonlinear dynamic that the strange attractor poses. That is to say, all roads do not converge on a single point--that of "normal" well-being. Rather, all roads follow their own path and tend, not to converge on a single point, but to create their own patterned dynamic within a natural range that more or less circles the "point of normalcy." What this means is that, while a paranoid schizophrenic may be less "in touch" with normality than a depressed individual, her or his highly elaborate and eccentric perception of the world may be highly functional. The depressed individual, on the other hand, while seemingly closer to the ideal of mental "health," may be significantly debilitated by her or his experiential reality and, consequently, unable to function effectively in the world. What is important to understand, then, is that all persons have a unique "road" or pattern on which they travel. While some paths may tend more toward the agreed-upon point of normality, wellness, and health, these paths are not necessarily more conducive to a functional experiential reality.

The point attractor of the law and psychology, then, is in fact a "dangerous" reality. Through mechanisms such as civil commitment it asks persons to travel single-file down the linear road of (or to) normality. Psychological "treatment" is an attempt to put stray individuals back on this road. Reality, however, often tells us a different story--that those on this road can be far less equipped to withstand the perturbations of life than those finding their own way. While diagnostic jargon such as "delusional," "paranoid," and "dangerous" may appear to be valid judgements, they are also clinically motivated

metaphors for describing the uniqueness with which many individuals have chosen to understand and manage life.

Consider this appropriate and telling quote from the Supreme Court's decision in O'Connor v. Donaldson (1975):

> May the State confine the mentally ill merely to ensure them a living standard superior to that they enjoy in the private community? That the State has a proper interest in providing care and assistance to the unfortunate goes without saying. But the mere presence of mental illness does not disqualify a person from preferring his home to the comforts of an institution. Moreover, while the State may arguably confine a person to save him from harm, incarceration is rarely if ever a necessary condition for raising the living standards of those capable of surviving safely in freedom, on their own or with the help of family or friends.
>
> May the State fence in the harmless mentally ill solely to save its citizens from exposure to those whose ways are different? One might as well ask if the State, to avoid public unease, could incarcerate all who are physically unattractive or socially eccentric. Mere public intolerance or animosity cannot constitutionally justify the deprivation of a person's physical liberty. (p. 575)

The O'Connor court clearly recognized the value of appreciating difference--letting different be different. In doing so, it established a powerful precedent for civil commitment theory and practice. What is implied, perhaps, but not expressively noted, is what the strange attractor tells us about this difference: it should not only be appreciated, but it is necessary for the continued growth and well-being of society. Without it, being-in-the-world or social being is static. Chaos theory tells us that something static is something dead--or soon to be dead. To sufficiently adapt to the disorder and change that the natural world throws at individuals and society, individuals and society must have a distinct robust quality. Point attractors--the elimination of or "curing" of that which does not follow the precise road laid by prevalent social or professional conceptualizations of

"health"--are advocates of homogeneity, static being, and controlled order. In short, they are advocates of death.

(Controlling) Chaos in the Psychiatric Courtroom

Aside from the broader social realities of which civil commitment is, it has been argued, a product, there exists a procedural side as well. The "social control thesis" may be thought of as a criticism of the jurisprudential basis of commitment. Additionally, however, we have mentioned the tension that exists with regard to decision-making or, perhaps, the procedural reality of civil commitment. That is, beyond whatever justifications may or may not exist for committing individuals against their will, there exist procedures that determine who is and who is not subjected to involuntary confinement. In other words, there is a theoretically less abstract process of decision-making that is of relevance.

These decision-making procedures concern what we have described as the necessary criteria for commitment: a (continued) finding of mental illness, and a determination of (continued) dangerousness. The arena in which these proceedings are played out is that of the psychiatric courtroom. Though research on the dynamics of civil commitment proceedings have been generally lacking (Arrigo, 1993), several important analyses have surfaced in the last several decades (see e.g., Holstein, 1988, 1993). The most important of these is, perhaps, Carol Warren's (1982) evaluation of the "court of last resort." Warren's investigation of the civil commitment hearing process as it informs decision-making has several important implications for commitment law--particularly in

the light of chaos theory. As the decision-making process is the primary focus in the case study chapter, however, it will be attended to in only a suggestive fashion here.

"Shared Commonsense" in the "Court of Last Resort"

It is generally the case that individuals who have been involuntarily hospitalized are granted an administrative hearing to entertain justifications for their release or continued confinement. Employing more powerful language, committees appear before the "court of last resort" (Warren, 1982). Such hearings are regarded as an opportunity for the committee--wanting to be released--to demonstrate s/he no longer represents, by way of mental disability, a danger to self or others. A successful demonstration might entail the person's release from involuntary confinement, whereas a failure to do so will most often entail an extended stay in a psychiatric institution or care facility (Arrigo, 1993).

Notwithstanding our analysis of the controversial nature of current psychological and legal understandings of mental illness and dangerousness, it must be acknowledged that decisions are routinely made nonetheless. How this decision-making process unfolds is the present matter of critique. Following Brooks (1974), Warren contends that the perspectives that psychiatrists and attorneys bring into the courtroom are not always mutually accommodating. That is, she suggests that important ideological differences afflict such relationships to the point that each is suspicious of the other's interpretive scheme and system of values (Warren, 1982). Drawing attention to some of these differences throughout this critique has been attempted. Most importantly, perhaps, is

that which orients psychology/psychiatry toward science and treatment, and the law toward doctrinal knowledge and rights-based justice. How, then, might mutually agreeable decisions be reached?

Scheff (1984) explains that, in light of the disparate nature of this relationship, decisions in civil commitment hearings are often mediated by a shared commonsense model of mental illness. This commonsense understanding is dominant in decision-making, regardless of specific psychological (e.g., diagnostic classifications) or legal understandings (e.g., statutory definitions). The commonsense approach may be regarded as the "anchor which settles any trace of scientific or juridic uncertainty in confinement matters" (Arrigo, 1993, p. 24).

These commonsense understandings are no doubt influenced by the prevailing conceptions of mental illness and dangerousness that act as "simplifying heuristics" (Perlin, 1999, p. 17) under conditions of uncertainty. Indeed, employment of commonsense understandings in matters of uncertainty may be intricately related to heuristic fallacies (ibid.). That is to say, commonsense conceptions tend to override whatever factual data may present themselves. Michael Perlin (1994; 1999, p. 102), in discussing dangerousness, suggests that "few other concepts. . . inspire the same 'I-know-it-when-I-see-it' attitude." Warren (1982) offers the same analysis of mental illness in attending to the extent that clients are viewed by attorneys and other personnel as "sick" or "crazy." It is, perhaps, through heuristics and commonsense that decision-making in the civil commitment context is informed.

The problematic nature of the psychiatric courtroom is intricately related to this need for conclusive decisions. As with all hearings, criminal and civil, there is a need to reach consensus. For practical purposes, then, the system of "justice" must "find a way" to achieve settlement in the face of competing claims. It is suggested, as others have, that these conclusions arise from a "let's settle on" attitude informed by "whatever we take to be" mental illness and dangerousness.

"Attracting" Shared Commonsense

The phrase "shared commonsense" conjures images of mutual understanding--of two or more persons being at or coming to equitable or, at least, amicable terms on a given issue. Beneath those images, however, are others that may be thought of as what is lost over the course of such agreements. When two or more persons begin a rhetorical proceeding with opinions A, B, and C respectively, and reach a mediated agreement D over the course of the proceeding, what is lost is precisely what A, B, and C were to begin with--different understandings of the issue or topic in question. In a sense, then, we can think of shared commonsense understanding as the elimination of difference.

What may be clear by now are the ways in which elimination of difference can be detrimental to a society and individuals within that society. Through chaos theory, we can describe this process as the governance of the point attractor--elimination of difference when that process of elimination appears to be in the best interest of the greatest number. The result of this process within the court of last resort is that of lost meaning. This shared commonsense understanding (of mental illness and dangerousness)

should not be confused with a dialectical understanding. Rather, it might be best regarded as "bargaining down" rather than reaching an informed decision by incorporating what each position has to offer. Rather than granting a voice to each unique appreciation of the situation, the nature of commitment hearings encourages the deference of unique voices to those that propound cooperation and expediency.

Thus, social control is, in a sense, present on a much less abstract level as well. To reach decisions in specific cases, there is some preference for attracting all accounts of situational knowledge to the abyss that encompasses "common" or "shared" knowledge (more rightfully portrayed as opinion). As noted, we will be exploring this process in much greater detail later (see Chapter 8). The reader is encouraged, for now, to contemplate the ways in which the point attractor of chaos theory is operative in mental health court. Do the socio-political assumptions upon which the practice of civil commitment is based translate or inform decisions made on a daily basis?

Conclusions and Implications

Civil commitment of mentally ill persons has a long tradition in modern society. From the inception of the asylum to the more "humane" psychiatric hospitals of the present day, isolating the mentally ill from the general population for purposes of treatment and/or protection of society has been a routine practice. The compelling question, the answer(s) to which forms the basis for the argued justification of commitment practice and its criticism as well, is why? It is generally acknowledged that the mentally ill are confined because they are both suffering from a mental illness that

requires treatment and are dangerous either to themselves or others. Whether this is true in any individual case becomes irrelevant when the broader question of who defines mental illness and conceptualizes dangerousness is considered. To judge an individual both mentally ill and dangerous, there must be some framework within which to make this judgement. This framework is the result of both psychology's efforts to understand mental health and the legal system's efforts to protect and care for individuals and the greater society.

Efforts to predict which persons fit into categories such as "mentally ill" and "dangerous" require that individuals be judged. But what standards are used for these judgements? Critics of involuntary confinement argue that standards are never objective--they are products of professional opinion which are, in turn, products of cultural norms. Eccentric versus ill. Emotional/passionate versus dangerous. Current professional standards and popular opinion lean toward the former in each case, thus encouraging many to pursue the thesis that civil confinement is yet another mechanism of social control--a means to keep the undesirable element in a desirable place.

Chaos theory tells us that mechanisms of social control are similar, in effect, to the point attractor. They encourage behavior to achieve a stable end state that is conducive to order. Chaos theory also tells us that this degree of order is, in fact, unhealthy for social systems. Rather, health is defined by the ability to adapt, to change, to accept variations and incorporate them. This type of attraction is referred to as "strange." The strange attractor is not disorderly, however. It encourages systems to achieve a natural order--one arising from within itself. In other words, external forces

that impose order are unhealthy precisely because they are imposed. A more constructive approach to the natural disorder that defines living systems such as society is to impose very little order--to let order find itself.

In the case of commitment, we have a system of law and psychology that has assumed the task of imposing this order unto society in the name of justice. By committing those who do not meet the prevailing social ideals of productivity, morality, etc., such exogenous powers, in effect, define the contours of society. By doing so, chaos theory tells us that what is achieved is not a more "just" society but, rather, a narrow road approaching death. Normality is not normal. Difference, diversity, and change are the framework of society. In this sense, encouraging life means encouraging this diversity to flourish and allowing existing social norms to change in light of it.

Justice, then, requires difference. That is to say, the extent to which diversity characterizes a society is the extent to which a society is "healthy," prosperous, and adaptive. Controlling the contours encourages justice to assume a narrow posture that does not allow itself to engage the process of adaptation, change and, consequently, growth. What we might say about justice, then, is that it is not something derived from prevailing popular opinion. This notion of justice dates to Plato himself, who claimed everyday "appearances" of justice (e.g., just acts) to be merely shadows of something greater and more significant for social life (c. 375 B.C.E./1973). The same critique of popular opinion can be found in Kant's (1784/1983) notion of "enlightenment" and Nietzsche's (1887/1967) "herd morality." This is not to say that some form of social control cannot be in the interest of justice--that is another argument. What it does suggest

is that social control, which is founded on assumptions embedded within popular opinion and, subsequently, which chastises difference, is a practice that does not promote justice on any level. Chaos might suggest that justice, as an abstract and undefined "Form," is something like a strange attractor.

Chapter 8

THE RIGHT TO REFUSE MENTAL HEALTH TREATMENT

In the present chapter, the controversy that is the "right to refuse treatment" will be explored. At issue here are the conditions, if any, under which it is acceptable to forcibly treat (e.g., therapy or medication) individuals who are deemed "in need" of such treatment. In following the outline employed thus far in this critique, a cursory examination of the legal and psychological approaches to treatment is provided, as well as the limitations embedded in each. The reader will note, however, that the order followed thus far has been reversed and it has been chosen to discuss the psychological approach to treatment before the legal approach. As it is necessary to understand exactly what treatment is before one can reasonably understand the legal aspects of treatment, this deviation is not only beneficial but necessary in light of the goals of the current chapter. The chapter closes, of course, with an application of chaos theory and its potential contribution to the psychology, law, and justice of the right to refuse treatment.

Overview

Perhaps the most treasured of all human possessions is that of the body and mind. If either is taken, altered, or jeopardized in some way, the human life--the experience of being human and being oneself--is inevitably diminished in some ways. When Descartes proffered his famous maxim "cogito ergo sum," he was establishing a fundamental relationship between existing as a human being and enjoying the cognitive capacity that

we call "thinking." Following his logic, if we could not think, we may have reason to doubt our very existence. We may also infer that if one's capacity to think was in some way diminished that, while we may still surmise our existence, it would be of a somewhat different and, perhaps, lesser quality. This is not an uncommon assumption concerning those who are mentally ill, developmentally disabled, or in some way "less fortunate" than others. However, similar criticisms are not generally raised when the diminished capacity to think or think for oneself is not the result of biological or physiological concerns. That is to say, when the capacity to think and feel in a way that may be deemed "natural" for oneself is on some level altered by exogenous factors, we are often less quick to raise criticism. In some cases, these exogenous forces are even considered beneficial--ways of enhancing our existence. Yet, in most cases, our interaction with such influences is voluntary--part of an existential struggle for human happiness.

This is precisely where the importance that is placed on freedom from intrusive exogenous influences on our lives becomes paramount. If we forego our own search for happiness in thought, feeling, and action by deferring to that which has been prescribed to us, it is arguable that the search is no longer ours. It may be our body, but its processes are no longer autonomous. Rather, our natural processes are brought under the influence of outside forces that attempt to "shape" them or direct them into something more appropriate, more "healthy," or simply more acceptable in the larger social world. These forces, when in the hands of psychology, include such intervening methods as various therapies and psychotropic medications. When psychology is acting under the auspices of the law, these methods have an unsettling similarity to fictional utopian "mind control"

fantasies such as those portrayed in Burgess' Clockwork Orange or Huxley's A Brave New World. While these "therapeutic" methods are often considered a benefit to individual well-being and that of the larger community and society by the law, psychology, and the public alike, they mark one of the most controversial intersections of psychology and the law.

Psychology and Treatment Issues

An underlying theme throughout the present critique has been, in relation to psychology and other mental health professions, the adoption of a "need for treatment" approach to mental illness. That is to say, the prevailing assumption amongst mental health professionals is that persons judged to be "mentally ill" are, in fact, in need of professional help. Psychology, though originally interested in understanding the human mind and behavior, has become synonymous with treating the human mind and the variety of behavioral oddities and problems that characterize the human condition. How is this "treatment" accomplished? Asking what is meant by the word "treatment" and exploring the subsequent implications for psychology and the law necessarily entails treating each technique in terms of the degree of intrusiveness or potential for abuse that it poses for individuals. The extent to which individuals are entitled to refuse treatments that significantly intrude their being is a question of law and legal rights, to be discussed in the present chapter's section on law and treatment issues. For now, an overview of several popular "treatments" and the shared assumptions that govern most all treatment

modalities is provided--in other words, the goals and motivations of psychological/ psychiatric intervention.

Treatment Modalities: Psychotherapy

The word "treatment" is an increasingly complex and ever-changing part of the present age. Within the world of mental health alone, there exists an almost unlimited variety of so-called "treatments" with which to intervene into the lives of individuals in need or want. The techniques we are most concerned with are those that are often components of an involuntary treatment process such as those authorized by the law. It will be helpful here to explore the primary means by which treatment is accomplished in the world of mental health. Generally this is done either by psychotherapy alone, or in conjunction with psychotropic medication or drug therapy.

Psychotherapeutic interventions are the most common interventions into the lives of the mentally ill. Notwithstanding the presence of additional treatment modalities, namely psychotropic drugs, in many treatment programs psychotherapy stands as the cornerstone of the mental health project. In the sense used hereinafter, psychotherapy refers to all interventions that are premised upon the "healing" relationship that involves interaction between therapist and patient. Corsini (1995) defines "psychotherapy" as:

> a formal process of interaction between two parties. . . for the purpose of amelioration of distress. . . relative to any or all of the following areas of disability or malfunction: cognitive functions (disorders of thinking), affective functions (suffering or emotional discomforts), or behavioral functions (inadequacy of behavior). (p. 1)

The term "malfunction" as used in Corsini's definition is telling of psychology's core assumption. In short, its purpose is to influence the lives of individuals by changing attitudes, beliefs, and behaviors, and by providing insight into the situations and/or symptoms that may be problem-causing, or are etiologically significant (see e.g., Weiner, 1975, on the goals of psychotherapy). The precise means of ameliorating these distresses varies along with the theoretical orientation(s) of the therapist. For the majority of psychotherapies it can be said that through verbal interaction the therapist attempts to "correct" (i.e., treat) the individual's presenting problem(s) by "readjusting the disordered personality" (Rychlak, 1981, p. 32). In other words, whatever ailment may be responsible for creating disorder in the psychology of an individual, psychotherapy's place in the process of intervention is the control or re-ordering of that disarray.

The most common psychotherapies are theoretically grounded in either psychoanalytic thought or cognitive-behavioral tradition. This is not to say, however, that a given therapist or treatment program does not employ both or some combination of theoretical perspectives depending on the presenting problem. All psychotherapies are united by the same general motivation: that of treatment or cure. Thus, the methods by which this is accomplished is often of less significance than the end result.

Psychoanalytic therapies, following Freud and his progenies, tend to have a Platonic ring in their emphasis on conflict or competing forces within the psyche or soul. The goal, again very Platonic, is to gain insight into this conflict and reinstate reason or rationality as the governing force. Plato's (e.g., 380 BCE/1973) description of the "well ordered soul" continues, in some adapted way, to be the philosophical foundation of

psychoanalytic treatment in its emphasis on order over disorder, and the elimination of that disorder in pursuit of happiness.

Cognitive and behavioral therapies tend to be used in concert, collectively referred to as "cognitive-behavioral" therapy. Behavior therapies, in their pure form, tend to emphasize learning principles to "teach adaptive behavior or modify maladaptive behavior by means of systematic manipulation of the patient's environment" (Winick, 1997, p. 41). Cognitive therapies, in turn, seek to realize and explore the "dysfunctional interpretations" (Beck & Weishaar, 1995, p. 230) of the world that are thought to be responsible for the individual's maladaptive thought processes and behaviors. In orchestrated form, the general project of intervention is to modify individual thoughts and, as a result, individual behavior stemming from those thoughts, and use the principles of behaviorism (e.g., positive and negative reinforcement) to encourage the continued dominance of these new, more adaptive thoughts and behaviors.

Notwithstanding some important philosophical differences, all therapies are motivated by a perceived "curative" function (see e.g., Rychlak, 1981). Persons presenting as mentally ill in any number of ways are thought, in a sense, to be afflicted by illness. Curing illness, of course, is the driving motivation behind medicine, psychiatry, and most models of psychology. If this "illness" is regarded as manifest in behavioral, cognitive, or affective abnormalities, then the goal of therapy is to change or, at the very least, control such abnormalities. Indeed, Carl Rogers acknowledges the power of the therapist to "mold" individuals, causing them to become "submissive and conforming" beings (Rogers & Skinner, 1956, p. 1063). The power of the therapist in many

psychotherapeutic situations is such that "the therapist may gain a degree of control which is more powerful than that of many religious or governmental agents" (Skinner, 1953, p. 383). It stands to reason that, given such power and influence, the possibility for abuse and/or misuse is significant. Consistent with the objections raised by the social control thesis (see Chapter 6), for example, it might be asked where the line is drawn between therapeutic treatment of deviant behavior and social control of deviant behavior that is not "therapeutically" instigated (Breggin, 1975; Winick, 1997). This is an especially important consideration when it is realized that the goals of psychotherapy are often, at least in institutional settings such as psychiatric hospitals and prisons, set forth by the therapist--not by the patient and often even without her or his participatory involvement in the decision-making process (e.g., Rogers & Skinner, 1956; Winick, 1997).

Treatment Modalities: Psychotropic Medication or Drug Therapy

Psychotropic medication was introduced unto the clinical scene in the early 1950's in the form of antipsychotic and antidepressant drugs (see e.g., Baldessarini, 2000). In contrast to traditional psychotherapeutic methods that relied on verbal/behavioral intervention, the introduction of psychotropics allowed for chemical interventions that directly or indirectly altered the brain and, consequently, individual behavior. The effectiveness of these new drugs in countering the symptoms of psychosis "revolutionized state mental hospital systems" (Gelman, 1984, as cited in Perlin, 1999, p. 368). The "revolutionary" nature of these drugs was, in part, a reflection of several substantive changes. For example, hospital stays for persons presenting mental illnesses became

shorter, persons could be treated in community settings rather than on an inpatient basis, and a major social issue--that of mental illness and institutionalization--had, perhaps, met its resolve (Perlin, 1989; Talbott, 1978). Indeed, state hospital censuses showed a drastic decrease in the years following the advent of anti-psychotic drugs (Perlin, 1989).

For a brief period of time following the advent of these drugs, results were encouraging. Positive effects, discernable on both individual and social levels, included: elimination or minimization of the major symptoms of psychosis (e.g., hallucinations); a decrease in rates of recidivism; the movement toward deinstitutionalization; reduction in the average length of hospital stays; and a lowered sense of fear and/or anxiety amongst friends and family members of mentally ill persons (Perlin, 1999). Soon thereafter, however, the positive effects became questionable when evaluated alongside the negative effects that were quickly presenting themselves. The negative effects of psychotropic drugs were to spawn decades of criticism, from scholars, clinicians, and patients as well (see generally Rapoport & Parry, 1986). Despite such criticism, these drugs continued (and continue) to be used as an arguably valuable alternative to other treatment modalities. Today, it is estimated that as many as 98% of all mental health intervention in state hospitals is organic in nature (Perlin, 1999).

Thus, it is not surprising that the overwhelming majority of "right to refuse treatment" cases implicate psychotropic medication. More specifically, the vast majority of these focus on the major tranquilizers or neuroleptics that are commonly used to treat schizophrenia (Melton et al., 1997). While the mental health community has enjoyed some success in treating schizophrenia and other psychotic disorders with neuroleptics,

the injurious side effects of these medications constitute the primary adversarial weapon. Included, but differing somewhat from drug to drug, are: akathesia (restlessness, being fidgety), dystonia (muscle spasms), fatigue, headache, and constipation (ibid.). A more serious side effect and one that has drawn substantial clinical attention is the onset of tardive dyskinesia, which is characterized by involuntary movements in the tongue, jaw, or extremities. Tardive dyskinesia is irreversible beyond a certain point and occurs in approximately 20% of patients. Finally, though rare, neuroleptic malignant syndrome has been known to occur in some patients. Neuroleptic malignant syndrome is characterized by any of several severe physical symptoms and, in 30% of cases, results in death (ibid.).

The most abusive cases involving the use of psychotropic drugs are those in which they are employed as a means of restraint (see e.g., Davis v. Hubbard, 1980). In such cases, treatment becomes either secondary or is not even a factor in the decision to administer drugs to patients. Rather, drugs are administered in the interest of staff convenience and not in their prescribed role as techniques of "treating" mental illness (e.g., Brooks, 1987). Though it is not meant to suggest that such abuse is commonplace in mental health facilities, this type of "chemical restraint" does indeed take place and warrants attention from anyone involved in psychology and law circles.

Thus, psychotropic drugs such as antipsychotics and antidepressants are an additional treatment technique commonly employed by hospital and correctional mental health staff--as well as mental health professionals working with non-institutionalized populations. While their effectiveness arguably warrants their continued use, their intrusiveness is unmatched--save, perhaps, electroconvulsive therapy and psychosurgery.

This latter point, in cooperation with the extensiveness to which drug therapy is used, places psychotropic drugs at the heart of the "right to refuse treatment" debate. As such, much that comes to us by way of the legal system concerning this debate is a direct response to such uses and abuses.

The Goal(s) of Mental Health Intervention

Several of the more prevalent treatment modalities have been briefly addressed. Each of these modalities, though not mutually exclusive, is unique in the way that it approaches the treatment of mental illness, and similar in that its motivation is the elimination of illness. What is less unique about each are the shared assumptions about the goals of treatment. That is to say that, while each modality encourages us to think of it as a route to the realization of human wellness or "health," each tends toward a similar understanding of what that wellness is.

It is assumed, to start, that treatment is something provided to someone in need. Mental health intervention is rarely questioned in light of the assumption that treatment professionals are giving something that is needed and, generally, wanted by s/he who is receiving that help (Arrigo & Williams, 1999c; Williams & Arrigo, 2000). Psychology remedies, repairs, corrects something that the recipient desires to have mended. From the psychological perspective, then, treatment does not lend itself to critical questioning. Rather, it is assumed to be something provided in the interest of the patient--whether the patient is aware that s/he needs/wants/desires what is being offered. The core premise underlying mental health intervention assumes a need for treatment based, not upon an

assessment of the patient's "subjective" interests, but upon psychology's "objective" understanding of what "illness," "health," and "treatment" are, and what any reasonable patient would desire.

This assumption of interest is, perhaps, best exemplified by the notion of "thank you" therapy (Stone, 1975). In essence, the argument is that some persons subjected to psychiatric confinement and treatment against their (initial) desires come to appreciate mental health intervention. Retrospectively, then, these persons realize that treatment was, indeed, in their best interest and are thankful for the intervention. Beck and Golowka (1988), however, found no evidence of such sentiments in 62% of cases examined. In other words, a majority of persons committed against their will still object to received treatment even after they are arguably restored to "order." This is consistent with the premise governing psychological intervention that holds persons to desire treatment even if they do not explicitly realize or state that desire at the outset of the commitment process (Kane, 1983; Schwartz, Vingiano, & Bezirganian-Perez, 1988).

The goals of treatment, then, are consistent with the broader assumption of paternalism that underlies the practice of mental health as well as psychology and the law. This precept of paternalism is evidenced both explicitly in treatment modalities, as well as more implicit in the unspoken goals of treatment. We have seen that, through specific modalities, psychology/psychiatry endeavor to alleviate distress or overt symptomatology. Additionally, however, mental health professionals assume the role of identifying which thoughts, affects, behaviors fall outside the bounds of normative conduct. Arguably with reference to prevailing community norms, psychology operates from within a perspective

that treats mental abnormalities as constituting a continuum of "craziness" (Arrigo, 1996). This is, perhaps, most conspicuous in the classification manual of the American Psychiatric Association (DSM-IV). Psychology, then, effectively assumes both a diagnostic and mediating function with regard to social hygiene. Together, identifying and treating disorderly persons constitutes the goal of mental health intervention in all its forms. While the law has, to some extent, supported this goal, it also has concerns of its own. It is to the laws controlling treatment practices that we now turn.

The Law's Challenge to Psychiatry

The point of entry for the law into matters historically imbued upon medical professionals comes at the moment that questions arise concerning individual "rights"--in this case the involuntary treatment of individuals--both in the community and in correctional or institutional settings and the individual's right to refuse such treatment. The historical origin of legal involvement in treatment issues can be traced more or less to the advent and subsequent employment of anti-psychotic medication in the 1950's. Before psychotropic medication made its mark on the mental health world, the various treatments rarely presented a legal problem for the mental health community. Indeed, psychosurgery (e.g., frontal lobotomy) was, for some time, considered a legitimate treatment technique with little legal interference involved in its practice. It was not until the discovery of the significant side-effects of medications that the law saw fit to "protect" the rights of individuals to avoid these side-effects (see Applebuam & Gutheil, 1979).

As noted, drug treatments for schizophrenia and limited other disorders initially appeared to be successful in alleviating symptoms of mental illness (Denber, 1967). Some time later, however, the discovery of the seriousness of side-effects associated with psychotropic medications led many to question their employment--particularly in situations where the individual did not agree to drug treatment (Gelman, 1983). Consequently, a number of important cases surfaced that would encourage the courts to consult the Constitution for a resolution to the problem of involuntarily medicating an individual.

Perhaps the best summarical statement of the law's scattered findings on the issue of the right to refuse treatment is that it has created a scenario exceedingly complex by failing to define, with any significant detail, the boundaries of this right. While the Constitution does not explicitly place limitations on the treatment of individuals per se, contestations often draw upon several arguably relevant Amendments for justification and support: the Eighth Amendment's prohibition of cruel and unusual punishment; the First Amendment's guarantee of freedom of expression, including the right to think; the Due Process clauses of the Fifth (federal) and Fourteenth (State) Amendments; and generally the right to (mental) privacy, autonomy, and bodily integrity. Spatial limitations do not allow for a sufficiently depthful analysis of each of these issues. However, an attempt will be made toward a general exploration of the controversy as it stands with regard for several important legal determinations.

Early Cases and the Eighth Amendment Controversy

The earliest case law involving the right to refuse treatment implicated the First and Eighth Amendments in challenging the use of drugs as punishment in aversive conditioning programs. The Eighth Amendment to the Constitution of the United States prohibits states from inflicting "cruel and unusual punishments." The primary question for persons involuntarily involved in the mental health system (or those receiving mental health services through the correctional system) concerns the extent to which psychological/psychiatric treatment may, in fact, by regarded as a "punishment." Winick (1997) suggests that "to the extent that at least some of the more intrusive treatment techniques are experienced as painful or distressing, they may be regarded as 'punishments'" (p. 223). With due regard for legal reasoning, the primary questions involve whether the Eighth Amendment applies to settings that are not correctional in nature, for example state mental hospitals, and whether treatment and, more specifically, mental health treatment be regarded as "punishment" for purposes of the Eighth Amendment.

The applicability of the Eighth Amendment to civil treatment settings (i.e., mental hospitals) was upheld in several early cases, only to be rejected in several more recent cases (Winick, 1997). Namely, these early cases disallowed the use of psychotropic or other drugs in aversion programs in prison and also when administered involuntarily in state psychiatric hospitals (Knecht v. Gillman, 1973; Mackey v. Procunier, 1973, on aversion programs in prison; Scott v. Plante, 1976, on state hospitals). None of these

cases, however, were decided at the level of the U.S. Supreme Court. In fact, the Court itself has yet to provide sufficiently reasoned legal judgment to categorically impel lower courts to find one way or another. Rather, the issue of the Eighth Amendment as applied to various kinds and levels of treatment remains a controversial and undecided fate in mental health law.

The tradition of the Supreme Court has been to find the Eighth Amendment applicable only to criminal punishments (Ingram v. Wright, 1977). The Court has held, however, that some punishments exist that "though not labeled 'criminal' by the State, may be sufficiently analogous to criminal punishments. . . to justify application of the Eighth Amendment" (ibid., p. 669). Whether mental hospitals and juvenile detention facilities meet the "analogous" recommendation, however, or under what circumstances they do, has not been made explicit (ibid.; Winick, 1997). Thus, regarding whether the Eighth Amendment is applicable to cases involving individuals in mental hospitals, there exists no simple answer.

The law makes very clear that persons in mental health settings may not be "punished" in the legal sense (Stefan, 1993). Decisions made in treatment settings are to be made in the interest of the recipient, in terms of potential psychological and/or physical benefit without reference to any non-health related concern (see, e.g., Knecht v. Gillman 1973, and Mackey v. Procunier, 1973, on aversive conditioning programs in prisons). Controversy besets the notion of "punishment," however, when questions arise as to the punitive effects of so-called "treatments." That is to say, while questions concerning the punishment of individuals in mental health settings seem to have

straightforward answers, how is the issue of treatments that could be construed as punishments resolved?

Following Winick (1997), some speculative observationscan be offered. Guided, in part, by the Court's opinion in Bell v. Wolfish (1979), it would seem that the administration of psychotropic drugs, behavioral therapy, and other therapeutic methods that are part of a justifiable treatment program would not be subjected to Eighth Amendment challenges (Winick, 1997). Rather, "cruel and unusual" punishment provisions would apply only in cases where a clear punitive purpose could be demonstrated (i.e., administration of treatment that is demonstrably not in the interests of treating the recipient), the dosage of psychotropic medication is excessively high, or the treatment provided is entirely ineffective and, thus, not justifiable as a treatment technique in that particular instance (ibid.). Seemingly, this reasoning would hold true for inpatient hospitals not directly associated with a correctional institution, outpatient programs, and treatments provided to prisoners by way of community programs (ibid.).

Rennie and the Current Status of RRT Law

Perhaps the most significant case to confront the right to refuse treatment is that of Rennie v. Klein (1978). Though the Supreme Court ultimately remanded Rennie for reconsideration in light of Youngberg v. Romeo (1982), Rennie provided occasion for one district court to address--and not without significant influence--what it felt was the "grossly irresponsible" ways in which psychotropic drugs were being administered (ibid., p. 1301). This response was due, in part, to increasingly evinced cases of drug

administration for staff convenience (Davis v. Hubbard, 1980) and/or punitive purposes (i.e., punishment and control) rather than treatment. In some cases, staff were found to increase the dosages of administered medication to retaliate for the uncooperativeness of patients, ignoring serious side effects, and withholding necessary additional medications for these side effects (Rennie v. Klein, 1978). Additionally, there was increasingly negative regard for psychiatry's ability to diagnosis with any degree of accuracy--an accuracy felt necessary in light of the significant effects of medication. It was suggested, for example, that as many as 40% of diagnosed schizophrenics were, in reality, misdiagnosed cases of bipolar disorder (Litman, 1982). Even assuming accuracy in diagnostic efforts, ascertaining appropriate dosage for individual patients is often a matter of trial and error (Plotkin, 1977). These and other professed misuses and abuses of psychotropics spawned, not only increased awareness, but increased legal attention to matters of mental health treatment and the right to refuse such treatments.

While the original intent in establishing a right to refuse treatment for mentally disabled persons was to affirm the autonomy of the individual, thus placing final decision-making power in the hands of the patient, the practice of treatment refusal spawns far less of an affirmation. Several important limitations in this right have been imposed. Decisions favoring an individual's right to refuse treatment, for example, simultaneously removed that same right in cases where either incompetency was a factor, the patient posed a danger to self or others, or during an emergency situation (Roth, 1986). In effect, it has been argued, mentally disabled persons have a right to object to treatment (Arrigo, 1996; Brooks, 1987). This objection ensures a case review by hospital

staff to determine the necessity of treatment, but in only a very limited way provides an affirmative right to refuse such treatment. Final authority in treatment decisions, then, remains firmly in the hands of the attending psychiatrist and treatment team (Roth & Appelbaum, 1982).

Contestation of these decisions is contingent, not necessarily on effective debate as to the best interest of the patient, but on the soundness of reason and judgement utilized by the decision maker(s). Authority may be challenged only in instances where the decision deviates from "substantial professional judgement" (Youngberg v. Romeo, 1982). In effect, there is a presumption of validity regarding the judgement of those professionals responsible for a patient's treatment (Perlin, Gould, & Dorfman, 1995). As to what constitutes a departure from "substantial professional judgement," the Youngberg court provided no clear answer. Generally, however, three scenarios exist: (1) no judgement was exercised at all; (2) judgements were made by unqualified persons; and (3) judgements were made based on factors not relevant to treatment interests (e.g., budget, available resources; Stefan, 1993). The latter of the three scenarios includes those cases where treatment is administered in the interest of staff convenience and/or merely for the purposes of punishment and control (ibid.).

Summary

What can be made of right to refuse treatment law? Without compelling Supreme Court opinion on the topic, only general conclusions can be reached. Both Rennie v. Klein (1978) and Rogers v. Okin (1980) proposed procedural due process rights for

mentally disabled persons, which amounted to the right to a hearing. Rennie, in the light of Youngberg, offers limitations to the extent that treatments were not made on the basis of "substantial professional judgement." Given that these decisions were made in the legitimate interest of the patient's mental health--as opposed to staff convenience or as punitive action--the right to refuse treatment appears more as a formal right to object to treatment. Exceptions may be permissible on the basis of incompetency, emergency situations, and in cases involving a danger to self or others. Thus, it seems likely that treatment decisions are most often under the auspices of the attending psychiatrist and her or his treatment team. It should also be noted that, despite early cases involving aversive therapy as a means of punishment, for example, that most (if not all) jurisdictions place minimal limitations on other treatment modalities--even though patient involvement in various forms of "therapy" may not be entirely voluntary.

Limitations of Legal and Psychological Approaches to Mental Health Treatment

In the case of treatment refusal, the law and psychology debate is akin to that of the civil commitment controversy. That is, while most persons intuitively feel that individuals have a genuine interest in avoiding involuntary treatment, a conflict ensues when many of the same people recognize that, in some cases, involuntary treatment is necessary and, hence, justified (Melton et al., 1997). How the issue is conceptualized is of primary importance. In other words, like many of the issues addressed thus far, there is considerable debate as to whether the question is ultimately one of legal authority or medical authority.

Consistent with the medical/psychological approach in general, professionals tend toward the "need for treatment" and, in some conceptualizations, care-providing approach. That is, it is in the best interest of the patient to be treated--even if involuntarily. Refusal of treatment may be regarded as a product of mental illness, thus further justifying the need to treat beyond the consent (or lack thereof) of the individual in question. Without surprise, there is a general advocacy of professional judgement and clinical decision-making that calls for the law to defer its Constitutionally based objections in light of appropriate treatment interests. It is felt, in short, that legal objections (e.g, due process and other rights) do and will continue to do nothing but interfere with the interests of the patient (e.g., Brooks, 1987). Thus, psychology claims to act in the interest of the patient, as does the law. The difference is one of defining what that interest is.

The law, in contrast, emphasizes its liberal duty to protect against intrusions upon individual liberty, autonomy, and self-determination--interests that, in theory, are applicable to every living human being regardless of mental (dis)ability. The issue, then, is one of law and morality to be decided by fact-finders (Melton et al., 1997). This does not, however, imply that the law is concerned with protecting the interests of the individual in all cases. Rather, the role of the law is subject to ideological considerations. The "law and liberty" approach is liberal in nature and has interests in protecting the rights of the individual. This is to be distinguished from the "law and order" approach, which is predominantly utilitarian in its approach and has interest in protecting the community/society from danger (see e.g., Arrigo, 1996; LaFond, 1981; Morse, 1982).

Notwithstanding this important ideological difference, both contend that, whatever interests inform decisions, they are the subject of the law and its agents. Once decisions about relevant interests are made, of course, the law may, and often does, solicit opinions from psychology concerning the relationship of these broad interests to specific cases.

In relation to the right to refuse treatment, the law has taken some measures to affirm patients rights. The mental health arena has proffered its own reaction. It is felt, in short, that the expansion of rights afforded the mentally disabled was and is counterproductive to the continuing efforts of mental health professionals to provide effective treatment to individuals in need. The real issue, claimed Appelbaum and Gutheil (1981), was not the "right to rot" but the quality of treatment. To the extent that legal rights place limitations on the quantity and quality of treatment options, they interfere with the professional duty of care providers to effectively care for mentally disabled persons (Cichon, 1992). The law's initial foray into the world of mental health treatment was in reaction to the abominable conditions of the asylums of old. While psychology appears not to take issue with the "humanization" of mental health treatment, some avid proponents of the need-for-treatment approach contend that providing a "right to rot" is nearly as repulsive as the asylum-era. The theme of abandonment has not been unpersuasive--particularly amongst those on the psychology side of the treatment debate.

Thus, in short, neither the law nor psychology has proved capable of ascertaining and implementing a reasonable solution to the polemics of the right to refuse treatment. The "legal-medical" divide continues to inform, though apparently not in the interest of amicable closure, the decisions made by various jurisdictional representatives of the law.

Granting each "side" a legitimate and necessary voice in the larger debate, are we any closer to understanding the issue of mental health treatment and its array of legal, individual, and social implications? It is hoped, of course, that chaos theory may play an informative role.

Chaos Theory and the Right to Refuse (Mental Health) Treatment

There is little doubt that the behavior of human beings is a complex subject with much debate, yet little certainty, as to its origins, patterns, and methods. Without question, physiological systems play a significant role in shaping thought, affect, and behavior. Yet how are we to understand these systems? While seemingly complex, it is very strongly felt that there is, indeed, an inherent pattern to the way our physiological systems operate. The heartbeat of the human being, while not always perfectly rhythmic, shows enough regularity that we are led to believe there is some driving pattern at its core. For the most part, this regularity is true of, not only our entire physiology, but our experience(s) of being human as well. The "why" questions concerning these experiences are those to which chaos theory responds.

At its core, chaos theory explores the ways in which systems change (Barton, 1994; Morrison, 1991). The "dynamics" part of nonlinear dynamics is indicative of chaos theory's purpose--to examine the effect that various internal and external forces have on systems over time and, further, the ways that such systems respond to these forces. In many systems, linear analysis is quite successful for purpose. For many natural systems, however, linear models are not equipped to take into consideration the sudden "jumps"

that often define the behavior of, for example, human beings. For these systems, it is necessary to employ nonlinear equations.

What nonlinear dynamics allow is a necessary level of attention to those seemingly unpatterned behaviors that define natural systems. In short, the principles of chaos theory each have a role in this type of analysis. Summarily, external stimuli may induce a loss of "balance" in a system (due, in part, to the system's sensitive dependence on initial conditions, which makes it prone to disturbance by minor inputs). This imbalance may be complicated by the procedure known as iteration in which the imbalance essentially feeds into itself--creating greater levels of imbalance. These greater levels of imbalance encourage, in some cases, the process of bifurcation in which the behavior of the system is no longer steady, but becomes somewhat unpredictable. A defining characteristic of nonlinear systems, however, is that they tend to "settle" into patterns given time. Thus, the concept of attractors shows the ways (generally one of four points) in which the seemingly unpredictable behavior of a system settles into a more predictable, at least globally, order. This "settling" is the order-out-of-chaos characteristic of chaotic dynamics and is the focus of the present section. It is best described by a process known as self-organization. In short, nonlinear systems--such as human beings--despite what appear to be extreme levels of disorder in some cases, tend to re-order themselves in ways consistent with other natural systems. This adaptation, as it will be referred to, has significant consequences for the right to refuse treatment. Namely, it draws critical attention to the ways in which psychology has come to treat disorder by means that may be considered un-natural (e.g., psychotropics).

It should be noted at this point that the forthcoming examination of mental health treatment in the light of chaos theory will focus explicitly on the modality of psychotropic medication. This, in part, because the majority of (legal) objections to imposed treatment are critical refutations of the argued justification and utility of this type of intervention. What may be implicit in this analysis is the relevance of chaos theory to other modes of treatment--namely, psychotherapy, behavioral therapy, and the like. The forthcoming issues raised with regard to self-organization are certainly applicable to these as well. The primary differences are in the extent to which a provided treatment interferes with the individual's natural capacity to adapt to disorder. This will, of course, become more clear shortly. The level of interference may be regarded as correlative with the level of intrusiveness that each treatment presents. As different treatments leave more or less of the "healing" process to the individual, they must be regarded as more or less relevant to the following suggestions.

It should also be noted here that this presentation of self-organization and its application to mental illness may, at times, appear overly inclusive. It is not intended to portray the principle of self-organization is applicable to <u>all</u> individuals in <u>all</u> circumstances. Rather, self-organization might be thought of as a natural and therapeutic alternative to psychotropic medication in the majority of cases where the latter are often employed. Just how far the self-organization argument can be carried remains an open-ended inquiry. The present critique should, perhaps, be read as prescriptive for persons up to a certain degree of "disability." Whether the process of self-organization may be

reasonably espoused in cases of florid psychosis, for example, is beyond the intent of the present inquiry.

Mental Health, Psychotropics, and Self-Organization

Recall generally that the process of self-organization is one in which a pattern emerges within a system without external assistance. That is to say, a system exhibiting disorderly behavior will, without aid beyond its own means, come (with time) to exhibit orderly behavior. This process is one that is intuitively antithetical to the process by which individuals, under the influence of psychotropic drugs, come to an orderly (i.e., "healthy") state from a disorderly (i.e., "ill") state. It is important here to consider both the process of self-organization that is natural to living beings, and the imposed organization that is becoming the choice means of treatment in the mental health sphere.

Psychopharmacology and the linear paradigm. Butz (1994) has referred to the exertions of psychopharmacology (i.e., drug treatments at the hands of mental health professionals) as "the portent of mechanistic linearity with its self-ascribed ability to control and predict human behavior with drug intervention" (p. 692). There are several important considerations in this statement. First is the concept of linearity. As shown throughout the present analysis, human behavior (indeed, the behavior of all living systems) is prone to nonlinearity. It was previously described that the point attractor (e.g., in the discussion of civil confinement) represents the efforts of the systems of law and mental health to impose order and linearity. It has also been shown that there are

generally two erroneous assumptions with regard to the imposition of linear behavior: (1) given the nature of human beings as governed by the laws of chaos rather than order, a project attempting to assure global and local order by "fixing" the parts (i.e., persons) that "break" (i.e., become "ill" of disorderly) must necessarily fail to some greater or lesser degree; and (2) the question must be raised as to whether we, as persons living within the our present society, would want the type of mechanistic human functioning that is in question. Generally speaking, it can be said that some degree of nonlinearity, unpredictability, and "room for difference" is, in fact, healthy for a society of adaptive, self-organizing, and evolving beings.

Second, and relatedly, Butz's (1994) association of "predict and control" with psychotropic interventions opens another door. Predicting and controlling human behavior is simply a means of assuring, by way of imposition, that linearity defines human individual and social behavior. The linear paradigm is a demonstrably mechanistic view that has dominated "science" since the Enlightenment. Its basis in the psychological sciences is that of the research algorithm of observe, describe, predict, and control (Butz, 1994; Kerlinger, 1986). The mechanistic argument typically goes as follows: (1) homeostasis is the most desirable state; (2) instability is dangerous in that it encourages the system to move away from homeostasis; and, therefore, (3) through measures of control, it can and should be assured that behavior stays within the limits (i.e., parameters) conducive to homeostatic conditions. It is assumed that, without such measures of control, the entire system (in this case, society as a whole) will "fall apart" and cease to exist in its most desirable form.

Psychotropic drugs are, perhaps, the penultimate example of how such a task might be successfully carried out. Given behavioral constraints in the form of laws, rules, regulations, and threatened consequences, human beings are granted some degree of choice. Intervening in individual mental functioning through the use of psychotropic drugs removes the element of choice. In legal terms, involuntarily medicating an individual runs counter to many of the rights (e.g., self-determination, freedom of thought) that allow some degree of individuality and choice. In a sense, the censorship imposed by involuntarily medicating individuals is twofold: it challenges an individual's hypothetical right to be mentally ill, and it challenges the same individual's hypothetical right to adapt to mental illness or engage the self-healing process that is the focus of the present chapter. Both objections, the latter especially, are important in a therapeutic context will be discussed later. First, however, a brief review of self-organization theory and its relevance to the mental health of human beings will be provided.

Re-visiting self-organization theory. Butz (1994) traces the roots of self-organization theory to Bertalanffy's influential "general systems theory." Ludwig von Bertalanffy, a theoretical biologist, conceived of organizations as organisms that must remain "open" to their environment and that must achieve appropriate relations with their environments to ensure survival (see also Morgan, 1997, on organizations as organisms). Within his theory of systemic behavior and change, Bertalanffy (1968) identified two fundamental states that define an "organism": steady and transformative. The first, steady state, describes the operations of an organism as somewhat stable in relation to its

environment. The transformative state, however, refers to a system that has been perturbed by external influences and is removed from its steady or stable state. This movement away from stability, however, is the "passageway to a more adaptive steady state" (Butz, 1994, p. 694, emphasis added). It is the latter that is important to both chaos theorists and for present purposes in exploring stability, order, and mental "health."

In the context of chaos theory, the major contributor to this line of analysis was Ilya Prigogine (e.g., Prigogine & Stengers, 1984). In Prigogine's work, the apogee with regard to adaptive capacities occurs at far-from-equilibrium conditions. In other words, as disorder increases and comes to define a system's behavior, the system moves into a state in which it is able to adapt and re-organize itself in light of the disruptive influence it has been exposed to. Butz (1994) succinctly describes this process in the following passage: "... at one time a system has a steady state that is adaptive for the current situation and then something new comes along, perturbs the system, and it 'bifurcates' or is 'knocked off balance' by a stimulus" (p. 694). Following this perturbation, the system's state is no longer sufficiently adaptive for its "new" situation. It must re-organize to account for this change in circumstances. The value of self-organization theory, of course, is in its description of the ways in which a system does, indeed, re-organize to adapt to new circumstances. In fact, it does so without relying on aid from without. Consider, for example, the human body's response to physical illness. If infected, the body's temperature may rise as a response to the illness. If the body's temperature rises above a certain point, other bodily functions may change to counteract this increase in temperature (e.g., perspiration and heavy breathing; Morgan, 1997). All

of these responses to illness occur naturally without requiring the infected individual to encourage these reactions--it is a natural process of adaptive response to perturbing stimuli from the environment.

Thus, what self-organization theory teaches is that within periods of chaos (or, far-from-equilibrium conditions), the system will not necessarily proceed to a state of utter disarray where it is no longer able to maintain sufficient "health." Rather, the system will respond to what may be metaphorically called a "challenge" by moving into a state where adaptive capacities are higher and the system is best able to re-attain a (mostly) steady state. This is the process of self-organization as it is described by chaos theory. When brought into the light of human "being" (i.e., human beings as adaptive systems) and mental "health," conceptualizations of "treatment" must change respectively.

Self-organization in the light of treatment. At this point, the tension that exists now between the assumptions of psychopharmacology or psychotropic interventions and self-organization theory must be exposed. In short, treatment of mental disorder through psychotropic drugs operates under the principle assumption that an organism (i.e., mentally "ill" human being) must be returned to a state of stasis and, further, that this may require "pushing" her or him back into that state to ensure an expedience of recovery. This is particularly true of mentally ill persons subject to criminal sanctions, who must be returned by competency for purposes of standing trial, being sentenced, executed, etc. In these cases, it may be said that the State has an interest in restoring the individual's

mental health as quickly and efficiently as possible. "Pushing through" chaos (Butz, 1994), then, as one assumption governing the use of psychotropics, represents one opposing tension. The other, of course, is self-organization theory's counterexample that essentially refutes the core assumption(s) that drives chemical intervention into human mental processes.

The "pushing through" chaos to restore order approach is most closely related to the mechanistic paradigm that was discussed at the beginning end of this section. It is an approach that relegates human beings to the status of "machines" that occasionally require "fixing." Psychotropic drugs are the best way known to modern "science" to pursue this repair work in such a way as to be both effective and efficient. In contrast, the organismic approach indicative of self-organization theory responds by claiming that, like all living (and some non-living) systems, persons in a state of disorder must be granted time and opportunity to adapt or self-organize into stronger beings. This philosophy parallels Nietzsche's conceptualization of the "will to power" in which the "health" of an individual is defined, not by the absence of "illness," but by the amount of illness it has and can overcome. Overcoming aversive situations--perturbing influences from the environment, such as temporary illnesses--can be beneficial in that it allows the individual to grow into a stronger, more adaptive being better able to contend with other, similar perturbations in the future. Rather than a "problem" that must be "fixed," the organismic approach to health responds to illness as a not-unnatural development in nonlinear systems such as human beings that need not be "fixed" but, rather, provides time and space for the self-organizing process.

Along these lines, it can be seen how treatment by way of psychotropic drugs may have negative effects rather than the purported positive intended effects. Butz (1994) also advances this hypothesis:

> If one gives a psychopharmacological agent and it does stop the chaotic patterns, have we not also wiped out the seeds of a more adaptive psychological order--an order that may have taken days, weeks, months, or even years to develop in the complex electrochemical organization if the brain? (p. 695)

In two regards, then, psychotropic medication employed as involuntary treatment may be intrusive and life-negating rather than life-affirming: first, the involuntary aspect removes the individual right to choose--to make determinations about her or his own immediate future; and, secondly, the effects of the drugs themselves may disengage the self-organizing, adaptive process that occurs on a natural and arguably healthier level. The stasis achieved by psychopharmacological agents is one that is non-adaptive. That is to say, while stasis may be regained, it is not the type of stasis that is productive to human life. Rather, it is counterproductive in that it never provides the individual a chance to adapt to her or his circumstances as part of the continual evolution of the life process (Butz, 1994).

The Structure of Organization: Attractors Strange and New

The self-organizing process necessitates consideration of another principle of chaos theory--a principle previously examined in the context of civil confinement. This is the concept of attractors or, more specifically, the strange attractor. It is inevitable that one would inquire as to whether an individual who may be regarded as "mentally ill" for

medical and/or legal purposes might regain the state of health experienced prior to the onset of illness. Another way of posing the same question may be to ask what this new, more adaptive, order looks like. Rather than suggesting that an individual experiencing psychological disturbance is able to re-attain a normative state of mental being without psychiatric intervention, chaos theory suggests that, like the understanding of mental "health" and "illness" more generally, we must not look to normative standards for a comparative analysis. Our best interest, as well as that of the individual in question, is arguably served by re-examining our conceptualizations of "health" and "wellness" in light of the integrated perspective offered by chaos theory that calls to our attention both the process of self-organization and the strange attractor.

Health as a point attractor. It has been discussed, to some extent, the commonly shared belief that "health" is the absence of disease--the absence of disorder. Conventional medicine has often concerned itself, via the "allopathic" tradition, with the suppression of symptoms or "checking" what manifestations disease/disorder may give rise to (Butz, 1997). The treatment methods of both general medicine and psychiatry reflect this tradition. Presenting high blood pressure will most often ensure the prescription of medicine to suppress such "disorder" of the body. Similarly, presenting depression, if sufficiently disabling, will most often ensure the prescription of anti-depressants to suppress the natural thoughts and feelings that generally coexist within a "depressed" outlook. The treatment-of-choice is that which most effectively and efficiently countervails the disorder in favor of restoration of order.

Yet, as previously noted, this "order" is most akin to the point attractor that chaos theory describes. It is an order based, not so much on the individual's need to establish a unique order within which to exist psychologically, but on the prevailing social description of order that is commonly understood as the absence of disease and the elimination of disorder when it arises. Thus, the concept of "health" as it informs treatment is based in a linear and mechanistic conception of how "health" should reveal itself--as the absence of illness. The uncommon description of health, in contrast, is that of chaos theory--echoing Nietzsche's appreciation of the ability of an organism to overcome illness and, in a sense, assimilate that experienced illness into a new conceptualization of the existential reality of that organism.

Thus, we might wish to reconsider the question with which this section began: whether an individual who may be regarded as "mentally ill" for medical and/or legal purposes might or, in newer terms, should regain the state of health experienced prior to the onset of illness. Demonstrably, the "treatment" of mentally ill persons is oriented by the tradition that seeks to suppress disorder and, thus, return an individual to an orderly state. This is particularly true with regard to psychotropic medications that override the physiological mechanics of the body and, for all practical purposes, impose health upon an individual. This imposition is, as is now seen, best regarded as an attempt to treat illness in a linear fashion that is the very antithesis of the principles of self-organization. The latter, as will be seen, suggests a nonlinear overcoming of disorder and the subsequent onset of a new and more adaptive order. This new, more adaptive order will not fall within the limits imposed by the point attractor. Thus, it may not appear as

"health" in the sense that it is not defined by an absence of illness. Rather, it is best considered as within the periphery of the strange attractor.

(Orderly) Disorder as constitutive of health. It was proposed that self-organization theory offers a description of order-out-of-disorder. That is, it provides an account of a process that arguably defines, in this case, the "healing" process that individuals endure (it is, of course, also applicable to other organisms, organizations, etc.). While the process itself may be easy (or difficult) enough to accept, the additional question of what the end-result of this process is has been raised. In other words, it has been claimed, based on chaos theory, that the "new" order will not be readily assimilable into prevailing conceptions of what order is. Rather, the interest is in understanding the result of a self-organizing process as a nonlinear transformation of disorder into orderly disorder.

Self-organization theory, then, encourages a reformulation of conventional understandings of "health" for reasons both of individual autonomy as well as institutional interests in treating an individual in the light of her or his best interest. What describes "health" for any given individual may appear as disorder when, in fact, the psychological reality of that individual is orderly. This, again, is the concept of orderly disorder or behavior that merely appears as disorderly when it may be more accurately conceptualized as orderly given the revised formulation of order that chaos theory offers.

Recall the scenario of two individuals--one "mildly depressed," the other "schizophrenic." Prevailing psychological assumptions may lead us to regard the former

as more "disabled" (i.e., disordered and ill) and, consequently, more "in need of treatment." Thus, the schizophrenic is far more likely to be subjected to treatment in the form of psychotropic medication--particularly when the issue of involuntary treatment is raised. Yet, when "health" is reformulated in light of the strange atttractor, it may be found that, at times, the schizophrenic is far more "ordered" psychologically and better able to meet the demands (both psychological and physical) of everyday life--either within an institution or without. The extent to which disorder affects an individual's psychological well-being is dependant, at least in part, on the individual's "health" (in Nietzsche's sense of the word) and, consequently, the linearly defined models by which psychology and the law understand "health" may be antithetical to the interests of the individual in both cases. In short, the mildly depressed individual may be wholly unable to bear the weight of disorder while the schizophrenic may be perfectly capable of doing so within an elaborate, but effective, orderly disorder. In this case, the latter's psychological existence is constitutive of a naturally (self-)organized and thereby independently effective order while the former has yet, perhaps, to integrate her or his "disorder" into a globally functional, more adaptive order.

This example is not intended to suggest that schizophrenia is not a disorder that requires treatment--even in the form of psychotropics. It also does not suggest that "depression" is, in all cases, more serious or disabling than psychotic disorders. Rather, it serves as a hypothetical intended to draw attention to the individual nature of mental "health" and the need for an individualized approach to the (non-)treatment of mental illness. More specifically, however, this individualized approach to treatment requires

some understanding of the self-organizing process and the relative temporal position of the individual within this process. It is meant, to be sure, as a scenario that calls into question the need-for-treatment--particularly involuntary--of individuals who present themselves as "disorderly." For purposes of the present chapter, it affirms a more liberal understanding of the right-to-refuse-treatment for individuals who are too often treated on the basis of their categorically defined "disorder" alone.

Summary and Conclusion

Briefly developed, through chaos theory, was an objection to the use of mental health treatment when that treatment involves the surrendering of the adaptive capabilities of the individual in the interest of expediency. Chaos theory informs us that the onset of disorder following certain events or periods in a person's life is not only natural but in most cases inevitable. The character of these events, of course, directly impacts the nature of the "disorder" and, consequently, the extensiveness of mental disability. Whether one could reasonably suggest that the process of self-organization is applicable and capable of productive results in all cases of mental illness, is left as an open question. Self-organization theory does suggest that, in natural systems of which human beings are theoretically included, the order-out-of-disorder phenomenon applies in all but, perhaps, the most extreme instances of chaos. How this translates into the language of mental "health" is debatable.

We are aware, for example, of the re-ordering process that occurs in all of our lives following events or experiences that induce disorder (e.g., extreme periods of

psychological stress). Additionally, we may realize that, in our own lives, this "new order" feels somehow stronger than the old. The old expression "if I can get through this, I can get through anything" is relevant. Of course, we are not generally referring to disabling psychotic episodes. Nevertheless, the theoretical process is the same. There are many examples of schizophrenia, for example, that might lead to the conclusion that the mental functioning of these individuals is somehow orderly--despite the fact that the appearance of that order may seem unusual. Chaos theory affirms our intuitive feelings about each of these scenarios.

With respect for the law and its processes, affirming a right to refuse treatment appears therapeutic in that it attests to individual dignity, personhood, autonomy, and the like. It is with respect for psychology that this right has been questioned. How can we justify, say some, allowing treatment refusal when such refusal in not in the best medical interest of the individual. It is here where chaos theory, by way of self-organization theory, is relevant and informative. It seems, then, that refusing coercive treatment may allow natural (self-)treatment to occur and the process of re-organization to unfold. In both a psychological and legal sense, chaos theory tells us that a right to refuse treatment is, itself, therapeutic.

PART III: THE JUST(ICE)

Chapter 9

(UN)CLEAR BUT CONVINCING EVIDENCE: A CASE STUDY

The purpose of the present chapter is to ground the theoretical explorations undertaken in Part II with some sense of relevance to the lived-experience candidates for civil commitment. Part II suggestively described how several of the more significant elements or principles of chaos theory might further our understanding of four critical issues in civil psycholegal theory and practice. It has been seen, for example, how "mental illness" might be construed as a fractal, with no one identifiable meaning, and how "dangerousness" is equally elusive as well as being uncomfortably amenable to prediction. It has also been seen how the practice of involuntary civil confinement is informed, not solely by its purported justifications (e.g., parens patriae, police power), but additionally by broader socio-political considerations and, as well, how treatment that is entailed by civil commitment denies an important process that, in the discourse of disorder, was referred to as self-organization. What has yet to be explicitly described, however, is how these new perspectives offered through chaos theory might better communicate the everyday realities of allegedly mentally disabled persons, in other words, the flesh-and-blood individuals whose lives are impacted by the matrimony of law and psychology.

This latter point brings us to the present chapter's endeavor. As the intent is to critically examine the process of civil commitment on the level of everyday reality, to some extent territory charted by previous critical analyses of civil commitment will be canvassed. The purpose, however, is to describe how chaos theory might add to the existing critical literature by proposing a broader theoretical framework from within which to understand the proposals of these literatures and the unfolding of the process that leads to the civil commitment of allegedly mentally disabled persons. In other words, of interest is how chaos theory might have further benefitted--or might further benefit--some of the already compelling analyses that have been provided by critiques of the process in which mental illness, dangerousness, civil commitment, and mental health treatment affect the lived-experience of everyday people.

Exploring this process requires assessment of actual cases or proceedings in which law and psychology are called upon to construct the reality of mental illness and determine the fate of allegedly mentally disabled persons; in other words, it is of interest to understand how the lives of such persons are judged within the context of the psychiatric courtroom and how the courtroom players reach these judgements. The primary data that will be used comes by way of the 1987 case of Billie Boggs (pseudonym), a homeless person living in New York City who was unwillingly subjected to the dynamics of the psychiatric or mental health court (In the Matter of Billie Boggs, 1987). At the end of the present chapter, the analysis of Billie Boggs is supplemented by a brief discussion of several more recent appellate cases. These more recent cases are primarily intended to suggest that the conclusions concerning mental illness,

dangerousness, civil commitment, and the right to refuse treatment in Billie Boggs are, in most ways, still reliable today. In other words, briefly addressed are several more recent appellate decisions in the realm of civil commitment, which assure that the courtroom dynamics at play in Billie Boggs continue to exist as present-day realities.

The present chapter begins with a review of several significant studies that have offered valuable critiques of the courtroom dynamics.. Each of these analyses tells us something about how psycholegal reality is constructed and how these constructions unfold in the course of deciding the lives of everyday persons such as Billie Boggs. None, of course, have employed the potentially significant insights of chaos theory as informative inclusions. Collectively, however, they tell us something significant about knowledge and decision-making in civil commitment cases. These examinations will set the backdrop against which the analysis of the Billie Boggs case can contribute meaningfully to our understanding of the reality of psychology, law, and justice.

The Critical Backdrop

As noted, there have been several notable studies in which the process of civil commitment, and the related issues of mental illness, dangerousness and, to a lesser extent, treatment refusal, have been examined. The present endeavor brings us face-to-face with a number of issues that have previously surfaced in social scientific critiques. The purpose of the present section, then, is to map out a general backdrop against which this analysis might be visualized. Each of the three literatures described below portray certain themes as operative in legal-psychiatric decision-making--themes that critically

examine the reality of civil commitment and the ways in which certain forms of knowledge are incorporated into this process. Most notably, it is suggested that our understanding of such issues as mental illness and dangerousness are shaped by something other than the experience of the persons to whom those understandings are applied. Rather, persons subjected to civil commitment are generally understood by way of knowledges and meanings derived from commonsense understanding, detached professional constructs, shared languages, and socially-constructed presumptions about the reality of psychological being and the "normal" experience of the life-world.

Commonsense in the Courtroom: Warren and the Topos of Mental Illness

Perhaps the seminal work on psycholegal decision-making in the civil commitment context is that of Carol Warren (1982). Informed by labeling theory and symbolic interactionism, Warren immersed herself in the world of the "Metropolitan Court" in the interest of understanding of how decisions are made and on the basis of what knowledge. Through participant observation, "supplemented by analysis of court documents, visits to other parts of the mental health law system, and interviews with [relevant parties]" (1982, p. 6), Warren obtained a significant pool of ethnographic data from which to investigate the civil commitment process.

Decision-making in the psychiatric courtroom takes place "at the intersection of legal theories and theories about mental illness" (Warren, 1982, p. 137). Each, she believes, are "superseded. . . by commonsense notions about mental illness" (ibid., p.

137). Why? Warren tells us that, "in the arena of knowledge, the medical [psychiatric] and legal models of human action are in conflict in the mental health courtroom" (ibid., p. 138). Legal models tend to respect human rationality as the basis of action; psychiatric models tend toward the attribution of behavior to the often hidden dynamics of the psyche. Thus, what ensues is a role conflict between psychiatric and legal professionals, which issues from their differing interpretive practices. While the lawyer, by role, identifies with the protection of civil liberties and individual rights, the interest of the psychiatrist lies in treating or helping those who are in need without necessarily hesitating to consider individual rights (Brooks, 1974; Warren, 1982). This conflict, then, must be mediated by some subsequent factor--the topos of mental illness.

Santos found that certain "topoi" are operative in the context of civil commitment decision-making:

> No matter how precisely a norm is written, nor how carefully a legal concept is defined, there is always a background of uncertainty. . . which cannot be removed by any deductive or apodictic method. The only solution is to employ the inventive art. . . of finding points of view or "common places" (loci communes, topoi) which being widely accepted, will help to fill the gaps. . . . These topoi. . . refer to what is evident. . . [they] are based on common sense, on the "logic of the reasonable." (Santos, 1977, as cited in Warren, 1982, pp. 138-39)

The topos of mental illness is a cultural phenomenon. When mental illness becomes defined in psychiatric or legal contexts, these definitions do not replace commonsense notions but, rather, add to commonsense understandings of what mental illness is (Scheff, 1966). Thus, when competing accounts are at play (e.g., psychiatric model vs. legal model), the topos becomes the basis for a shared understanding that is necessary in civil commitment decision-making (Warren, 1982).

Also significant is Warren's (1982) finding that attorneys and others involved in administrative hearings often refer to the mentally ill as "sick" and "crazy." Warren provides evidence of such in citing interviews with attorneys (both district attorneys and public defenders), judges, and even psychiatrists, as well as in a number of transcripts. What these references tell us, writes Warren, is that the commonsense model of mental illness takes precedence over other forms of understanding. Namely, when medical and legal paradigms collide, it is the shared image of the mentally disabled that "governs the unfolding courtroom process" (Arrigo, 1993, p. 25) and, ultimately, determines final outcomes. Thus, the image of the defendant as "crazy" is shared by attorneys, judges, and psychiatrists alike. This image, of course, is in lieu of the more informed understandings that are theoretically embodied by the respective parties. In short, then, Warren provides the earliest extended treatment of the dynamics of culture, language, and popular image as they impact the fate of the mentally disabled. Warren's analysis would be the impetus for several similar inquiries thereafter. Two of these come to us by way of Holstein (1993) and Arrigo (1993).

"Doing Things with Words": Holstein and Interpretive Practice

James Holstein's (1993) description of Court-Ordered Insanity is, in many ways, a logical follow-up to Warren's work. Holstein's engagement with his own "Metropolitan Court" is best described as one with interests in interpretive practice or "how persons involved in. . . [civil] commitment proceedings understand, define, interpret, and use the

concept of mental illness or psychiatric disorder. . . to fashion legal decisions" (1993, p. 5). The focus here is on "the process of invoking and applying definitions, categories, and practical interpretive procedures" (ibid., p. 5). In other words, how do categories or labels factor into the decision-making process or, rather, how are they employed in courtroom discourse to generate understandings that ultimately inform decisions?

Mental illness, for Holstein, is one of those labels or categories that are used to describe behaviors or characteristics of persons in everyday language. Going beyond conventional labeling theory, Holstein argues that meaning "is not inherent in any particular object, person, or event, but instead is attached through language and interaction" (ibid., p. 5). The meaning assigned to "mental illness," then, and the ascription of the label or category "mentally ill" unto a given individual, is understood as a psycholegal process of interaction and discourse through which agreed-upon understandings are generated.

Holstein, then, endeavors to understand how everyday realities such as mental illness are the product of interactive construction or meaning-making. The way people approach mental illness--the way they describe it, interpret it--is what constitutes the reality of mental illness or health. Language is not merely a way of conveying meaning, it is a way of generating or creating meaning. When two or more persons must interact, coming to some common understanding of what it is they are talking about, language is the means by which these persons construct a common reality. Much as it is to Warren, this "common" sense is important to Holstein's analysis of civil commitment hearings. It is through commonsense categories that the social world is interpreted (1993, describing

Schutz, 1964). If we intend to make some sense of involuntary commitment proceedings, "a focus on participants' use of commonsense knowledge and practical reasoning" is essential (Holstein, 1993, p. 7).

Holstein's project, then, "analyzes how participants in commitment proceedings use their commonsense knowledge to produce reasoned and reasonable commitment decisions" by appealing to the ways in which they use "descriptive categories, psychiatric constructs, and local knowledge of social roles and institutions to make accountable arguments for and against commitment" (1993, p. 15). Accordingly, "there is no need to determine the 'real' mental status of candidates for commitment because the focus is on what commitment participants interpret to be real--mental illness as it is practically constituted" (ibid., p. 15; emphases added).

Signifying Craziness: Arrigo and the Semiotics of Illness

Arrigo's (1993) Madness, Language, and the Law also explored the contours of civil commitment decision-making. Unlike both Warren's research and that of Holstein, Arrigo's work is not rightfully regarded as ethnographic nor purely sociological. It is, rather, an analysis belonging within the tradition of legal semiotics. Much like Warren and Holstein, Arrigo's semiotic analysis dedicates itself to understanding the ways in which language impacts civil commitment decision-making, or, how discourse shapes legal decision-making at the level of the appellate court. In other words, Arrigo sets out to examine what the court "really means when commenting upon the mentally ill or involuntary psychiatric hospitalization" (1993, p. ix).

Two layers of semiotic analysis provide the methodological basis from which Arrigo's semiotic inquiry is developed. The first reviews the majority opinions of 28 appellate court decisions in search of words and/or phrases that jurists use to "make sense" of the reality of mental illness and involuntary commitment. Grouping similar terms, Arrigo identifies a number of "themes" that represent hidden meanings or unstated values and assumptions that are thought to embody the true intentions of the courts' comments on mental illness and civil commitment. Having identified these themes, Arrigo develops his second layer of analysis, which explores the ambiguity of words and phrases employed by jurists to convey meaning. In short, the second layer "entails a closer reading of the discourse's metaphorical character" (1993, p. x).

Arrigo concludes that the language of "medical model" psychiatry "is the operative discourse" in the cases he examined (1993, p. 133). The language of psychiatry is predominantly responsible for establishing the operative meaning of phrases like "civil commitment" and "mentally ill" as they inform appellate court decisions. The meaning that the appellate courts assign to such phrases, asserts Arrigo, is meaning borrowed from psychiatry. In short, the language of psychiatry has been codified by the courts and, consequently, invalidates competing or alternative discourses or ways-of-knowing (ibid.). Civil commitment "is a 'clinical' intervention for persons who are 'suffering,' 'afflicted with disease,' 'in need of treatment,' 'sick,' etc." (ibid., p. 134). This operative language denies alternative explanations of the mentally ill as, for example, "consumers," "citizens," "differently abled," "psychologically healthy," etc.

The character of discourse in the psychiatric courtroom is such that these words and phrases leave themselves available to more than one possible interpretation. The "true" meaning of words or phrases such as "suffering" is always uncertain--its meaning is undecidable. The court, Arrigo (1993) argues, "selects out" a meaning that is consistent with the medical model of psychiatry and the interest of the court. Thus, in the face of ambiguous, even contradictory meanings, the court tends to favor certain interpretations over others and, in fact, denies the uncertain nature of meaning by drawing it to a single interpretation at the expense of others. The selected meaning of "suffering," for example, is that which will be consistent with psychiatry's understanding of what it means to "suffer."

The importance of these linguistic realities is in their inherent relation to knowledge. Language, to some significant degree, shapes or determines what we know or think or feel. That is to say, we have certain understandings of what it means to be "sick," for example. Employing the term "sick" with regard to the mentally ill presents a certain picture of mental illness that encourages us to understand it as a disease or something more closely resembling physical illness. In this process, we are denied the possibility of understanding mental illness in alternative ways, for example, not as an "affliction" or "illness" but as a qualitatively different variety of mental "health." The "consumer" of "mental health services," for example, is understood as a "diseased" person "in need" of psychiatric/medical "treatment." If such a paradigm is operative in psychiatry, it is also operative discourse in the courts. Consequently, the mere language

employed to understand mental illness can and does have a decisive impact on decisions such as those asserted in civil commitment hearings.

Relevance to Present Critique

The critiques presented by Warren, Holstein, and Arrigo are informative and befitting on several levels. Most generally, each embodies a strain of critical thinking about the mentally ill and the process of civil commitment that informs the way we examine psycho-legal reality. Each purports to tell us something about how the courts understand "mental illness," "dangerousness," "civil commitment," and the "right to refuse treatment." Warren argues that commonsense understandings of mental illness as images of craziness are operative; Holstein suggests an interpretive process by which courts come to an understanding in the face of often competing evidence; and Arrigo argues that psychiatric language is predominantly responsible for the images the court relies upon to make its decisions. Each, then, tells us something about how the legal system--in the face of necessity--understands these psycho-legal constructions. It is our intention to rely, in part, on these observations while asking in what ways chaos theory might further these observations. In short, how, through chaos theory, might we understand how the courts should understand "mental illness," "dangerousness," "civil commitment," and the "right to refuse treatment?"

It has been said that mentally "ill" persons subjected to civil commitment are understood by psychiatry, the courts, and the public through meanings derived from commonsense, language, and interpretations of language based on commonsense. Each

of the critiques discussed represents the problem of meaning as one that denies the "real" experience of the mentally ill a proper role in civil commitment decisions. Rather, the mentally ill are the subject of social constructions, interpretive schemes, medical/ psychiatric language, and the like. It might better to think of persons facing civil commitment as powerless or, at least, neutralized, centerpieces in hearings that determine their future. Are commonsense understandings of mental illness, for example, consistent with the reality of mental illness?--do they accurately describe the experience of the person(s) in question? Is "dangerousness" a characteristic easily identified and assuredly predicted? Is civil commitment a practice that serves the interest of the committed person or, rather, are their additional--perhaps subconscious--motives to consider? Is treatment by way of commitment the best way to promote the "health" of individuals?

All of these questions are concerns of the present chapter. This has been argued and, to some extent, presented on a theoretical level in previous chapters. The present chapter does not deviate substantially nor, necessarily, present additional elements for critique. Rather, it is the application of what has come before to cases that are felt to be representative examples of civil commitment as is currently practiced in the United States. The following case studies, it is hoped, will shed further light on what is means for mental illness to be a "fractal" or for an individual to "self-organize" in the face of disorder. There is a reliance, sometimes explicitly and sometimes not, on the observations of Warren, Holstein, and Arrigo to inform our understanding of how "mental illness," for example, may have been determined in any given case. Where these observations have not gone, it is hoped chaos theory will. To begin, an analysis of the

previously mentioned case of Billie Boggs ensues. It should be noted that it is not intented to exhaust the possibilities for critical analysis within each case. Rather, the purpose is to extract relevant and representative "data" from each case to illustrate how chaos theory might further our understanding of each controversial element.

In the Matter of Billie Boggs

As noted, a single case has been chosen from which to assess the practice of decision-making in the psychiatric courtroom--that of Joyce Brown or, more commonly, Billie Boggs (her self-provided name). The case of Billie Boggs is important in that it stands as a "classic confrontation between the rights of a citizen against governmental authority trying to confront and remedy a pervasive societal problem" (In the Matter of Billie Boggs, 1987, pp. 366-367). The problem being referenced here in a dissent by Judge Milonas of the Supreme Court of New York, is that of the "mentally disturbed homeless" in New York City and elsewhere. Its implications, however, run much deeper for present purposes. Ms. Boggs presents as a (non-criminally convicted) woman subjected to confinement and treatment against her will, each justified by her being labeled mentally ill and dangerous. Thus, the case of Billie Boggs calls to question each of the four major controversies in civil mental health law that have represented the focus of the present critique. More importantly, it allows the opportunity to see how the principles of chaos theory might "look" in the context of real lives and real practices. In the present section, the intention is to do just that.

Background

Billie Boggs was a 40-year-old woman living on the public sidewalk in front of a restaurant in the County of New York. The surrounding city streets and alleyways constituted her bedroom, living room, toilet, and had generally served as her home for the past year. Ms. Boggs' introduction to the reality of civil commitment occurred in late October, 1987, after having been identified as a person "in need" of psychiatric care. Mental health professionals affiliated with an organization referred to as "Project HELP" had been observing Ms. Boggs on an almost daily basis over the course of the preceding year. Project HELP was described as "an emergency psychiatric service for allegedly mentally ill homeless persons, who live on the streets of New York City" (In the Matter of Billie Boggs, 1987, p. 343). The staff in question consisted namely of a clinical team of psychiatrists, nurses, and social workers whose responsibilities entailed "travel[ing] around New York City. . . identifying persons who live in the street and who appear to be particularly in need of immediate psychiatric hospital treatment" (ibid., p. 343). Persons "particularly in need" are theoretically equivalent to persons who "appear to be in danger of doing serious harm to themselves or others" (ibid., p. 343).

Dr. Hess, part of the clinical team of psychiatrists associated with Project HELP, determined that Ms. Boggs fit the profile of persons "in need" of emergency mental health care (i.e., that she was mentally ill and that failing to immediately treat her "illness" would endanger the life of herself and/or others) and, consequently, arranged for her (involuntary) transportation and subsequent commitment to Bellevue Hospital (a public psychiatric facility in New York City). This initial hospitalization was arranged

pursuant to Section 9.39 of the Mental Hygiene Law, which authorized a hospital to retain an individual for up to 15 days if that person is "alleged to have a mental illness for which immediate observation, care, and treatment. . . is appropriate and which is likely to result in serious harm to [herself] or others" (In the Matter of Billie Boggs, 1987, pp. 343-344). The day following her commitment, Ms. Boggs provided notice that she wished to challenge her hospitalization and requested a hearing.

At the initial hearing, the respondents--arguing for her continued confinement--presented the testimony of four psychiatrists, a psychiatric social worker, Ms. Boggs' older sister, and an additional witness who had photographed Ms. Boggs in the street. In support of Ms. Boggs' release, the court heard the testimony of three psychiatrists and that of Ms. Boggs herself. In light of the received testimony, the court granted Ms. Boggs' application and directed her release from Bellevue. On appeal, however, the appellate court reversed the decision of the lower court and denied Ms. Boggs' petition for release. What follows is a somewhat extensive treatment of the critical issues, opinions, and statements that played a role in the appellate court's reversal.

Opinion of the Court: Legal and Psychiatric Analysis

The primary issue before the court was whether the respondents (i.e., hospital officials) had presented "clear and convincing evidence that [Ms. Boggs was] suffering from a mental illness, which require[d] her immediate involuntary commitment, to a hospital for care and treatment, since allegedly, if such an illness is left untreated, it will likely result in serious harm to the petitioner" (In the Matter of Billie Boggs, 1987,

p. 341). The State, it is suggested, "has a legitimate interest under its parens patriae powers in providing care to its citizens who are unable because of emotional disorders to care for themselves" and, further, "has authority under its police power to protect the community from the dangerous tendencies of some who are mentally ill" (ibid., p. 342). The question at issue, then, is whether proof exists that Ms. Boggs suffered from "something more serious than is demonstrated by idiosyncratic behavior" (ibid., p. 342). The "clear and convincing" standard of proof, as has been seen, requires that evidence of mental illness and dangerousness be suggested at a greater than 75% degree of confidence. It is this level of proof that the court feels "strikes a fair balance between the rights of the individual and the legitimate concerns of the state" (ibid., p. 343). Justifying Ms. Boggs' involuntary commitment, then, depended on the respondents demonstrating by clear and convincing evidence that Ms. Boggs was both "mentally ill" and "dangerous." In conclusion, the appellate court speaks to this very finding:

> . . . we find the clear and convincing evidence indicates that, while living in the streets for the past year, Ms. Boggs' mental condition has deteriorated to the point where she was in danger of doing serious harm to herself when. . . she was involuntarily admitted to respondent Bellevue for treatment; and. . . we further find that clear and convincing evidence supports the continued involuntary confinement of Ms. Boggs to the hospital for treatment. (In the Matter of Billie Boggs, 1987, p. 366)

In justifying its reversal of the lower court's conclusion, the appellate court explains that, in its opinion, the hearing court derived its evidence from the wrong place:

> the hearing court states, in substance, that the respondents' psychiatrists and the psychiatrists who testified on behalf of Ms. Boggs "are nearly diametrically opposed in their assessment of mental condition and in their predictions as to whether she is likely to cause herself or others harm. Thus I [the hearing court] derive little psychiatric guidance from them and therefore place great weight on

> the demeanor, behavior and testimony of [Ms. Boggs] herself". . . we [the appellate court] find that the hearing court erred in placing 'great weight on the demeanor, behavior, and testimony' of Ms. Boggs. (p. 364)

Thus, the hearing court, in the face of competing psychiatric opinions, chose to allow Billie Boggs to speak for herself. Its failure to find conclusive evidence of mental disorder and dangerousness bespoke its confidence that, in judging an individual's psychology, one should search no further than the individual her- or himself. The appellate court, however, found Ms. Boggs' testimony unreliable and chose, instead, to place "great weight" on the opinions of the respondents' psychiatrists as derived from records (e.g., transcripts, etc.). Contained within these transcripts are the competing accounts that the lower court acknowledged, as well as the presentation of Ms. Boggs' mental illness and dangerousness that proved critical to the appellate court's reversal. An examination of this (lack of) evidence shall now follow. To avoid repetition of case material, it has been chosen to incorporate the critique that chaos theory offers within, rather than apart from, this examination. What follows, then, is a critique of the ways in which the court's conclusions were achieved.

Critical Analysis

Thus far a brief review of several recent critiques of civil commitment has been developed. Warren (1982), Holstein (1993), and Arrigo (1993) serve as building-blocks or critical pillars delineating and defining a process of reality construction that underlies the very practice of involuntary civil confinement in the United States. None, of course, sought to understand their subject through the lens of chaos theory (see, however, Arrigo,

1996). The purpose at this point of the critique is appeal to something beyond each of these while, simultaneously, allowing ourselves to be informed by them. In the interest of both clarity and impact, the following examination of the case of Billie Boggs will be segmented in a way consistent with the presentation of this project as a whole. That is to say, the ways in which (1) the meaning of mental illness, (2) the meaning and prediction of dangerousness, (3) the practice of civil commitment, and (4) the right to refuse treatment are present and critical factors in cases such as that of Billie Boggs will be explored.

Similarly, the same principles of chaos theory will be employed to inform a treatment of the respective issues as they appear in Billie Boggs. Thus, one might consider each topic in this section to be an extension of the respective earlier chapter of which its subject was of issue. In the analyses of the first three controversies, some speculative comments are offered on how each of the three "critical backdrops" might respond to the issues presented in Billie Boggs. These observations are followed with what chaos theory might add. The fourth controversy assessed--the right to refuse treatment for Billie Boggs--is structured somewhat differently. Warren, Holstein, and Arrigo give limited attention to this controversy and even less that is of relevance to the notion of self-organization as employed in this critique. Thus, the final subsection of this analysis of Billie Boggs should be read more as an integrated reflection. A "critical backdrop" followed by an analysis employing chaos theory is not provided. Rather, the entire section should be read as a critique of the right to refuse treatment in Billie Boggs through the lens of chaos theory.

"Tearing Up Money"

The determination of "mental illness" in the case of Billie Boggs was informed primarily by attaching meaning to certain behaviors that Project HELP staff had witnessed while observing Ms. Boggs in the street. The meaning assigned to these behaviors was the determining factor in the construction of Ms. Boggs' reality--it differentiated between behavior arising from "normal" or "healthy" motives, and those that were the product of underlying illness. In the case of Billie Boggs, psycho-legal attention primarily engaged with the latter.

It is known that Ms. Boggs would, on occasion, tear up or burn paper money that was given to her by strangers. Indeed, Ms. Boggs did not deny that such observations were well-founded. What is significant from a critical perspective, however, is the way in which the act of tearing up money is attributed without question, as "commonsense" knowledge, to underlying mental illness. Commonsense would have us ask, "What 'rational,' 'healthy' person would tear up money?" Destroying something that the vast majority of the Western world regards as valuable is not generally understood as appealing to the best interest of the possessor of that something. Critically, however, we might ask, "If someone were, for whatever reason, inclined to engage in such an activity, must the underlying motives be evidence of 'mental illness' and warrant involuntary commitment?" Consider the statement by Dr. Sabatini--a psychiatrist testifying for Ms. Boggs' continued confinement--concerning this behavior:

> It's not a general phenomena [sic] observed and the indications I got were that there was a meaning to the destruction of this money because it represented, when it was given to her, people saying things about her--negative things about her

> which had a sexual overtone. . . people. . . were. . . trying to control her sexuality through money. And, I think the destruction of money served to dispel that. (In the Matter of Billie Boggs, 1987, p. 353)

It is clear that Dr. Sabatini is, in this passage, ascribing underlying "private" meaning to Ms. Boggs' behavior--one that is further "tangled up with black males and prostitution" (ibid., p. 353) Dr. Marcos, the fourth psychiatrist to testify for the respondents, also believed that "being given currency was equated with men trying to tell Ms. Boggs that she was a prostitute" and interpreted her "burning of the currency as evidence of her belief that she could gain respect and dispel the idea she is a prostitute" (p. 353). The underlying meaning, then, is understood as pathological--as evidence that psychological "health" is, to some extent, diminished. The destruction of money is interpreted by "experts" as pathological behavior stemming from a pathological belief and, as such, evidences underlying mental illness.

Indeed, contemporary psychology holds that most behavior is attributable to some underlying thought processes that give rise to it (save, perhaps, human instinct). If the behavior in question is indicative of something (e.g., value, belief) that is not understood as meaningful, useful, healthy within the prevailing socio-cultural climate the behavior itself is, not only affixed with labels such as "deviant" or "unhealthy," but the underlying motives are also impugned. Consequently, we are to understand, by way of the psychological perspective, that behaviors seemingly irrational to the majority are similarly irrational for those harboring the thoughts that give rise to them. "Tearing up money," then, becomes equated with mental illness. What is most important, however, is the way in which psychology has attributed meaning to this behavior--meaning that is

understood as pathological without sufficient regard for reasonable motivations that may exist. Indeed, as will now be seen, Ms. Boggs herself addresses this very behavior--aligning it, however, as a product of rational belief. However idiosyncratic her response to these beliefs, it is questionable whether idiosyncratic responses to rational beliefs are constitutive of mental illness.

Testifying on behalf of Ms. Boggs' release, Dr. Gould--an attending psychiatrist at Metropolitan Hospital--indicated that, having spoken with Ms. Boggs concerning the "tearing up money" behavior, a different conclusion was warranted. In fact, Ms. Boggs "had no delusions about money, rather, . . . when someone threw paper money at Ms. Boggs and she found it insulting or degrading, she would destroy it" (ibid., 356). Testifying on her own behalf, Ms. Boggs confirmed this understanding. She noted that "she destroys paper money if it is thrown at her or given to her in an allegedly offensive manner" and that "she has no delusions about black persons giving her money for sex" (ibid., p. 358).

Critical backdrop for the meaning of mental illness. Given that the court must balance competing stories or accounts of mental well-being in the interest of reaching conclusions, it might be asked how it derives ultimate meaning from these accounts. In the case of Billie Boggs, her observed behavior might be regarded as one of those "commonsense" indications (Warren, 1982) that encourages the court to accept certain meanings at the exclusion of other, less commonsense, understandings. As previously asked, "what reasonable (i.e., mentally "healthy") person would tear up money?" Given

that this behavior was an important piece of evidence, it might be asked whether the court, upon the introduction of this evidence, was inclined to regard it as a manifestation of underlying mental illness or as an idiosyncratic response to environmental circumstances. The court appeared to lean, in the face of these competing judgements, toward that which was most akin to common understandings of appropriate thought/behavior. Lacking definitive evidence of mental illness, the court chose to determine the existence of mental illness on the basis of psychological accounts that arose merely from behavioral evidence coupled with the attribution of this behavior to underlying dysfunction. Why might this behavior be interpreted as a manifestation of illness rather than health?

Holstein (1993) suggests, in the same manner, that mental illness assumptions are interpretive schemes employed to make (common) sense of an individual's need for hospitalization. The introduction of psychiatric "disorder" to a given case serves as a scheme within which to interpret all other information regarding that individual. Holstein notes, "As court personnel impute mental illness, they implicitly structure their interpretations of patients' behavior more generally. That behavior, viewed as a product of mental illness, then serves to further document the presence of illness itself" (p. 134).

Describing Ms. Boggs as a mentally ill person--as a homeless person even--established a framework from within which to understand her reality. As Holstein would suggest, describing Ms. Boggs as mentally ill and interpreting her behavior creates a certain dialectic in which mental illness becomes the basis for interpreting her behaviors and her behaviors become the basis or justification for the presence of mental illness.

Beginning with an interpretive scheme in which Ms. Boggs is mentally ill, homeless, and embodies the characteristic behaviors of such populations, her mental illness is interpreted as the underlying cause of her "tearing up money." Interpreted as the manifestation of mental illness, "tearing up money" becomes a justification for the finding of mental illness. The underlying assumption of mental illness, then, provides the "interpretive resources" with which to understand Ms. Boggs' behavior (Holstein, 1993, p. 134).

Similarly, a semiotic critique of Billie Boggs focuses on the language that was employed during the hearing and the subsequent influence of that language on the proceedings. Arrigo (1993) drew upon the case of Billie Boggs for just such an analysis. What he found were a number of words or phrases employed by various persons throughout the hearing that "communicated deeper meaning about the court's regard for the psychiatrically disordered" (p. 109). These deeper meanings tended to be of more importance than the superficial meanings conveyed by the words alone. Arrigo identified 10 such words or phrases, including reference to Billie Boggs as "suffering," "engaging in magical thinking," and "speaking in sexual rhymes."

The word "suffering," for example, is ambiguous in that it communicates at least two distinct psychological states. It may, for example, refer to suffering through something that is non-disabling. "Suffering," in this case, may communicate the capacity of an individual to cope with a psychiatric illness. "Suffering" may also refer to a sort of debilitating condition--a physical or emotional condition that is particularly agonizing. Thus, the word "suffering" communicates two meanings: coping with mental illness, as

well as despairing over mental illness (Arrigo, 1993). It is not difficult, then, to understand how such ambiguity might factor prominently into understanding the psychiatric condition of Ms. Boggs. Is she "suffering" in the sense that she is a survivor?; is she an individual who has learned to cope with her illness? Or, rather, is she an individual who is sufficiently debilitated by her illness that she requires hospitalization? This distinction is important in determining the ultimate disposition of the case, yet the meaning conveyed by the chosen language served only to further complicate this distinction. Similar to chaos theory, semiotic analyses seek to uncover these deeper communicated meanings and draw attention to how meaning is available to limitless degrees of comprehension or perspectival forms. Chaos theory would hold language to be one example of how reality is multi-dimensional and how the interpretive schemes through which we understand "our" world are representative of only one dimension or one perspective of many.

Chaos theory, fractal space, and the meaning of mental illness. Recall that the critique of meaning as it informs the concept of "mental illness" was premised on the assertion that, in light of chaos theory, meaning must be regarded as incomplete, reflecting not absolute truths about the world but, rather, social constructions based on a necessarily myopic perspective. Any meaning attached to a given concept must necessarily be our own personal, cultural, historical construction and, thus, is not an absolute, objective truth; it is but one perspective chosen amongst the limitless perspectives that present themselves. However informed we may be of other

perspectives, our own perspective is that used to understand other perspectives. In this way, meaning is understood as somewhat of a paradox--we cannot "see" other perspectives without necessarily falling subject to influence from our own perspective. What has been suggested in response, is that justice is that which allows flourishing of the diversity of perspectives that comprise the universe of meaning and upon which the meaning of the universe is best understood.

If mental health is a fractal, it is a continuum rather than a binary opposition (i.e., health/illness). In this light, how can we be confident that our distinctions in individual cases are not merely arbitrary and, consequently, antithetical to most conceptualizations of justice? One could argue that employing such imperfect or incomplete truths for purposes whose consequences entail the abrogation of human freedom and liberty, is a practice that begs critical examination. There are indications throughout the court's treatment of the case of Billie Boggs that this type of incomplete reasoning was operative, denying the fractal or multi-dimensional nature of meaning that chaos theory suggests should inform our understanding of mental illness or, rather, mental "health." One of these instances, Ms. Boggs' "tearing up money," has been described.

That meaning has a fractal nature suggests that a given behavior can be understood from limitless perspectives and that, while some may be more beneficial depending on the desired outcome or operative "good," none are absolutely and universally more desirable. With regard to Billie Boggs "tearing up money," it might be concluded that what is operative is a sort of "perspectival clash." Ms. Boggs' behavior in this case, though not necessarily consistent with conventional beliefs concerning

beneficial or appropriate action, is open to a variety of interpretations. Namely, there are two competing or clashing perspectives on the meaning of her "tearing up money." The first, of course, is that of the psychiatrists testifying for Ms. Boggs' continued confinement; the second is that of Ms. Boggs herself, as well as that of the psychiatrists testifying on her behalf. While in the former instance the behavior is unquestionably equated with underlying mental illness, the latter re-directs our attention to what are conceivably justifiable, though idiosyncratic, motives. In this case, the appellate court held that the hearing court--which found for Ms. Boggs' release--"erred in placing great weight on the demeanor and testimony of Ms. Boggs" (In the Matter of Billie Boggs, p. 364). In contrast to what a perspectival approach to meaning might suggest, the court declared the perspective of Ms. Boggs to be irrelevant for purposes of determining her future.

With regard to the finding of mental illness in Billie Boggs, then, the court's understanding of her thoughts, feelings, and behaviors was adapted from those meanings attached to them by psychiatry--at the expense of the personal, however idiosyncratic, meaning coming from within Billie Boggs herself. The first critical component of meaning, then, is the denial of subjective experience and the explicit endorsement of "objective" and scientific judgements by the court. This is, in a sense, the omission of Billie Boggs' subjectivity or essential being from the courtroom in favor of the admission of psychiatrically generated knowledge about human being.

Secondly, though several psychiatrists represented Billie Boggs with competing knowledges concerning human being, the court chose to believe the testimony of those

psychiatrists whose opinions were more consistent with the prevailing socio-cultural commonsense understanding of mental illness. This is apparent in the court's refusal to seriously consider that behavior contrary to commonsense was merely idiosyncratic as opposed to indicative of underlying mental illness. That which was consistent with existing topoi is accepted by the court as a more accurate representation of the reality that was under investigation in this case.

In this instance, chaos theory becomes valuable in that it points out the dangers of accepting one reality as closer to the "truth" than others. In short, it describes the world and its nature as a fractal. This fractal is characterized by an endless number of perspectives, or an endless way of looking at or approaching anything within its contours. The "object" of investigation will inevitably appear different from any perspective one assumes. The "truth" of that object--the "reality" of that object--is difficult to ascertain in light of these limitations. In other words, one cannot approach the truth from any one perspective. This is not to suggest that a given perspective cannot present a better "view" of the reality in question but, rather, that we cannot approach reality without considering and integrating a variety of perspectives. This integration, then, is precisely what is lost when the court denies the very real perspective of Ms. Boggs and, to a lesser extent, that of the psychiatrists testifying on her behalf.

"Drug Abuse or Other Self-Destructive Behavior"

In some ways, the following analysis of Billie Boggs' "dangerousness" is a continuation of the critique of meaning offered in the previous section. Recall that

dangerousness, like mental illness, has been subjected to much criticism for its ambiguity or lack of objective standards. Like mental illness, whether an individual is judged dangerous is often a decision made on the basis of expert testimony (e.g., psychological/psychiatric descriptions and predictions). Such expert accounts, in turn, depend on attributing behavioral manifestations to underlying or inherent characteristics of individual persons. Consequently, what results is a conflation of that which chaos theory tells us we cannot conflate--namely, inherent characteristics of individuals and behavioral manifestations that arise given specific ecological circumstances.

There are three essential ways in which Billie Boggs was thought by experts and, subsequently, the courts to be a danger to herself. In summary, respondents offered that, "the key issue in this case is dangerousness and the record shows three aspects of self-danger. . . the three aspects of self-danger, which any one alone would be enough to meet the statutory standard, include self danger from self neglect, from actively suicidal conduct, and self-danger from aggressive behavior that is likely to provoke an attack from others" (In the Matter of Billie Boggs, 1987, p. 370). Each of these three aspects is reflected throughout the court's opinion. It is found, however, that the behavioral manifestations that are employed to interpret the dangerousness of Ms. Boggs are quite readily conflated with her inherent being. Thus, specific behaviors are interpreted as abiding characteristics and subsequently understood as the conduct of a "dangerous" individual rather than regarded as context-specific manifestations.

The appellate court's finding that Ms. Boggs was "dangerous" was established by several notable testimonies. In it's opinion, the court recalled the testimony of Dr.

Mahon, noting her finding that Ms. Boggs was not "ready to be an outpatient, since she presently has no capacity to comprehend her need for food, clothing or shelter and, in addition, Ms. Boggs cannot comprehend obvious danger" (In the Matter of Billie Boggs, 1987, p. 363). The court assimilated Dr. Mahon's opinion into its legal understanding of dangerousness in suggesting, following Matter of Carl C. (1987), that "a threat of serious harm to a mentally ill person 'can result from a refusal or inability to meet essential needs for food, clothing or shelter'" (ibid., p. 363). Ms. Boggs' incapacity to "comprehend her need for food, clothing and shelter" is a recurring theme and warrants some further attention here.

The notion of inability to meet basic needs--a significant component of the "grave disability" concept as it informs dangerousness--appears most explicitly in the testimony of Dr. Hess. Dr. Hess noted that Ms. Boggs refused food from him and, after eventually accepting it, threw it at him and chased him around the corner (In the Matter of Billie Boggs, 1987, p. 345). Additionally, Dr. Hess commented on information he had obtained from the Project HELP staff indicating that she had "throw[n] away warm clothing she had received from personnel representing Project HELP (ibid., p. 345). In conclusion, Dr. Hess opined that Ms. Boggs was a "danger to herself, since she was incapable of accepting food, clothing or shelter" (ibid., p. 346).

There is a key psychiatric assumption, of course, that Ms. Boggs' refusal to accept food and clothing from Project HELP staff is an indication that she is incapable of comprehending her own needs. Not accepting food from Project HELP staff, for example, becomes an incapacity to comprehend her needs. The employment of both

"incapacity" and "comprehension" equates the actions of Ms. Boggs with an abiding characteristic of her being. Thus, the meaning of Ms. Boggs' refusing food under specific conditions is interpreted within the context of her psychological functioning--absent any reference to her ecology or contextual factors that may have influenced that behavior.

Upon closer examination, however, the contextual influences become more apparent and alternative explanations for her behavior begin to present themselves. There is a recurring tendency, for example, for Ms. Boggs to exhibit hostility toward Project HELP staff. This is evidenced in such behaviors as her "twirling an open umbrella to avoid eye contact" (In the Matter of Billie Boggs, 1987, p. 344), "curs[ing] and shout[ing] obscenities" (p. 345), being generally "hostile, angry, and us[ing] threatening gestures" (p. 348), in addition to the above-mentioned refusal of HELP's assistance. There is a further assumption that this hostility is attributable to Ms. Boggs' personality—in other words, it represents an underlying tendency to be hostile and angry toward other people. When generalized to this extent, anger (affect) and hostility (behavior) are promoted as enduring personality traits or behavioral characteristics stemming from, perhaps, delusions that result from an underlying "illness." Consequently, Ms. Boggs is understood as a "dangerous" person.

It might be briefly noted that this evidence (i.e., hostility) of mental illness is also the reason advanced for Ms. Boggs' meeting the self-danger criterion by way of aggressive behavior that is likely to cause others to injure her. As a general trait, Ms. Boggs' anger and hostility toward others--all others, it is believed--is a characteristic that is likely to encourage others to respond to her in hostile ways and, consequently, she is in

danger of being attacked by others. It is noted, however, that Ms. Boggs has never been injured nor attacked by another person. This latter point encourages us to re-assess the certainty with which the courtroom participants understand her behavior as enduring. A substantial reason, perhaps, and one offered by Ms. Boggs herself, is that she does not exhibit such behavior generally but, rather, only in response to specific circumstances--those circumstances being the intrusive presence of Project HELP staff in her life.

In much the same way that Ms. Boggs' destruction of money might be thought a response to what she felt was motivated by insult and degradation, her hostility toward Project HELP staff may be thought an expression of pride or a means of maintaining her sense of dignity. It must be remembered that Ms. Boggs threw away clothing and food--both of which were given to her by persons she may have regarded as threatening because of what they represented. Dr. Gould, in testifying on behalf of Ms. Boggs, believed that her verbal abuse of others was indicative, not of mental illness and a self-destructive personality, but of her not wanting to be "disturbed by some individuals who invaded her privacy" (In the Matter of Billie Boggs, 1987, p. 356). This may be especially true when such invasive persons are known to her to represent an organization whose purpose encourages them to do so.

Ms. Boggs' "incapacity" to "comprehend" her basic needs may be more rightfully--if we concede that the opinion of Ms. Boggs herself has any substantive value--considered an unwillingness to accept assistance of varying sorts when she regards it as unwanted and intrusive. Ms. Boggs exhibited hostility toward Project Help staff--not toward the majority of people whom she encountered on a daily basis. Ms. Boggs threw

away food and clothing given to her by Project HELP staff--not, again, food and clothing offered to her in other circumstances. Ms. Boggs stated, for example, that she panhandles for money to buy food and has "friends" that provide her clothing when she is in need (In the Matter of Billie Boggs, 1987, p. 351). Ms. Boggs' hostility and refusal of food and clothing may be just as easily interpreted, not as "dangerous," "delusional," etc.. but as a means of encouraging HELP staff to leave her alone. Ms. Boggs' refusal of the services of Project HELP may simply have been a desire for her own agency to be recognized. That is to say, Ms. Boggs would have imagined herself a choice-making homeless person, and assistance not asked for may have been interpreted as a threat to her capacity in this regard.

It is also interesting to consider at this point the second line of evidence championed by the respondents as indicative of Billie Boggs' "danger to self," that of suicidal ideation/behavior. The same observational evidence--that of Ms. Boggs running into traffic to throw away clothing she had received from Project HELP--is again employed. Her throwing away clothing is indicative of an inability to comprehend basic needs and care for herself, and running into traffic to do so is indicative of suicidal ideation. Ms. Boggs said that she had "run into traffic, and that she had a right to do so; she said that if she got hurt, it was nobody's business but her own" (In the Matter of Billie Boggs, 1987, p. 348). Dr. Mahon offers an interpretation: ". . . running in front of traffic and saying she has a right to endanger her life is suicidal and as a psychiatrist, I have to call that suicidal behavior and I have to treat it as a clinician" (p. 351). Ms. Boggs, however, according to Dr. Gould's testimony in her interest, has never been injured, nor

is there any history of severe depression or suicide attempts--historical manifestations usually present in those who are "suicidal" (p. 357). Again, we find a conflation of context-specific behavior with the supposed enduring presence of suicidal ideation.

Critical backdrop for dangerousness. Warren (1982), Holstein (1993), and Arrigo (1993) offer a valuable backdrop against which to understand the construction of the dangerous individual in commitment proceedings. Similar to the ways in which mental illness is understood as a process of meaning-making, dangerousness can also be understood only within the context of courtroom constructions of individual realities. Thus, the "meaning" of dangerousness is subject to much the same criticism as the meaning of mental illness. It should be noted, however, that neither Warren, Holstein, nor Arrigo offer much in the way of critical examination of the prediction of dangerousness--the second element of this current critique of dangerousness. Thus, the critical backdrop in this subsection applies primarily to the problem of defining dangerousness and only indirectly to the problem of predicting dangerousness.

Warren's (1982) analysis of civil commitment suggests that even in cases where such concepts as "dangerousness" are clearly defined, there is still a certain degree of uncertainty which intervenes. Courtroom players face descriptions of a given reality that are plagued by ambiguity--the meaning of the thoughts, feelings, and behaviors that constitute this reality are available for interpretation. Psychology has its own interpretation, as does the law. In response to the uncertainty promoted by differing interpretations, judgements are made on the basis of socially informed constructions of

categorical reality and the personal experiences that are understood only with reference to such a construction. Thus, we label our experiences and the "things" that comprise those experiences according to pre-existing but learned conceptions of the world--conceptions that supercede any "professional" understanding in the face of ambiguity. We learn, for example, that mental illness is something radically different from mental health. We learn, for example, that mental illness "causes" persons to act in irrational ways, with little appreciation for the consequences of their actions. These images are provided through a number of cultural mediums and provide the basis for the commonsense understanding of mental illness in our present society--the same commonsense understanding that Warren concludes is operative in decisions concerning the presence of mental illness and the "dangerousness" of a given individual.

Similarly, Holstein (1993) would suggest that, in addition to mental illness, "dangerousness" also functions as an interpretive scheme. In other words, commonsense understandings of mental illness and dangerousness create a backdrop against which Billie Boggs' behavior can be measured. In this instance, we might attend to the prevailing social conceptions of mental illness that rely on several assumptions. The most powerful of these assumptions may be that which holds mentally ill persons to be more dangerous than non-mentally ill persons. Despite evidence to the contrary, mentally ill persons continue to be labeled as potentially dangerous simply by virtue of their preceding induction into the category of "ill" persons. That is to say, once it has been established that an individual such as Billie Boggs is mentally ill, the presumption of dangerousness immediately emerges. This presumption, then, becomes a backdrop

against which the person's actions can be judged. In the case of Billie Boggs, for example, her actions (e.g., abusive language toward HELP staff) are not judged as independent actions but, rather, only with reference to the interpretive scheme of mental illness. Thus, mental illness and dangerousness constitute a viscous circle--mental illness is determined with reference to socio-cultural understandings of normal human thought, feeling, and behavior, and dangerousness is determined with reference to commonsense understandings of the behavior of mentally ill persons. This interplay of interpretive schemes, in turn, leaves little room for alternative understandings to emerge that reflect the thought, felt, and behaved reality of the person her- or himself.

The socially constructed reality of "dangerousness" wherein such interpretive schemes are found is intimately bound to the world that semiotics describes as well. Arrigo (1993) suggests that, to manifest in everyday decision-making, our constructions must find a place in everyday discourse. That is to say, it is through language that we are able to communicate the images and constructed meanings that we attach to them. The words used to describe Ms. Boggs' behavior, for example, contain underlying images that are either more or less consistent with the image of a "dangerous" person. Thus, referring to Ms. Boggs' reaction to Project HELP staff as "hostile" and "angry" evokes a qualitatively different image than does referring to it as "defensive," for example. Similarly, referring to Ms. Boggs' refusal of food and clothing as an "inability" to "comprehend" carries suggestions of inherent qualities that are pervasive and carry over into all aspects of her life. By continuously employing courtroom language that evokes negative images, Ms. Boggs' reality is being constructed upon assumptions consistent

with that language. Semiotically, it may be suggested that the assumptions or images attached to the descriptive language by society provide a means of "shaping" the way Ms. Boggs is perceived by courtroom participants.

Chaos theory, meaning, and prediction of dangerousness. What might chaos theory tell us about the "danger" Ms. Boggs presented to herself? In Chapter 6 ("defining and predicting dangerousness") several principles of chaos theory were considered that were found to be relevant to the concept of dangerousness as it informs psycho-legal decision-making. We are limited, to some extent, by a lack of background on Billie Boggs. Additionally, speculations in Chapter 6 were just that: provisional and suggestive. However, some additional reflections can be offered here that may inform our understanding of Billie Boggs. Consistent with the critique of dangerousness in Chapter 6, it is felt that there are two elements of dangerousness that lend themselves to critique: defining dangerousness, and predicting dangerousness. What chaos theory might tell us about each will be briefly considered.

At the outset of this section it was noted that "dangerousness" is liable to the same sorts of criticisms that were set forth in the previous section on "mental illness." Namely, "dangerousness" must also be recognized as belonging to a category of concepts that does not avail itself conclusively to meaning-makers. Rather, dangerousness calls for a significant degree of interpretation. In Boggs, "running into traffic" was perceived as both "suicidal" behavior and as a statement of "pride." In the former case, it is an enduring characteristic; in the latter, it is the result of situational factors that encourage

what is, at most, a disposition for those behaviors to manifest. Throwing away food and clothing was opined both as an "inability" to comprehend basic needs, and as, again, a statement of pride or an effort to maintain a sense of dignity by denying such "gifts." It is understood both as a manifestation of an enduring illness, and as a specific action brought about only by the presence of certain environmental influences.

The meaning of these events (i.e., indications of "illness" vs. reactions to ecological conditions) had to be ascertained by the court based primarily on the meaning ascribed to them by various "experts." Like mental illness, the court in the case of Billie Boggs sided with the respondents--that is, it believed she was unable to care for herself, and that she was suicidal or self-destructive and, therefore, was a danger to herself. These interpretations were premised on psychological assumptions of biological and psychological causation rather than ecological interaction. It was suggested in the previous section that the court, in the face of uncertainty, sided with the "commonsense" understanding of mental illness--that testimony which most closely resembled prevailing socio-cultural understandings of what certain behaviors might suggest. Perhaps, then, it could again be suggested that such commonsense operatives in the case of dangerousness also inspired the court toward its eventual conclusion. The commonsense of the Western world, for example, is largely informed by causal understandings that link overt behavior, not with ecology, but with personality. This focus on the person rather than the behavior becomes important for both understanding the meaning of dangerousness as well as the prediction of dangerousness (Foucault, 1988).

The court appears to be partial to the psychiatric knowledge presented to justify the continued confinement of Billie Boggs--at the expense, again, of other knowledges that presented opposing but equally cogent perspectives. From the perspective of chaos theory, the court denied the fractal and ecological nature of knowledge, meaning, and the life-world in general. Ms. Boggs' inability to meet her basic needs and her "suicidal" behavior were cited by the court as manifestations of dangerousness. What was arguably not acknowledged was the alternative explanation that Ms. Boggs was merely unwilling to accept assistance from Project HELP and, consequently, adopted an angry and hostile posture toward these individuals. So, again, why it is that someone would be hostile to persons offering assistance, refuse food and clothing from these persons, tear up money that was given to her or him, and engage in other seemingly irrational acts, is not a question to which an answer might arise absent the input of that person her- or himself. In other words, it is not a question for which an answer can be ascertained by approaching it from a given perspective. Rather, like the fractal, it must be understood as a reality that has multiple dimensions and, thus, multiple answers. The evaluations of Ms. Boggs' reality are, thus, decidedly one-dimensional. It is this one-dimensionality of the process of reality construction that ultimately characterizes the court's approach to understanding Ms. Boggs.

It is also offered that predictions of dangerousness are inexorably conjoined to the process of defining dangerousness and attaching such meaning to the individual (e.g., Billie Boggs) in question. Prediction is intertwined with meaning in that definitions of dangerousness are often inseparable from descriptions of the person who may or may not

be dangerous. That is to say, defining dangerousness generally relies on defining an individual as dangerous (i.e., "I know it when I see it"); and defining an individual as dangerous suggests that the person is likely to engage in dangerous behavior. Thus, describing dangerousness as an inherent attribute of an individual entails a prediction of dangerousness. In a sense, categorizing an individual as dangerous because of, for example, her or his difficulty controlling anger, is essentially predicting that s/he will engage in dangerous behaviors. Thus, in the psychiatric courtroom, most predictions of dangerousness are exercises in determining whether an individual meets the criteria typically associated with dangerous persons.

In the case of Billie Boggs, we see such a displacement of focus from her actions to her underlying psychological state. Several mental health experts understood Ms. Boggs to be dangerous because she had no "capacity" to comprehend her needs, no "capacity" to comprehend danger to herself, and displayed "anger" and "hostility" toward Project HELP staff. Ms. Boggs' reality, then, was constructed by the court based on descriptive signifiers that refer to individual attributes to the exclusion of the ecological circumstances that chaos theory finds significant. That is, "comprehension," "capacity," "anger" and the like are regarded as part of Ms. Boggs' being and, thus, only to a limited extent are environmental circumstances relevant. While such circumstances may encourage behavior to manifest, they are ultimately only contributing factors and not decisive factors.

Chaos theory would ask us to consider the converse. Namely, that existing dispositions are less relevant to lived behavior than environmental circumstances.

Sensitive dependence on initial conditions, for example, suggests that the behavior of organisms is ultimately dependent on external conditions. The observed phenomenon of bifurcation occurs following a de-stabilization of the organism that is a reaction to influences from its environment. Indeed, organisms are often predisposed to behave in certain ways. These dispositions do not, however, manifest as overt behavior unless the circumstances are conducive to such. Ms. Boggs may be characterized as having a disposition toward hostility. Does Ms. Boggs' disposition to hostility manifest in all her interactions with others, or only in situations where her dignity is threatened? The evidence suggests that such hostility is observable only as situation-specific behavior, namely as a response to the unwanted offerings of persons she knew to be authority figures and whose help she did not want. Ms. Boggs, then, could not be defined as a hostile person but, rather, as a person who exhibits hostility in certain situations. The question becomes not whether she can be characterized as hostile, but in what situations she becomes hostile. Were such situations everyday occurrences in her interactions with others, she might be justifiably considered "dangerous." If such situations are less common, their manifestation becomes indeterminable and the justification for confining her is less apparent.

In its opinion, Ms. Boggs' inability to meet her basic needs and her "suicidal" behavior were cited by the court as manifestations of dangerousness. What was arguably not acknowledged was the alternative explanation that Ms. Boggs was merely unwilling to accept assistance from Project HELP and, consequently, adopted an angry and hostile posture toward these individuals. In other words, it has been argued that Ms. Boggs'

behavior might be better understood in ecological terms. The latter suggestion is somewhat compelling when it is considered that, in addition to the "hostility" component, Ms. Boggs was reported to have had access to food, clothing, shelter, and the like. She was not presented as someone who was seriously malnourished, etc. Rather, she presented as someone who, as a choice-making human being, engaged in a lifestyle that felt comfortable for her at that particular time in her life. Attaining food, clothing, and shelter becomes less an "incomprehension," "incapacity," or "inability" but, rather, a specific behavior best understood as dependent upon context. Each of the ways that Ms. Boggs was judged "dangerous," then, are better understood as behaviors that are meaningful only contextually, and not amenable to the kind of predictive efforts currently required by mental health law.

"The Proliferating Population of the Mentally Disturbed Homeless"

The analysis of civil commitment in Part II of the present critique drew attention to the socio-political dimension of confining the mentally ill. It is appropriate in the context of this case analysis of Billie Boggs to ascertain what, if any, role society and politics may have played in the decision to commit. The evidence of socio-political influence is not made explicit throughout the majority of the Billie Boggs case. Rather, society and its politics are influences that often act in subtle and unrecognized ways--civil commitment proceedings are but one example. The role of a critical analysis is to discern these subtleties and develop insight into the potential influence they pose for social practices and in individual cases. Thus, such analyses must remain largely speculative

except in cases where the influence is explicitly stated. In the case of Billie Boggs, we are fortunate enough to have some mention of these influences. The dissenting opinion of Judge J. Milonas asks that we consider such possibilities. The absence of socio-political reference throughout the remainder of the opinion is, perhaps, to be read less as the court's attempt to conceal such motives, and more as an example of how latent values and beliefs that, while perhaps not explicitly recognized, may significantly impact decision-making at a sub-conscious level. This is merely one possibility. What is evident is that political motivations existed on some level--not only in the case of Billie Boggs, but in all cases of commitment. The extent to which they impacted the disposition of Ms. Boggs' or any other specific case remains speculative and, thus, the following analysis should be read as such.

As noted, the primary place in which political influence is suggested is in the dissenting opinion. Judge Milonas' dissent begins by attending to this consideration:

> This case has attracted considerable attention, since petitioner's involuntary hospitalization represents the first known effort by the city to implement a highly publicized and controversial Mayoral policy directed at dealing with the proliferating population of the mentally disturbed homeless. (In the Matter of Billie Boggs, 1987, p. 366)

What is immediately evident, though never suggested in the majority opinion, is that Ms. Boggs represents a population with whom the city has recently taken especial notice, in other words, the homeless population. Judge Milonas describes the case as a "classic confrontation between the rights of a citizen against a governmental authority trying to confront and remedy a pervasive societal problem" (pp. 366-367). Thus, Ms. Boggs

found herself in the unfortunate position of potentially being used to exemplify recent public policy concerns of the city of New York.

Perhaps in light of this, Ms. Boggs waived her right to confidentiality--consenting to allow press in the courtroom. Consequently, the case received "almost daily news reports" and "prompted a number of television and other media discussions. . . relating to the problem of the homeless" (In the Matter of Billie Boggs, 1987, p.: 367). On a more global scale, then, the case of Billie Boggs stands at the center of an intense public debate fueled, not simply by the homeless population of New York City, but by Mayoral policy aimed at remedying that problem. The controversy surrounding the policy and the problem posed a certain danger to Billie Boggs--in short, the danger that social issues may confound the achievement of justice. Again, Judge Milonas rightfully acknowledges this danger. The presence of confounding influences,

> . . . may obscure the fact that we are not deciding the wisdom and propriety of the Mayor's program and that our ruling will not have a significant impact upon the very real social problem with which that program is attempting to grapple. All that we are authorized to do here. . . is to determine whether respondents may lawfully retain for further hospital observation and treatment one particular individual and, in that respect, our deliberations must be guided exclusively by the statutory and legal mandates as applied to the facts of the instant proceeding. (p. 367)

These brief comments are, unfortunately, all that is written in the court's opinion specifically addressing the social context within which the Billie Boggs case was heard. They seem enough, however, to at least question such influences in the context of a critical examination.

What we are encouraged to do is to question the political motivations that, in some way, may have impacted the court's decision in Billie Boggs. These motivations are unspoken by the court, yet are intimately bound to the case in the public eye. These implications cannot be discussed in any conclusive manner, as no evidence exists to sufficiently inform us as to the politics of mental illness and homelessness in the case of Billie Boggs. Nor are we sufficiently informed to provide a critical analysis of the Mayoral policy in question. The intention hereinafter is merely to offer a speculative analysis, based on the possibilities that arise by the mere presence of this policy and its relation to Billie Boggs, of the civil commitment process as it is informed by chaos theory.

Critical backdrop for the socio-politics of civil commitment. Warren's (1982) critique of civil commitment and its relevance to the case of Billie Boggs is best understood with reference to labeling theory. Through this lens, it is encouraged to perceive mental illness as a product of social forces or societal reaction to residual deviance rather than psychiatric factors intrinsic to the individual in question. Thus, whether Billie Boggs, for example, is identified as "in need of treatment" and subsequently committed and/or treated is largely determined by non-psychiatric considerations (e.g., Scheff, 1984). Thus, notwithstanding the appearance of "expert" psychological testimony and legal procedures, labeling theory would ask whether the determination of mental illness, dangerousness, and the decision to commit Billie Boggs is not equally attributable to social forces.

From a labeling perspective, the matter of involuntary commitment allows an examination of the procedures, rules, regulations, etc., that correspond to societal reactions and how these reactions subsequently become grounds for formal and specific treatment of residual deviants. In other words, Warren would suggest that we refer to Billie Boggs as a product of procedures such as civil commitment that exist or are implemented in reaction to social voices that demand it. Perhaps the most important observation for our purposes is Scheff's (1984) suggestion that mental illness is a label that serves as a means of categorizing the rule-breaking behavior of persons in situations where other culturally recognized categories are inappropriate (Holstein, 1993). Warren (1982) describes the topos of mental illness as a cultural construction or point of categorical reference against which to understand behavior that is inconsistent with prevailing notions of normality. These cultural constructions are societal reactions to perceived deviance that find their way into the psychiatric courtroom as a means of identifying and assessing the persons who are brought before it. The question in the case of Billie Boggs may not be whether she is mentally ill, dangerous, and in need of treatment, but whether her inconsistency with social constructions of normality and appropriate behavior subjected her to the label and, consequently, to the regulations and practices that exist as a means of confronting those who are so labeled.

Holstein's (1993) analysis of civil commitment also addresses these socio-cultural ingredients that help constitute the meaning of deviance, mental illness, and the subsequent social reactions. Much like the labeling perspective, constitutive analysis perceives community reaction as the source of deviant status (Holstein, 1993). Unlike

labeling theory, constitutive analysis does not identify the process by which labels are applied or attached to persons but, rather, concerns itself with the "practice through which deviants are constituted as recognizable entities" (p. 15). In short, it "refocuses analytic attention on the reality-creating processes" (p. 15) rather than the labels or outcome of the process. Thus, Holstein's critique is directed toward the practical constitution of mental illness as interpreted by the participants in the commitment hearing (e.g., judge, attorneys). The "real" Billie Boggs matters less for Holstein than the one that is constructed over the course of the commitment proceedings.

The process of constructing a reality in commitment proceedings such as those of Billie Boggs, however, is not reliant upon interpretive resources unique to psychology and law. Thus, Billie Boggs' "real" mental state, dangerousness, etc., is not to be regarded as having been constructed by psychological and legal testimony that define such things independently of socio-cultural understandings. Rather, Holstein argues that such professionals refer to the same social constructions of "mental illness" and "dangerousness" as the lay community. Constructing reality (e.g., discerning the mental state of a candidate for commitment) is a process that "produces, manages, and sustains meaning" (Holstein, 1993, p. 16). Therefore, decisions in commitment proceedings assume the role of deviance control or of remedying social problems. The perception of mental illness as a social problem and the assignation of civil commitment as a means of remedying such a "problem" is consistent with this critique of Billie Boggs. Again, returning to the question of defining "problems" and "deviance," for an answer we must

inevitably face the social and political processes that influence or construct such definitions and, for Holstein, also manage and sustain such meanings.

Holstein (1993, p. 16) suggests that there is also "normalizing work" carried out in commitment proceedings. This reference is to categories such as "normal," "sane," "competent," and the like that serve as interpretive resources much as does "deviance." As a deviant act is primarily a product of societal reaction to behavior, a "normal" person is a product of socio-cultural understandings of normality. These understandings are continually--consciously and unconsciously--referenced by commitment participants and employed as decision-making or reality-constructing devices. Against the backdrop of "normality," for example, courtroom players are able to understand the "normality" of a given individual independent of or in addition to psychological and legal constructions. Much like the labeling perspective, then, Holstein encourages us to question whether Billie Boggs simply did not "fit" a category that society believes all people should "fit." If so, she is subjected to measures of social control that serve this function.

Arrigo (1993; 1996) suggests that the pervading socio-politics of civil commitment are discernable by way of reference to the language that is employed to describe Ms. Boggs, her behavior, and need for treatment. From a semiotic perspective, civil commitment proceedings are nothing more than the interplay of language and the construction of meaning that such language references. The "sign" of "mental illness," for example, brings to mind images of a "crazy" and "dangerous" person or one who is unable to live "normally" in a complex contemporary society. These images are not reflective of the lived-experience of the individual but, rather, on the socially constructed

images that pervade social reality. The mere use of phrases such as "mentally disturbed" and "homeless" brings to mind images laden with negative connotations and, thus, we are led to approach Ms. Boggs' reality as something that needs to be "fixed" rather than something that might be positive in another light (i.e., if invested with words that carry positive or less pejorative references).

Coupled with the court's use of the term "problem" in reference to the mentally ill homeless, we are immediately led to begin understanding Billie Boggs' reality as one that is part of the "problem." Though perhaps not explicitly an indication that Ms. Boggs should be civilly committed, identifying her as part of a problem population creates certain undertones upon which the explicit dialogue is premised. These undertones reflect not only the court's stance on social issues, but also the prevailing social conceptions that create demand for solutions to these problems. In a sense, a semiotic analysis of civil commitment would suggest that, by way of language, Ms. Boggs is "guilty" of being a "problem" that needs a solution before her lived-reality is ever granted a legitimate opportunity for presentation.

Chaos theory, society, and attraction. Recall that the operations of the point attractor in society were previously described. In short, it was said that difference is drawn or "attracted" to a single "point"--the point of normalcy or conformity. There is some evidence of such operations in the case of Billie Boggs. We find interesting the court's emphasis on Ms. Boggs' courtroom manner. The majority opined that "it is hardly surprising" that the hearing court found Ms. Boggs to be "rational, logical,

coherent. . . an educated, intelligent person. . . display[ing] a sense of humor, pride, a fierce independence of spirit, quick mental reflexes" (In the Matter of Billie Boggs, 1987, p. 365). This was "hardly surprising" to the appellate court because Ms. Boggs "had recently been bathed, was dressed in clean clothes, and had just received approximately a week of hospital treatment" (p. 365).

The court is here referencing its opinion that Ms. Boggs "cleaned up" while in the hospital, that she appeared "normal" as a direct result of receiving a week's psychiatric treatment. Recall that the court suggested that Ms. Boggs would benefit from hospitalization because it may lead to the establishment of a therapeutic relationship which, in turn, might allow her to "choose a better style of living" (In the Matter of Billie Boggs, 1987, p. 363). In a manner quite explicit, the court is establishing the value of psychiatric treatment for persons such as Billie Boggs--treatment that is demonstrably "corrective." In other words, the court's emphasis of both Ms. Boggs' presentation of herself after psychiatric treatment, as well as its promotion of the corrective value of therapeutic relationships, offers some evidence of its perspective on homelessness and its interrelated posture toward mental well-being. Ms. Boggs' chosen way of life is not valued for its contribution to society. Rather, it is regarded as not contributing to and, in fact, diminishing social well-being in some ways. Why might someone like Billie Boggs have something to offer social well-being?

It has been suggested (see Chapter 6) that what chaos theory refers to as the point attractor is representative of certain efforts to normalize human being--to control difference and diversity (Arrigo & Williams, 1999a). This might be regarded as an

offspring of the greater interest in controlling and predicting behavior (both individual and social). Normalizing social elements engenders a smooth, flowing, linear society. Linearity, of course, holds a privileged position in social thought and practice for this very reason--it allows for uncertainty and, possibly, change to be bridled before it even begins. Change and uncertainty, says chaos theory, are not to be feared--they are to be embraced. Why? In short, because the absolute stability sought by the point attractor (or its representative elements in society, e.g., law and psychology) does not allow for the necessary degree of robustness that is conducive to positive social change (Williams & Arrigo, 2000). Absence of social diversity might be exemplified by the lives of many animals. Human beings are essentially different from many animals in that we can be different, we can create a better world for ourselves. One would certainly not think of domestic cats as constituting a species that is evolving in the social sense. Rather, their lives are relatively uneventful, linear and, consequently, absent possibilities for significant growth that might lead to an increase in aggregate well-being for the species.

This is precisely why chaos theory recognizes the strange attractor as that which embodies difference and diversity and encourages an adaptive and ever-changing society that is able to self-organize in the face of need (Williams & Arrigo, 2000). The homeless population, Billie Boggs included, exemplifies such. The population of homeless persons who are living their chosen lifestyle--though not necessarily those who are not homeless by choice--constitute an element of society that does not (through their difference) propel a society toward disorder. Rather, the existence of such populations encourages society to assume the form of order governed by the strange attractor--a form "healthier" for

reasons previously discussed. What chaos theory tells us about Billie Boggs, then, is limited to speculation. In speculating, however, we might consider the extent to which allowing Billie Boggs--and the remainder of that segment identified by the Mayoral policy--to co-exist with the "normal" social element, is a movement toward ensuring the overall "health" of society by contributing to its diversity and preparedness for adaptation. The extent to which the court was influenced--consciously or not--by an effort to address the proliferating population of the mentally disturbed homeless, is an extent not assimilable with the health of society (Arrigo & Williams, 1999a).

This latter point again surfaces within the context of civil commitment more generally. Here, attention is drawn to what is felt to be the socio-political biases and motivations that influenced, not only the Boggs case, but the vast majority of civil commitment cases before and after. These influences are also informed by topoi--the commonsense perceptions or constructions of the mentally ill as dangerousness, violent, and needing hospitalization. If the prevailing socio-political understanding reflects this perception, it is doubtful that the law will not be disposed in its favor.

It has been argued that both psychiatry and the law often assume something of a "corrective" approach to mental illness. That is to say, mental illness becomes, for them, something like a disease to be treated and from which the individual might be restored to a normal state of psychological functioning. In Boggs, this is reflected by the court's mention of hospitalization perhaps allowing Billie Boggs to make a better life for herself. There is arguably an element of social influence informing judgements such as these.

Homelessness, for example, is clearly associated with mental illness--with persons diseased and unable to choose a "better" lifestyle.

"A Fearless, Independent Survival Style"

The right to refuse treatment constitutes the fourth and final civil psycholegal controversy. As noted, Warren (1982), Holstein (1993), and Arrigo (1993) do not spend sufficient time on treatment issues to allow utilizing their work as in the previous three sections. Rather, the following critique is a critique of treatment refusal in the case of Billie Boggs informed exclusively by chaos theory.

Chapter 8 of the present critique established the principle of self-organization as a critical facet of chaos theory, with especial attention given to the ways in which treatment refusal might encourage such a process to unfold. The general idea, as it was presented, is that a stable individual may be temporarily "knocked off balance" by external and/or internal stimuli and undergo a transitory period in her or his life. This transitory period is thought essential to the adaptive organism in that it encourages a re-organization and newfound sense of order in the individual's life--as "different" as this new order may appear or feel. Under ideal circumstances, this order will surface as the actualization of the self-organizing process following a period of disturbance. In the case of Billie Boggs, this order--or alleged lack thereof--is a critical factor in the decision to disallow her treatment refusal. Though in Chapter 8 the focus was predominantly on the refusal of psychotropic drugs, for present purposes the focus will be more generally on the right to

refuse psychiatric intervention (i.e., civil commitment, which often includes psychotropic drug therapy).

As discussed, Ms. Boggs' danger to herself was premised, in part, on her purported inability to care for her own needs. In the opinion of Dr. Sabatini, Ms. Boggs needs to be hospitalized for treatment because the hospital environment presents the "protection" of a "structured" setting--a structure more conducive to mental health than that of the outside environment (In the Matter of Billie Boggs, 1987, p. 352). "As is not uncommon with some psychiatric patients, [Ms. Boggs has the ability] to adapt and to regroup and organize herself. . . in settings [such as the hospital]" (p. 351). The court, relying on such testimony, opined that Ms. Boggs' interest was best served by confinement to a setting that encouraged this type of self-organization.

It was discussed, however, within the postulates of self-organization, that imposed structure may be defeating. It was suggested, rather, that the organizing process that is a naturally occurring element of individual psychological and physical functioning is often fully realized only in scenarios where persons are compelled to adapt because of changing environmental circumstances--both internal and external. A structured environment indeed encourages organization. It does so, however, at the expense of the adaptive dynamics of the individual psychology. In a sense, it stifles the natural processes that vie to be realized.

Is there evidence that such processes are applicable to Billie Boggs? On several occasions evidence was provided of Ms. Boggs' organization once under treatment--not, of course, self-organization, but imposed organization. Closer examination, however,

reveals a different sort of organizing process--one that seems to develop more naturally from within Ms. Boggs' "being." Evidence of this process is identifiable through several sources, including Ms. Boggs herself.

Within the majority opinion it is suggested that, "undisputedly," Ms. Boggs "held responsible employment" (In the Matter of Billie Boggs, 1987, p 363) and was a "productive member of society" (p. 366) until 1984, at which time "her mental condition began to deteriorate" (p. 363). She is claimed to have had a "continuous work history of almost a decade, in which she had been employed in responsible positions. . . [and] at that time, besides a job, she had a home and a family" (p. 366). Thereafter, however, she "suffered a 'severe psychosis'" (p. 366). It is not explicitly described how Ms. Boggs' "psychosis" led to her separation from her family and how, subsequently, she established a new home for herself on the streets. What is suggested is that Ms. Boggs had made the streets of New York City her home for approximately the year prior to the hearing. The question, for this purpose, is how Ms. Boggs responded to her new home. That is to ask, is there evidence that, following life circumstances that contributed to a loss of stability, was Billie Boggs able to adapt to her new reality?

Several passages have been quoted from psychiatrists attempting to justify Ms. Boggs' continued confinement--passages claiming her need for a "structured" environment in which she could regain a sense of stability. Ultimately, the appellate court agreed with this diagnosis/prognosis. The competing testimony of the psychiatrists asserting that Ms. Boggs need not be confined, tells a different story. Dr. Gould, in testifying as to the propensity that Ms. Boggs had developed for living on the streets,

notes "the fact that she has never been hurt and she's never hurt herself is strong indication that she has very good survival skills" and subsequently believed that she "provided for herself quite well, by eating every day from a nearby deli" (In the Matter of Billie Boggs, 1987, pp. 356-57). Speaking summarily, Dr. Gould presented Billie Boggs as someone who had "worked out a fearless, independent lifestyle and survival style that worked for her. Unconventional though it may be" (p. 357).

Perhaps the most telling testimony is that given by Ms. Boggs herself. It is here where evidence of adaptation to the changing circumstances of life presents itself most positively. Ms. Boggs testified that:

> she lives next to a restaurant. . . and she stays at that location, since there is a hot air vent. . . she indicated that she had never been cold; she panhandles money for food and, in that fashion, she makes between $8 and $10 a day. . . she claims that she has adequate clothes, and that when she needed more she had "friends" who would supply them to her. (p. 357)

Thus, to the extent that Ms. Boggs' own testimony is to be valued, it would appear that she had composed a sufficiently orderly lifestyle--"unconventional though it may be."

In his dissent, Judge Milonas emphasized this process of adaptation, noting that Ms. Boggs feeds herself from a local deli with money obtained through panhandling and that, according to the respondents' own psychiatrists--those asserting her need for continued hospitalization--she "is not malnourished and has no serious physical problems" (In the Matter of Billie Boggs, 1987, p. 374). He continues, "[Ms. Boggs] derives a unique sense of success and accomplishment in her street life. . . in [her] words, when poignantly describing her ability to endure on the streets, she has called herself a 'professional'" (p. 378).

Judge Milonas' words echo those, in some sense, that have been used to describe the results of the self-organizing process. That is to say, Ms. Boggs seems to have thoroughly adapted to life on the street--life, that is, following a certain "chaotic" or transformative state. She has undergone and endured a period in her life that is, for all presumed purposes, one of disorder and uncertainty. Ms. Boggs appears, in response, to have adapted to her new circumstances--finding an appropriate "home" and securing food and other necessities of life. Without further evidence, one might assume that Ms. Boggs exemplifies what chaos theory tells us about the inherent and natural processes that govern the human "being."

Treatment, then, in the form of involuntary confinement, serves only to interfere if not exterminate this very process. What Ms. Boggs may be suggesting by refusing treatment is that she feels confident and, in fact, "proud" of her demonstrated ability to endure disorder and re-organize in its aftermath. Refusal of mental health treatment, in this case, is an appeal for the self-organizing process to be undisturbed. The court's refusal to acknowledge or, at least, uphold Ms. Boggs' treatment refusal is a statement that adaption is only "healthy" if its end-state is that of normality or "commonsense" mental health. Deviation from this understanding, as is the product of Ms. Boggs' unique but "working" process of self-organization, is not regarded as a new order but, rather, as a "deteriorating" disorder. The new order that emerged from Ms. Boggs' own disorder in this case was also intimately bound to the court's inquiry into Ms. Boggs' dangerousness. Lack of order, it would seem, constitutes dangerousness to self; unconventional order is

constitutive of disorder; and, thus, unconventional order is indicative of a person's need for the imposed order of a hospital.

Thus, while there was little discussion of psychotropic medication in the court's opinion, civil commitment can be approached both as treatment itself, and as inevitably including the administration of psychotropic medication. Ms. Boggs, for example, had been medicated while committed prior to the trial and, thus, we might assume that this practice would continue. The primary intent here was to show how treating persons by way of externally imposed intervention techniques is often antithetical to the process that chaos theory describes as self-organization. In the case of Ms. Boggs, it is noted that she had "worked out" a style of living in light of her circumstances--a style that worked for her and which she was not uncomfortable with. There was some evidence that Ms. Boggs had adapted to some extent, and was in the process of adapting, to a greater extent, to her circumstances. Psychologically speaking, this adaptation is one of the core factors in the "health" of the person. It is argued, in response, that by civilly committing Billie Boggs and subsequently treating her with both therapy and psychotropic medication, there is a substantial risk of interrupting--perhaps even negating--the very process by which she develops a new order out of a period of disorder. Again, however, popular opinion in both the scientific community as well as the general population conforms to the assertion that persons in the midst of a struggle need "help" or treatment. Sometimes, this is the case. Billie Boggs, however, did not want the treatment and arguably was successfully adapting to her circumstances.

Critical Reflections on Additional Cases

Reference has been made to what may be construed as the limited import or relevance of the case of Billie Boggs in light of its age. That the case was decided in 1987, over a decade ago, renders it moot or, at least, less influential only if it is inconsistent with more recent decisions in the same area. In other words, if it can be shown that, to a greater or lesser extent, decision-making in civil commitment cases has changed little since 1987, then the Billie Boggs case remains a seminal and significant contribution to analyses of mental disability law. It is upon this assumption that the Boggs case was chosen as a point of reference. That is to say, Boggs represents a paradigm of psycholegal decision-making that is wholly capable of informing more contemporary inquiries.

To justify this claim, however, it may be useful to briefly examine several more recent cases that provide insight into this process. Each of these cases concerns mental illness, dangerousness, civil commitment, and the right to refuse treatment (to some extent). Though admittedly brief, it shows that the ways in which courts come to decisions in cases of civil commitment largely parallels those described in Boggs. The choice of cases is an effort to achieve some diversity. It is, of course, inevitable that some selection bias will be present. It is not meant to be suggested that some courts, in some situations, do not deviate from that which is the subject of this critique. Rather, it is intended to show that the elements that informed the Boggs decision are still alive and well in many instances. The instances chosen vary namely in geography. In other words, it is believed that it will be most useful to examine cases in states other than that in which

Billie Boggs was decided. Otherwise, the circumstances of the individuals in question are somewhat similar (e.g., civilly committed persons thought to be mentally ill, dangerous to self, etc.).

New Jersey - 1995 (State Court of Appeals)

In the Matter of the Commitment of D. M. (1995) and In the Matter of the Commitment of F. J. (1995) represent consolidated appeals to the Superior Court of New Jersey, Appellate Division, with D. M. and F. J. both challenging their continued involuntary confinement in a New Jersey State Psychiatric Hospital. Both petitioner-appellants contended that the trial court erred in ordering commitment because clear and convincing evidence of dangerousness to self, others, or property was not presented. In short, the appellate court held that it was ". . . satisfied from [its] study of the record and the arguments presented, that the trial court orders continuing the involuntary commitment of both D. M. and F. J.. . . [were] based on findings of fact which [were] adequately supported by evidence..." (In the Matter of the Commitment of F. J., 1995, p. 482). The appellate court affirmed the orders that continued both commitments.

It should be noted at the outset that the only "evidence" the appellate court discusses in its opinion is that of the testimony of Dr. Fuchanan, a psychiatrist at the state hospital in question. In the case of D. M., Dr. Fuchanan's diagnosis was that of schizophrenia. Dr. Fuchanan noted that D. M. was given injections of an antipsychotic medication to treat his "illness." These injections were necessary because of D. M.'s "poor compliance with his [oral] medication" (In the Matter of the Commitment of D. M.,

1995, p. 484). D. M.'s mental illness is reflected, notably, by his lack of insight into his own illness. Dr. Fuchanan believes that D. M.'s insight is "[v]ery poor" and "[h]e doesn't think he need[s] medication" (p. 484). Thus, D.M.'s refusal of medication is a symptom of his poor insight into his condition that, in turn, is evidence of mental illness. Additionally, this degree of mental illness is sufficient to warrant his involuntary medication. In this case, Dr. Fuchanan presents D. M. as someone who is mentally ill and dangerousness, in large part, because of his lack of insight. This lack of insight is demonstrated by the fact that he does not wish to be involuntarily medicated and, thus, does not know what is in his best interest.

The case of F. J. presents a similar line of reasoning on behalf of the court. Dr. Fuchanan--again, the only psychiatrist whose opinions were reiterated by the appellate court--diagnosed F. J. as schizophrenic. In this instance, there are two noteworthy suggestions. First, Dr. Fuchanan justified F. J.'s continued confinement, in part, by stating that she needed observation in light of the fact that the dosage of her (involuntary) medication had recently been increased. Secondly, Dr. Fuchanan testified that F. J. had been placed on moderate suicide risk after being told she could not visit her family. F. J. noted that her threats were made only out of anger and that she had no intention of harming herself in any way. Nevertheless, the hospital and, subsequently, the court found these arguably empty threats as indicative of dangerousness.

In each of these cases, that of D. M. and that of F. J., the court found that there was clear and convincing evidence that each individual was mentally ill and constituted a danger to self or others. In reviewing the appellate court's decision, there is only limited

access to the relevant information and, thus, the decision of the court or the conclusions/opinions of the mental health professionals involved cannot be rightfully criticized. If, however, the court was influenced by additional information and/or testimony other than what was presented in its opinion, it felt no need to mention any of that evidence therein. Thus, the testimony of Dr. Fuchanan--the testimony of an attending psychiatrist employed by the state hospital at which both patients were being involuntarily held--was perhaps the only testimony that the court found reliable. In this instance, only the available evidence upon which Dr. Fuchanan's opinion was based can be evaluated.

Minnesota - 1997 (State Court of Appeals)

In the Matter of Lynda Rae Vega (1997) is another brief, but telling, indication of the ways in which knowledge is formed by the courts in their attempts to reach ultimate decisions when confronted with the unique problems of the mentally disabled. Appellant Lynda Vega challenged a trial court decision ordering her commitment and authorizing the involuntary administration of psychotropic drugs. Vega argued that the trial court failed to produce "clear and convincing" evidence of mental illness, dangerousness, and the reasonableness and necessity of psychotropic medication. The appellate court affirmed the decision of the trial court, holding each of these findings to have been sound.

With regard to the finding of mental illness, the appellate court held that the "state produced ample evidence to prove the appellant is mentally ill" (In the Matter of Lynda Rae Vega, 1997, p. 3). Stating that a psychiatrist, psychologist, and social worker all

testified as to the presence of mental illness, the appellate court opined that Vega's argument that she was not mentally ill was "based on her own self-serving testimony, which the trial court could have properly disregarded as not credible" (p. 3; emphasis added). It is clear from this statement what the court holds as valuable and informative--the "expert" opinion of mental health professionals at the expense of the beliefs, values, and reality of the individual. In other words, the opinion of the representative institutions outweigh immeasurably the (felt) interests of the citizen.

The appellate court's comments on dangerousness are limited. It is worthy of mention, however, that its finding--or, more accurately, upholding of the finding--of dangerousness, is consistent with the other cases examined in the present section. In finding a "substantial likelihood of serious harm to herself or others," the trial court cited evidence that Vega "had refused to take her medication or seek treatment for her illness" (In the Matter of Lynda Rae Vega, 1997, p. 3). There were, indeed, others factors that influenced the trial court's decision. Attention to this aspect of the evidence is called to demonstrate the extent to which attributed mental illness is held, at times, to be sufficient for a finding of dangerousness if failure to understand one's illness leads one to refuse treatment and refusal of treatment may result in harming oneself or others. Mental illness alone, of course, is not theoretically sufficient for a finding of dangerousness. It is interesting, however, that it continues to be an indirect justification for such a finding in ways such as that of the present case.

On a related note, the appellate court upheld the trial court's determination that Vega was subject to involuntary medication in part because of psychiatric testimony:

> A psychiatrist testified that appellant has no insight into her illness and cannot recognize the potential benefits of medication. Thus, the trial court properly found that appellant is unable to "understand and use information about her mental illness, its symptoms, and treatment" (In the Matter of Lynda Rae Vega, 1997, p. 4)

This statement concerns the competency of the individual in question--a sufficient degree of which is legally required for treatment refusal. Judging competency, however, is not always a black-and-white exercise. The court relies thoroughly on psychiatric knowledge to reach this conclusion and subsequently to justify involuntarily medicating Vega.

Wisconsin - 1999 (State Court of Appeals)

In Winnebago County v. Rhonda S. W. (1999), the respondent contended that the evidence employed in a circuit (i.e., trial) court's order for involuntary commitment was insufficient to establish that she was "dangerous." Upon examining the available evidence, the appellate court disagreed and affirmed the commitment order imposed by the circuit court. In reaching its decision, the appellate court relied on the testimony of two witnesses--Drs. Bommakanti and Patel--who had examined Rhonda S. W. and offered an opinion as to the presence of mental illness, dangerousness, and need for treatment. The court notes that, "the testimony of the hearing witnesses, Bommakanti and Amanda [Rhonda S. W.'s daughter], is undisputed" (p. 1) and proceeds as follows in reaching its conclusion.

Dr. Bommakanti testified that, without treatment, Rhonda S. W. would be a danger to herself or others: "Apparently, she is not eating well. She was religiously preoccupied. She told me 40 days before she dies she will say Mother Mary. I do not

know exactly what she means by that" (Winnebago County v Rhonda S. W., 1999, p. 2). On cross-examination, Rhonda S. W.'s counsel asked why that statement was indicative of dangerousness. To this, Dr. Bommakanti replied, "She is psychotic. I don't know what she means by that. She may harm herself. She has not been eating well. She may starve herself to get her point across, I don't know" (p. 2).

What is interesting here, is the degree to which conclusive knowledge is explicitly absent. The testimony of Dr. Bommakanti is laden with the phrase "I don't know," meaning the she is somehow unsure of the meaning underlying Rhonda S. W.'s speech. Dr. Bommakanti ascribes this lack of effective communication and/or lack of shared meaning to underlying mental illness. It is obvious from the court's opinion that it follows Dr. Bommakanti--rather than taking note of her lack of knowledge about Rhonda S. W.'s psychology, it assumes that this lack of knowledge is better understood as the inevitable result of mental illness.

On the second matter--that of treatment and treatment refusal--Dr. Bommakanti testified as follows. She believes that involuntary treatment in the form of psychotropic medication while confined in a locked unit at the psychiatric hospital would be the least restrictive form of treatment. Concerning Rhonda S. W.'s need for medication, Dr. Bommakanti explained that, having explained the advantages and disadvantages of psychotropic medications, she did not believe that Rhonda S. W. was capable of "appreciating" those properties. In concluding that Rhonda S. W. was somehow incapable of expressing such an understanding, she noted, "I do not think she realizes how those [medications] could improve her condition" (Winnebago County v. Rhonda S.

W., 1999, p. 3). Thus, much like the consolidated appeals that were discussed in the previous section, the patient not wishing to receive medication is understood by psychology/psychiatry as unknowing as to her or his own best interest. Rhonda S. W.'s refusal of medication, coupled with her failure to expressly state her understanding of the consequences of those medications, is grounds for medical intervention against her will--it is evidence that her illness is preventing her from understanding and doing what is in her best interest, in other words, voluntarily consuming psychotropic drugs.

Analysis of Additional Cases

The purpose in briefly examining these three cases was to understand the evidence that the court found to be "clear and convincing." That is to say, it is of interest, not necessarily in whether the appellate court made the appropriate decision, but how they reached this decision and in light of what testimony, evidence, or knowledge. Each case contributes to this critique of mental illness, dangerousness, and the right to refuse treatment as they appear as matters of psychology and matters of law. Much like the analysis of the right to refuse treatment in Billie Boggs, the emphasis is on chaos theory. The potential contributions of Warren (1982), Holstein (1993), and Arrigo (1993) are not explored. The purpose is not to present an extensive treatment of these cases but, rather, to understand how the case of Billie Boggs remains relevant today.

The opinions of the courts are relatively short and, thus, this analysis has been as well. However, sufficient material is presented to allow answers to the questions for which were sought answers, namely, whether Billie Boggs stands as an anomaly or as an

exemplar of the ways in which various knowledges are used to construct appellate court decisions concerning the lives of the allegedly mentally ill. In this sense, the present analysis should be read less as a full critique of the three additional cases, and more as evidence for the continued relevance of Billie Boggs for contemporary analyses of psycholegal reality.

Concerning the meaning of mental illness, it is found in these cases a repeated tendency to accept the knowledge that is most consistent with psychiatric descriptions and with commonsense understanding and, equally, a failure to include other perspectives. In the discourse of chaos theory, this disregard affirms the type of one-dimensional reasoning that was found in Billie Boggs. In each case, it could be argued, is evidence that the fractal nature of lived experience is conspicuously neglected or, at least, dismissed as inconsequential. In several of the more recent cases described, for example, there was a tendency to regard a lack of appropriate insight into one's psychology as mental illness. In other words, if one does not think that one is ill and needs treatment, this is considered a clear indication that one truly is ill and in need of treatment. In these cases, if one did not perceive oneself from within the prevailing Western view of normality and mental "health," one is without correct perspective.

In the case of F. D., threats of suicide are determined to indicate suicidal ideation and, consequently, sufficient for determining "dangerousness." F. D., however, much like Billie Boggs' description of why she was hostile, suggested that these threats were made out of frustration because staff would not allow her to see her family. F. D.'s suggestions indicate a hostility that can only be understood with reference to the present

ecological circumstances (i.e., confined to a hospital without desired contact with her family). The determination of suicidal ideation clearly established her hostility as being attributable to an underlying characteristic of her personality and, thus, a justification for continuing her confinement.

In other cases, the same lack of insight into one's illness that is indicative of mental illness is also sufficient evidence for a finding of dangerousness. If one does not understand that one is ill and, in turn, does not voluntarily agree to treatment, one is a danger to oneself because the illness is not being treated. Such logic is not only circular, but is founded upon assumptions made without inclusion of alternative possibilities--namely, the foundational assumption that mental illness is present. Like Billie Boggs, this assumption may be influenced by the chosen lifestyle, beliefs, etc., of the individual in question. If commonsense ascribes attributes such as illness to those who are homeless, for example, there may be a strong assumption on the part of society, the law, and psychology that such a person, when encountered, is ill--without considering alternative understandings of her or his lifestyle. This assumption, then, is difficult to overcome even in the face of competing evidence.

Perhaps most striking in all of these cases is the finding of a need for treatment. In each case, involuntary treatment is deemed necessary, in part, because the person does not appreciate her or his illness. In other words, these persons do not appreciate the need for imposed organization over self-organization. Thus, if an individual does not feel that she or he is ill but clearly fits into pre-established categories of what "ill" is, then the person is: mentally ill as evidenced by a lack of insight, dangerous because this lack of

insight can lead to further deterioration, and in need of involuntary treatment because further deterioration is unhealthy for both the individual and possibly those around her or him. Clearly, then, such cases are inconsiderate of the natural process of self-organization that has constituted a significant segment of this critique.

Summary and Conclusions

The present chapter of this critique sought to further the conceptual explorations of the meaning of mental illness, dangerousness and its prediction, civil commitment, and the right to refuse treatment by grounding them with an examination of how they each contribute to the lived experience of real persons. Chosen was the seminal case of Billie Boggs as the cornerstone of this analysis and briefly considered were three more recent cases to supplement this analysis. Billie Boggs is informative in that it presents each of the four controversies in the context of one case and, further, it grants a fairly detailed description of how these controversies are understood by various participants in the civil commitment process. The supplemental cases add support to the position that Billie Boggs is not an anomaly but, rather, continues to be representative of how many civil commitment hearings play out on a daily basis.

Further, it was chosen to provide a critical backdrop for our analysis that is informed by the related works of Warren (1982), Holstein (1993), and Arrigo (1993). The case analysis presented in the present chapter should be read as similar, but different from those composing the critical backdrop. While Warren (1982), Holstein (1993), and Arrigo (1993) each provide a critical examination of civil psycholegal reality, none has

incorporated what chaos theory has to tell us about critical issues in this area. The present critique, then, might be read as part of a critical tradition of psychology-law scholarship that seeks to achieve an understanding of how justice is promoted or not promoted by existing practices. The difference, of course, is the application of the principles of chaos theory to inform this understanding.

The title of the present chapter--"(Un)Clear But Convincing Evidence"--is indicative of the general focus of this critique. Civil commitment, of course, relies on the presence of "clear and convincing" evidence of mental illness and dangerousness to justify its deprivation of freedom and liberty. Part II of this critique addressed why, in this context, we cannot regard the presence of mental illness as something that is "clear" and why we cannot "clearly" explain and predict whether a given individual is dangerous. In the present chapter, an attempt was made to show how these insights are applicable to everyday cases that affect the lives of allegedly mentally ill persons. In short, the psychiatric courtroom might be better understood as an arena in which what is "convincing" is premised on that which is un-clear. Despite the "fuzziness," incompleteness, and undecidability of presented "evidence," the court often overlooks this lack of clarity in favor of certain understandings--it is convinced by unclear evidence.

Summarily, then, through the case of Billie Boggs it was shown how the process of reality construction that unfolds in the psychiatric courtroom is not sufficiently informed by the insights of chaos theory: the fractal nature of existential reality, the ecological perspective on lived-reality, the process of self-organization, and the role of disorder in general. In each case, the interest appears to be in denying each of these

possibilities rather than remaining open to them. Part of justice, it could be argued, is the embodiment of the characteristics of open systems--including the integration of new and different knowledges that balance the often static processes of law and psychology. This relationship will be discussed further in the final chapter.

Chapter 10

CONCLUSION: PSYCHOLOGY, LAW, AND JUSTICE

At the outset of this critique it was noted that what would be looked for throughout these critical inquiries was a new sense of justice. This, then, was the primary thesis of the present critique: through chaos theory, it can be better understood what justice is, as it manifests or fails to do so in the realm that encompasses both law and psychology. To this point, this thesis has only been alluded to as a substantive concern. Each of the four "controversies" explored through chaos theory has been implicitly oriented to concerns of justice. It was chosen, however, to dedicate a portion of the present and final chapter explicitly to the topic of justice, while also providing a review and further reflections on that which was thus far discussed.

The present chapter, then, is presented in much the same manner as the introduction and the critique as a whole. The three major divisions of the critique--the theoretical, the controversial, and the just(ice)--are re-visited through reviewing and utilizing the explorations thus far. What follows, then, is a brief commentary on the theoretical component of the present critique, a brief review of the critical points or conclusions of each of the four controversies, and finally a more extensive treatment of "justice," asking what (psycholegal) "justice" might look like from the perspective of chaos theory.

The Theoretical

Traditional science was based on linearity, homeostasis, equilibrium, order, precision, and predictability. The mathematical representations of the systems measured by traditional or modern science were more or less accurate--such systems were understandable, predictable, and controllable. It was not long before the discoveries of modern science were implemented on a social level--through politics, law, criminal justice, psychology, economics, and the like. The difficulty, of course, was and is that the social level does not operate as a linear system governed or governable by the laws of classical science. Rather, social systems, individual systems and, indeed, all living systems are nonlinear, unpredictable, spontaneous, creative, and ultimately uncontrollable. What was needed to better understand these nonlinear systems on the scientific level was a "new science." What is needed to better understand the nonlinear systems of the individual, society, the law, and psychology is also a "new science."

The "new science" referred to here is that of chaos theory. Chapter 2 of the present critique briefly described the progression of scientific and philosophic thought from modernity to postmodernity--from order to disorder--and provided a brief description of what chaos and chaos theory are. Chapter 3 more specifically addressed the latter by identifying what was referred to as "principles" of chaos theory that are essentially characteristic elements of nonlinear dynamical systems. Though interrelated, these principles were relied upon throughout the present critique in a somewhat isolated form--as metaphors from within which to "see" or "read" the behavior of law,

psychology, the individual, and/or society. Each metaphor, however, has a basis in reality.

Though the principles of chaos theory were continuously referred to as "metaphors" in the context of law and psychology, it must be remembered that these principles describe real systems--living systems--of all sorts. What describes the ecosystem also applies to certain chemical systems; what describes the neurological system also describes the economic system; and what describes the chemical, ecological, neurological, and economic systems, also applies to the social system and its constitutive elements such as the law and psychology. The value of chaos theory is that it helps us to better "see" life. Its principles, then, stand not only as metaphors, but as descriptive concepts and, in a sense, "pictures" of that to which they are applied. The application was limited to the arena of law and psychology and further limited to include only the civil side of this arena. The value of chaos theory in the social sciences, however, should not be understood as limited or limiting but, rather, as empowering, enlightening, and potentially infinite. With this in mind, four civil psycholegal "controversies" were chosen as exemplars of how such a "new science" might render a "new reading" of the living world. In the following sub-section, the critical points or lessons from each reading are briefly re-visited.

The Controversial

Chapters 5 through 8 of the present critique examined four controversies on the civil side of the psychology-law interface. Each is noted as a critical element of justice--

as a critical component of how psychology and law might collectively help to establish a more civil and just society, while promoting the interests of individuals as well. The individual and the larger society are, in this sense, inseparable. Chaos theory suggests that in the "web of life," all components of a system are mutually dependent. In other words, society cannot function without individuals and individuals are, by nature, social beings who must interact with their environment. Thus, the "controversies" section sought to explore the relationship of psychology and law to the individual as well as the broader social implications of the meaning of mental illness, defining and predicting dangerousness, civil commitment, and the right to refuse mental health treatment. In the present section, a brief review of several significant points is provided with regard to each of these four controversies.

Mental Illness

In Chapter 5, a critique of the legal, psychological, and psycholegal construct(s) of mental illness was set forth by suggesting that, metaphorically at least, mental illness is a proper subject of geometry, in other words, the "geometry of mental illness." This geometry is not of the traditional sort. Mental illness is not a point, it is not a line, it is not an angle, nor is it anything physically discernable or capable of being quantified as such. It is more rightfully a subject for fractal geometry.

Fractal space. Mental illness assumes the form of a fractal. A fractal is about space, that is, fractal space. Space, in turn, eludes measurement precisely because it is everywhere and nowhere at once. The space between two given objects must necessarily

vary by the perspective of the observer and the unit of measurement. Though mental illness falls somewhere within this space, and assumes a place within this space, its precise location and, also, its precise character is impossible to ascertain given the absence of any definable point from which to ensue. Though we may engage mental illness from a definable point, our chosen point is merely one possible point from which we could have begun. Mental illness looks different from above than from below, different from afar than from near, and different from your point than from mine.

Objectivity. Nevertheless, in searching for something identifiable as mental illness, psychology has concerned itself less with space or the arbitrariness of the point or place from which its inquiries ensue, and more with reducing the fractal geometry of meaning and mental illness to a definable (i.e., traditional) geometric structure en route to establishing once and for all the place that mental illness occupies within this dimensionality. This, in effect, requires an illusion--the illusion that allows separation of black from white, good from evil, healthy from unhealthy, the "correct" point of departure from ones less so. This illusion leads us to perceive these oppositions as separate and independent realties when, in fact, they arise from the same general space and represent only points along a continuum or points within a limitless space. This "black and white" fallacy indicates the limitations of modern science. What psychology seeks to be is a science, what science seeks to be is objective, and what the universe is is relative, existing only in degrees along a continuum of manufactured contrasts. Psychological science is guilty of weeding through the various points within space and

determining for itself, society, and the law, which of those points represents the perspective from which the truth can be seen.

Relativity. If mental illness, like the universe, is not objective, it is relative. What it is relative to are several important factors that influence our perceptions of reality. Historicity understands our perception of the world to be dependent on the time period in which we live. Cultural relativity understands our perceptions to vary by way of the culture or place in which we live. Attaching absolute values to our reality neglects the important ways in which time and place, for example, act as constitutive factors. When we do so, we engage in the process of social construction. That is, the fabrication of mental illness (or racial, ethnic, gender, and species-based inequalities) is erected as an absolute, objective reality that exists independent of the historical and cultural preferences and knowledges within which it is framed.

Mental illness, with this in mind, may be less of a "thing" and more of an idea or image implanted upon our social consciousness as a way of differentiating between persons--as a way of categorizing the value of persons. In our pseudo-geometric language, our social constructions arise from a given point, to the exclusion of the others that have been and continue to be prominent elsewhere.

Perspective. Relatedly, Nietzsche stands as one of the leading proponents of what is often referred to as a reality based on perspective. That is to say, a reality that is perceived from one's own (individual, social, cultural, historical, religious, etc.) perspective and recorded as a truth when, in fact, it is no more true than any other. What

is necessary is that we allow various perspectives to endure, not claiming that any one is absolutely more true than any other. Though we may be able to distinguish in some cases, in some ways, the right from the wrong, the sick from the healthy, the vast majority of human realities are somewhere in-between--somewhere amidst all the other perspectives on the never-ending continuum.

Fractal space is definitive of this continuum. It is such that one-dimensionality, two-dimensionality, and the like are not capable of accurately representing whatever its subject may be. Rather, the subject as it is perceived varies from perspective to perspective and, consequently, our perception must be understood in that way--as our perspective and not the perspective; as our point of departure and not the point of departure.

Knowledge. The understanding of mental illness developed through these concepts, then, is one that is ultimately revealed in terms of degree. That is to say, a perspectival approach to meaning is one that acknowledges that truth and meaning are linked only by degree. The meaning of mental illness is not ascertainable as a truth; rather, knowledge of mental illness is knowledge founded upon perspective and the unique environment of that perspective, and subsequently built upon the conceptions that are inherent in that perspective.

Psychology, for example, begins its inquiries with certain assumptions (i.e., a psychological perspective). These assumptions, then, are an inherent part of its understanding of the world and, especially, of the meaning of mental illness. It offers a

certain knowledge of mental illness, yet one that is colored by its approach. The same applies to the law, society, cultures, and even individual persons. While each perspective is unique and derives value from that uniqueness--appreciation of these different values is precisely what the perspectival approach contributes to meaning, knowledge, and, ultimately, justice. It is important, however, that no perspective be regarded as the ideal perspective, the truth, or as carrying knowledge inherently more valuable that any other perspective. Each has its own degree of truth embedded in the knowledge that it creates. Each perspective contributes something to the overall, a unique piece of knowledge that adds diversity to our understanding of life, the world and, of course, psychological "being."

Dangerousness

Chapter 6 presented an exercise in understanding dangerousness as referring to isolated behaviors rather than as an enduring state. Human actions are of this sort. Though patterns may develop, they are often only identifiable in retrospect. We may find tendencies, patterns, and the like, yet these are merely manifestations of possibility--not enduring and continuous traits. That tendencies occasionally manifest is an enduring and continuous characteristic of all things; which tendencies do manifest at a given time, however, is largely dependent upon other things.

(Inter)Dependent origination. Possibility is, by definition, dependent upon certain things for manifestation. When we say something is possible, we know that it is not inevitable but, rather, that it might occur given circumstances conducive to its

manifestation. There is a foundational principle shared by all schools of Buddhism thath states that events cannot come into being on their own. Rather, all events are manifestations of intricate, complex, and largely imperceptible relations between an incalculable number of variables, some exerting their influence well before the present moment.

This timeless wisdom, to be sure, has also come to be shared by contemporary physics. What this means, in short, is that we cannot understand any event--any behavior--exclusive of and in isolation from all other variables upon which its manifestation is dependent (i.e., the parts cannot be understood independent of the whole). Any given behavior requires the occurrence of other events for its very possibility. From this angle, a behavior is never inevitable and never even possible without encouragement from other sources.

Sensitivity. Chaos theory refers to this state of possibility and need for encouragement as sensitive dependence on initial conditions. Behaving organisms are so sensitive to the influence of other forces that their manifest behavior cannot be understood without reference to these sources of encouragement. A slight alteration in conditions can, with time, encourage the manifestation of behavior quite different from that which would have occurred without.

Thus, organisms are both "dependent" upon external persuasions and "sensitive" to them. External forces determine, to some extent, what behaviors arise. Chaos theory, one might recall, does present a form of determinism. It differs from traditional "hard"

determinism in that it allows room for freedom. The individual does have some choice; yet these choices are ultimately bound by the environment--broadly defined--in which s/he behaves. Sensitivity means that changes in environment can and will have a significant impact on the actions of any given individual. It should be remembered, however, that both psychological and physical environments exert similar influence. Given that individuals are sensitive to perturbations, we find that any number of such influences might encourage a "jump" to another pattern of thinking, feeling, or acting. Losing one's job, for example, if sufficiently traumatic, may increase the likelihood of "dangerous" behavior. Similarly, attaining a job may decrease this likelihood. When such circumstances encourage "jumps" in thought/feeling/behavior, the "jump" is referred to as a bifurcation.

Bifurcation. In light of the sensitivity that defines organisms, it was said that they are particularly affected by environmental stimuli and the freedom they have within which to act is ultimately wedded to environmental circumstances. When such stimuli are sufficient, either independently or collectively, to perturb the balance or stability of the organism, it becomes subject to bifurcation. Bifurcation represents a "splitting" process in which behavior becomes more disorderly and more prone to uncharacteristic manifestations. The bifurcation is the fork in the road present at each increasing level of disorder. As disorder increases, the behavior of the organism becomes less predictable and, further, becomes increasingly affected by additional environmental stimuli.

Bifurcations might be thought of as critical events--both positive and negative--in a person's life. Thus, if an individual is not sufficiently adaptive, her or his sensitivity to displacing circumstances may encourage a bifurcation. This bifurcation, in turn, produces an entirely new dynamic in the thoughts, feelings, and behaviors of that individual. Only to the extent that we can account for these variables (e.g., level of adaptation, sensitivity, and the array of environmental stimuli that might encourage such bifurcations) can we accurately envisage this new dynamic and predict its consequences.

Prediction. Behavior, in its myriad forms, never manifests entirely of the agent's own will but, rather, only given circumstances conducive to the manifestation of that particular behavior--and the thoughts, feelings, etc., that give rise to such behavior. This suggestion does not deny the potency of self-determined actions. Rather, it merely suggests that even the most adaptive and "powerful" of wills is subject, at times, to circumstances that jeopardize its freedom.

Predictions concerning various events, then, can never be put forth with certainty. Rather, we can only offer predictions of probability--not predictions of events. Events show tendencies to occur. Thus, an individual might show a tendency to behave "dangerously" and, thus, we might predict the probability that such behavioral tendencies will manifest. We cannot, however, predict whether such behavior will occur.

Quantum physics has shown that, at the atomic level, events show only tendencies to occur--they do not occur at specific times and places. We can understand such events as probabilities, but not as predictable. The problem with predicting behavior, for

example, is in the very process used to understand it. "Measuring" something--the degree to which a person is "dangerous," for example--requires that we first isolate that person such that we might understand her or his characteristics without "noise" from the environment. Thus, isolating something (or someone) takes it out of the environment of which it is a part--that is, it becomes treated as apart from rather than a part of its larger environment. To this degree, whatever is measured is inevitably inaccurate. As we have seen, the very characteristics we are attempting to measure and the very events we are trying to predict based on these measurements are dependent for manifestation on the very environment we are isolating it from. In other words, our "expert" endeavors are immediately jeopardized when we fail to conceive behavior from an ecological perspective with an ecological dynamic.

Ecology. Conceptualizing behavior from an ecological perspective means understanding it as a manifestation of the myriad factors that constitute the internal and external environment of its actor. Too often, it was suggested, behavior is attributed to internal and abiding characteristics of individuals. That is, dangerous behavior represents a tendency of a dangerous individual (i.e., one with a dangerous personality or an ongoing disposition to engage in dangerous acts). This misrepresentation is precisely Foucault's point when he asserts that psychiatry's involvement in criminality has displaced focus from the crime itself onto the individual committing the crime.

While chaos theory does not suggest that individual actions are determined by their environment and, thus, it does not undermine the responsibility of the actor, it does

suggest that we cannot understand such acts solely with reference to some hypothesized abiding subject independent of the interrelated web of life within which s/he exists. Rather, manifestations of certain acts are, to some extent, dependent upon context, situation, community, and other environmental factors. If these factors are conducive to such manifestations, those behaviors are more likely to occur. Looking beyond the individual when understanding dangerousness is essential from this perspective. Similarly, if seeking to eliminate dangerous behavior by mentally ill persons, chaos theory suggests that we would do well to first consider the contributing factors than assessing the individual her- or himself. Availability of community treatment for mental illness and drug and alcohol abuse, availability of shelter and food for the homeless, and other interventions at the social level might be significantly more effective than intervention at the level of the individual (i.e., civil commitment).

Civil Commitment

Chapter 7 deviated to some extent from the other application chapters in that it considered the broader socio-political implications of civil commitment. Mental illness and dangerousness alone are not sufficient conditions for involuntary civil confinement. Rather, there must also be a demand for that confinement. This demand can be either or both paternalistic (i.e., a demand that mentally ill persons be treated because they need help) and preventive (i.e., a demand that society be protected from "dangerous" mentally ill persons). The significance of demand is that it comes not from the mentally ill persons

themselves, but from socio-political institutions--of which psychology and law are extensions.

Morality. Socio-political institutions exist and act, theoretically, because of and in light of the demands of the society of which they are a part. Thus, social sentiments shape the institutions and the institutional practices that define a society. Any given society, culture, or community at any given time period may be thought of as being guided by certain moral and epistemological assumptions. There is, in a sense, a moral "tradition" that influences, if not governs, the important social and political dimensions of everyday life for that social group. This is the element of society that constructs reality and subsequently acts and structures its actions in accordance with that construction. The worldview of any given culture determines the practices and relations of that culture--society defines deviance and society defines normality. When these definitions become a part of the institutions and institutional practices of that society, they shape the individual realities of the people within it.

Social Control. Institutions such as these exist primarily to maintain order in whatever sphere they are assigned or constructed to represent. The institution of psychology is constructed to maintain psychological order; the legal institutions are constructed to maintain legal order. The order that they maintain, however, is the order demanded by the "moral tradition" of that society or culture.

Thus, there is never any "real" or "natural" order in any realm of existence. If one exists, physics has yet to find it--not to mention psychology or the law. Rather, there is a

fabricated order that is often premised on tradition, myth, fear, or the latest "scientific" understandings. From the perspective of chaos theory, the problem is precisely that these definitions of order are taken to be "natural," "true," or "real," and socio-cultural practices reflect these misunderstandings. If something does not "fit" these "truths," it is abnormal, unreal, deviant, out of touch with reality, etc. These deviant elements of society are then subjected to control and treatment to bring them back within the order that is presumed to represent the "true" order.

In psychology and law, this form of control is the process of civil commitment and involuntary treatment. Civil commitment is not just in the interest of safety and well-being for individuals and communities, but also in the interest of removing or displacing the feared and misunderstood toward the margins of everyday life. If there exists fear or discomfort on the social level, there will inevitably follow a certain demand from that level which encourages the establishment of institutions or institutional practices to remedy that "evil" or abnormality.

Point attractors. Remedying a social problem or bringing it back to within the reaches of order is akin to "attracting" or magnetically "pulling" something "over there" back to "here." It is a process of attracting the abnormal to the metaphoric magnet that maintains normality. This magnet is, in our case, the collection of institutions of which psychology and law are a part. Their role is to be "attractive" and, thus, ensure that nothing will venture too far from their grasp. When natural attraction alone (e.g., the

moral tradition) is not powerful enough to maintain order, coercive attraction (e.g., institutional power) must be exercised to force order upon the deviant element.

Thus, both social tradition and social institutions act as point attractors to ensure normal functioning of society and its constituents. This magnetic core is like the center point over which a swinging pendulum continually returns. Though the natural momentum of the pendulum may encourage it to explore other territories, the attraction is strong enough to keep it safely in place. The question, however, is whether the best interest of the pendulum and the larger milieu to which the pendulum belongs is served by this order maintenance. Chaos theory suggests that it may not be.

Strange attractors. The subjects and objects of the world around us--both animate and inanimate--are in some ways part of a nonlinear dynamic process. Because of this creative process, it is largely unpredictable and prone to destabilization, bifurcation, disorder, and the emergence of new forms of order. The new order, however, does not appear as the old. Rather than stable, it appears locally unstable; rather than linear, its processes are nonlinear; rather than pursuing equilibrium, it flourishes in conditions far-from-equilibrium. As systems pursuing equilibrium are best understood as "attracted" to a state of stability, order, and homogeneity, systems at far-from-equilibrium conditions are best understood as "attracted" to diversity, spontaneity, creativity, adaptation, and growth.

All of these processes are interrelated. Diversity fuels growth; growth necessitates adaptation; and adaptation ensures that life continues to avoid the state of death known as

equilibrium. As society is a living system characterized by nonlinear development, its "growth" is only maintained in a state of diversity--including the diversity contributed by varying forms of mental "health." Thus, the point attraction of normality, of tradition, of the institutions of psychology and law--to the extent that they promote social homogeneity through social control (e.g., civil commitment)--are attractors that unknowingly bring society closer to death. Though an abundance of conclusions can be drawn from this logic, it is important for present purposes that "health" and psychological functioning be understood as a continuum along which every point--no matter its distance from the center--contributes to the necessary diversity of a social entity.

The Right to Refuse Treatment

Chapter 8, the last of the civil psycholegal controversies, explored the world of psychological "treatment" in several of its more popular forms. It was suggested that mental health treatment is corrective; in other words, it is an intervention designed to bring order to psychological dis-order. Chaos theory, as was shown throughout the present critique, is not averse to dis-order. Rather, disorder is not a lack of order but, rather, a different kind of order. Chaos theory regards these periods of disorder as not only essential to growth but inevitable given that life processes are dynamic--life is change. Change, however, is not always predictable. Just as the weather may change with very little advanced notice, living beings often experience physical, psychological, or socio-environmental changes that necessitate adaptation. Sudden changes or "jumps" that

interrupt life's continuity are the reasons that the behavior of living systems must be understood as nonlinear.

Nonlinearity. Suggesting that life is nonlinear is drawing attention to the "jumps" that characterize the behavior of living systems. Stability is always only a temporary phenomenon. Continuity holds only for limited periods of time. In between periods of stability and continuity are periods of nonlinearity that bring continuity to a temporary halt and encourage the system to become aware of a need for adjustment. Such "jumps" may be the emergence of a thunderstorm after a week of clear skies, finding oneself delayed by a traffic jam after several hours of smooth and continuous traffic flow, or experiencing an unusual amount of personal stress during which time one's usual stability is superceded by anxiety, fear, and uncharacteristic thoughts, feelings, and behavior. What these periods of instability encourage is the utilization of a capacity inherent in all living things--the capacity to adapt.

Adaptation. Adaptation is a natural process whereby an organism or system adjusts to the changing demands of its environment (i.e., the flux of the internal and external world). The capacity to adapt serves, not only a psychological purpose, but an evolutionary purpose. Adaptation is "fitting in" to the circumstances in which one finds oneself, be they the result of nonlinear universal processes, environmental processes, physical or psychological processes. If there has ever been one unchanging "truth" about the world that has withstood the entire history of earth-bound life, it is the truth of change. Change is inevitable and, consequently, adaptation is inevitable. When order

moves into periods of disorder, organisms experiencing such disorder are encouraged by their natural capacity for adaptation to create a new order from within this disorder. In the discourse of chaos theory, they are encouraged to self-organize.

Self-organization. Self-organization theory attends to the process whereby organisms or living systems faced with periods of disorder or chaos adapt and form a new, more complex order. Chaos theory refers to this process as order-out-of-disorder or order-from-disorder. As threatening as disorder may seem, it is beneficial in that it encourages adaptation to changing circumstances--the transition from an old, antiquated order, to a new, more complex, adaptive, and healthy order. With the emergence of a new, more complex order, the organism is better equipped to live in a complex world and sustain its health in the midst of complex and disorderly circumstances. Disorder is a signal informing the organism that its present stability and order are not sufficient to withstand the turbulence of its internal and/or external environment. Disorder, then, is interested in creating a healthier nonlinear dynamical system.

Health. Informed by chaos theory and the principle of self-organization, we are encouraged to reformulate existing conceptions of "health." Psychology presents health as the absence of disorder; medicine presents health as the absence of dis-ease. Each, when faced with instances of dis-order or dis-ease, attempts to restore order or "cure" the ailment.

To be sure, chaos theory does not recommend that we try to remain dis-ordered or dis-eased throughout life. Rather, it suggests that we reconsider the means we employ to

help us overcome illness. For Nietzsche, "health" is the ability to overcome illness--not the absence of illness. A "healthy" individual is one who has withstood the varying ailments that life presents and has, consequently, become a more "powerful" person as a result. Perhaps Nietzsche was alluding to the same adaptive capacity that self-organization theory affirms as an instrumental element of "healthy" human existence. If intervention disrupts this process, it threatens this very capacity.

Psychotropic medication, as we have seen, "fixes" ailments such as anxiety, depression, and the like. It does so, however, at the expense of the individual's natural "struggle" to "overcome" her or his dis-order. It may alleviate present symptoms, but faced again with similar struggles, the individual is in the same predicament--unable to effectively "push through" the chaos s/he is experiencing. Notwithstanding possible exceptions in cases of extreme dis-order or dis-ease, chaos theory suggests that (disruptive) intervention does not contribute to the overall "health" of the organism, the system, the society. The "health" of chaos theory is understood as orderly dis-order.

Orderly disorder. Disruptive intervention acts as a point attractor in that it tends toward the prevailing conceptions of health as the absence of dis-order and dis-ease. Chaos theory tells us that "health" may, in fact, be something quite different. Contrary to the conceptualization of health as a point attractor, it may be thought of as something closer to the strange attractor. The strange attractor, of course, indicates an underlying order underneath the appearance of disorder. In this way, it does not appear as order; in other words, "health" may not appear as health but as dis-order or dis-ease. The

schizophrenic, though dis-ordered on the surface, may embody an underlying order--a strange order. The strange attractor teaches us to look beyond appearances--beyond our initial observations to what is inside, underneath, or unseen. It teaches us the difference between what is truly chaotic or in need of some intervention, and that which only seems chaotic but is really an orderly disorder.

The Justice

The present critique began by suggesting that, at core, examinations of the psychology-law interface were in the interest of better understanding justice or, more specifically, allowing chaos theory to inform our conceptions of justice as they emerge or fail to emerge from existing psycholegal practices. This objective, to some extent, follows from an existing lineage of critical psychology and critical psycholegal studies that endeavor to bring us closer to a civil, just society (e.g., Fox, 1999; Haney, 1993; Melton, 1990). Searching for what is "just," in this sense, requires understanding how people are socially, politically, economically, and philosophically affected by the existing system of law and psychology and how this system carries unlocked potential for contributing to positive changes along these lines.

What has been conspicuously absent from much existing critical psycholegal scholarship is an adequate theoretical foundation. That is to say, a well-developed critical psycholegal theory explaining the limitations of existing mental health law has yet to be proposed in any explicit fashion. While the conclusions of scholars such as Fox (1999), Haney (1993), and Melton (1990) are certainly in the interest of promoting a transition to

a more just and humane psycholegal reality, these conclusions are developed without adequate theoretical substance. To some extent, Warren (1982), Holstein (1993), and Arrigo (1993, 1996) have offered this sort of template to understand the failings of the psycholegal system with regard to the production of just, humane decisions concerning the lives of the allegedly mentally disabled. Notwithstanding these efforts, there remains ample room for the advancement of an integrated psycholegal critical theory that both presents the shortcomings of existing practices, and offers a more informed understanding of how justice might be promoted in the arena of law and psychology.

From a scholarly perspective, the search for "justice" requires re-investment in broader social and political change and a related investment in advancing the interest of citizen rights and social justice rather than the narrowly construed collection of topics that generally find themselves in the academic mainstream (e.g., jury selection, eyewitness testimony). Notwithstanding the aforementioned critical lineage that has shown some movement in this direction, there remains ample opportunity for further contribution on practical, conceptual, and theoretical levels. It is through the lens of chaos theory that it has been attempted to make such a contribution. Chaos theory or the humane perspective that naturally emerges from the insights of chaos is implicit in a more civil and just society that appears always in the foreground of critical psycholegal scholarship. In other words, like critical psychology and critical psycholegal studies, chaos theory is about justice. In the present section, the objective is to briefly explore how justice might appear from the perspective of chaos.

Justice as an Open, Creative System

As noted at the beginning of this critique, "justice" is something intangible, something undefinable and irreducible. There are as many definitions of justice as there are contexts to which justice may apply. Criminal justice, for example, is founded upon assumptions different from social justice, environmental justice, and the like. More recently, there has been a movement toward victim-oriented justice with core assumptions different from offender-oriented justice. In short, "justice" cannot be defined independently of the context to which it is applied, the historical era within which it exists, or the persons or communities engaging in the application work. For this reason, it is best to understand justice as something that is always indeterminate--something "open" to a variety of interpretations as to its "true" meaning. Chaos theory, of course, tells us that everything is indeterminate and this indeterminacy is precisely what gives living systems their life--it provides essential diversity and space for creative growth, amongst other things.

Thus, when justice is spoken of in the context of the present critique, justice cannot be spoken of as an independent reality that is either present or not--doing so leads right back into the prison-house of binary oppositions that quantum physics and chaos theory encourage us to avoid. It cannot, therefore, be suggested that a right to refuse treatment is, in all cases, conducive to "justice." Nor can it be suggested that, in all cases, civil commitment is unjust. Rather, chaos theory encourages us to perceive "justice" as a complex web of interrelated and interdependent "justices" (i.e., an interrelation and interdependence of the social, political, criminal, civil, individual, psychological, etc.).

Does the civil commitment of Billie Boggs, for example, serve the interests of social justice? Of criminal or legal justice? Of psychological justice? Of her personal, individual justice? Perhaps the answer to each of these questions would be different depending on who asks and how the question is framed. Chaos theory encourages us to perceive justice as incomplete, undecided, and open to interpretation. Thus, "justice" becomes better understood as types of justice that are both contingent and universal--they are always and already recognized as provisional, relational, and never alone embodying any sort of universal Justice.

What this means, simply, is that considerations of "justice" require consideration of each element that helps constitute justice--the legal, psychological, social, and individual. In a criminal case, for example, "justice" might not be served by punishing the offender, by retribution or, at least, by predefined forms of retribution. Given case-specific circumstances, it might be found that victim-offender mediation, compensation, or some other alternative more closely resembles justice for the system, the victim, and/or the offender. Predefined reactions (e.g., sentences, hospitalization, drug treatment) to life circumstances encourage homeostasis or, for living organisms, death. Such configurations of justice exemplify the work of the point attractor in chaos theory--they attract and normalize the diversity of circumstances to "fit" them within calculated understandings of just resolution. Context-specific or ecologically informed justice is better understood, not as a reactive process, but as a process of creation. Diversity necessitates creative problem solving. Creativity, of course, is a product of spontaneity

and spontaneity only exists when diversity is not "fit" into pre-configured, reactive approaches to promoting justice.

This creative and multi-dimensional aspect of justice is illustrated, not only in theory, but in mathematics as well. In addressing the behavior of nonlinear systems such as those responsible for promoting or failing to promote justice, mathematicians must use nonlinear equations. An interesting aspect of nonlinear equations is that they do not present a closed, identifiable, "correct" solution. Rather, unlike linear equations, nonlinear equations usually have two or more solutions. They are not "attracted" to a single "right" answer or point. Rather, as the degree of nonlinearity increases, the number of solutions increases. Nonlinear "jumps" lead to new states and new states require new solutions. In significantly nonlinear systems, new states can emerge at any given moment and, consequently, new solutions are continually necessary to describe the system. Systemic "states" can be thought of as life situations--a new state is like a new situation faced by the system, person, or society. In this way, it can be seen how new solutions are necessary on a continual basis to endure the new situations that continuously present themselves in the living world. The institutions that seek to promote justice, then, must embody this creativity. Ideally, justice would be promoted by responding to change with creation, to dynamical life with active imaginative, to nonlinear problems with nonlinear solutions; in short, to the strange attractor that defines human life with an open, complex, adaptive web of justice rather than the point attraction of static, independent, and universal preconfigurations of what is just.

Justice as Orderly Disorder

The world with which the psychology-law interface interacts is a living world--a dynamic world. Metaphorically, its molecules are constantly in motion; the people, organizations, communities, etc., are not static elements always at or around equilibrium. Though each may seek equilibrium, their reality is often much different. The concept of dissipative structures in chaos theory describes open systems--those in constant interaction with their environment--that also are characterized by periods of instability. These periods are not only where creation occurs--as previously described--but also where order occurs. The search for equilibrium and order is not only thwarted by the very nature of living systems, but as well by the conceptualization of dis-order and far-from-equilibrium conditions as something to be avoided.

One of the interesting characteristics of dissipative systems or living systems such as individuals, societies, legal systems, and the like is the emergence of higher states of order--not disorder--at bifurcation points. As a system reaches new bifurcation points, its disorder increases. Rather than a uniform increase in disorder, however, the co-emergence of increasing order is found. In other words, "order and disorder are always created simultaneously" (Capra, 1996, p. 189).

The perception of order and disorder generated by chaos theory requires a shift in how the function of equilibrium is understood. In traditional science, order is associated with equilibrium. Contemporary systems such as the law and psychology tend to embrace such traditional views, understanding order as the absence of disorder. Chaos theory, however, suggests a shift in this association. It is through the study of chaos and

complexity that we learn the source of order to be, in fact, nonequilibrium conditions (Capra, 1996). The order that emerges at far-from-equilibrium conditions, however, presents itself differently--it is order disguised as chaos. In relation to traditional conceptions of order, however, this orderly disorder tends to be much more complex and, thus, healthy.

Embracing orderly disorder versus traditional order means accepting the unpredictability and spontaneity previously described as creative elements of justice. Traditional law, for example, strives for order, equilibrium, predictable outcomes, etc. This form of law and psychology as well is best understood as a point attractor. The point attractor, of course, is appropriate for many linear models--those models that form the basis of classical science within which legal science and psychological science find their foundations. Chaos theory suggests that dissipative structures, living systems, nonlinear dynamical systems are better understood by employing the notion of the strange attractor. What this means for justice is that attraction to a point--a point of health, predefined resolutions, binary categorizations, and the like--is antithetical to the health of the organism as a whole and, metaphorically, antithetical to a civil and just society that promotes the welfare of individuals as well.

The objective for the psycholegal arena, then, is to attain and appreciate what chaos theory has to offer understandings of justice--both existing models and those in the realm of possibility. The relationship between psychology, law, and justice is one in which the latter have the potential to create justice out of collaboration in the interest of humanity. The objective of the relationship between law and psychology was, initially,

one developed to respond to this interest. The question, and one that remains unanswered, is how this is to be accomplished. Practically, this creation translates into policy, programming, management, and legislative initiatives. Though the intention has not been to offer specific recommendations along these lines, the purpose of the present critique was to establish a theoretical framework from within which to "see" the problems and potentials of law, psychology, and law-psychology. This, then, is the relationship that was expounded throughout--that the theoretical "web" in which chaos, law, psychology, and justice are collectively within is the purview of those seeking to advance a critique of what exists and a vision of what might.

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