MODERN SOCIAL THEORY AND THE LOGIC OF POSSIBILITY

by

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M.S., Stanford University (1988)

SUBMITTED TO THE DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN TECHNOLOGY AND POLICY

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June 1996

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Submitted to the Department of Civil and Environmental Engineering
on May 10, 1996, in partial fulfillment of the
requirements for the degree of
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Abstract

The notion of *social possibility* is, in many respects, central to the conceptual foundations of modern social theory. This thesis draws upon results from possible worlds semantics and modal logics of knowledge to develop a framework for reasoning about social possibility and the epistemic states of social agents. The framework is then used to reason about the cognitive structure and emancipatory character of critical theories. The thesis concludes with an examination of the notion of social possibility in light of recent social thought, with particular emphasis on Roberto Unger's *Politics.*

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Acknowledgments

My understanding of modern social theory has benefited from discussions and interactions with a number of individuals, most notably, John Ehrenfeld, Charles Sabel, Amartya Sen, and Roberto Unger. I am grateful to Hayward Alker, Zhiyuan Cui, John Ehrenfeld, the late Kristen Finnegan, Gordon Kaufman, William Keech, Amartya Sen, and two anonymous referees of the *Journal of Theoretical Politics* for providing me with useful commentary and criticism on earlier drafts of this thesis.

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Chapter 1

Introduction

Human inquiry into the essence and character of social reality is an exercise whose outcome is necessarily fragmented and disjoint. Modern social theory—broadly construed—is comprised of a diverse range of disciplines and worldviews, each of which seeks to arrive at alternative ways of *describing*, *explaining*, and *representing* social phenomena. Once thought of in largely social-historical terms, modern social theory is now seen to encompass a range of conceptual schemes and frameworks, each characterized by differing theoretical and empirical components.

At a foundational level, modern social theory is comprised of both *descriptive* and *normative* components, each of which contributes to our understanding of society, social phenomena, and human capability. The descriptive component of social theory seeks to provide plausible descriptions and explanations of collective action and the functioning of social systems. In contrast, the normative component of social theory seeks to advance alternative conceptions of society and politics. Together, these two components comprise what can be referred to as the *is* and the *ought* of social-theoretic discourse and analysis.

Consistent with this characterization, a pervasive theme in the foundations of social theory is the so-called *micro-to-macro* and *macro-to-micro* problem.[1] The micro-to-macro and macro-to-micro problem concerns the relation between (i) *indi-*

[1]See, e.g., James Coleman's *Foundations of Social Theory* [5]. Cf. Coleman [6] and Rawls [29].

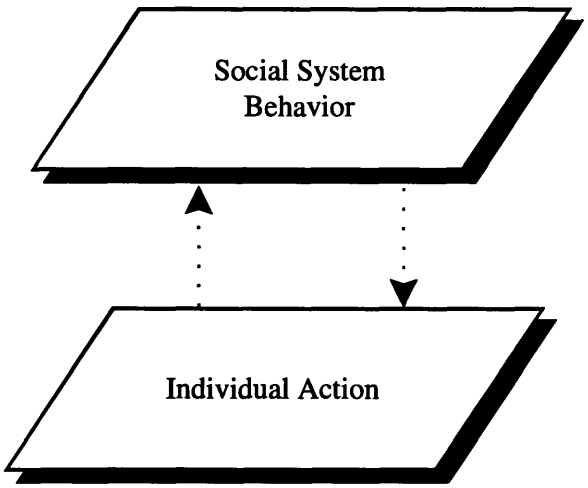

Figure 1-1: The micro-to-macro and macro-to-micro transition.

vidual action; and (ii) *the functioning of social systems.* As figure 1-1 illustrates, the relation between individual action and social system behavior is symbiotic in character: Individual action influences the behavior of the social system, which, in turn, influences or constrains individual action. This transition—from micro-to-macro and macro-to-micro—is a characteristic feature of contemporary social-theoretic discourse and analysis.[2]

Inquiries into the micro-to-macro and macro-to-micro problem often lead social theorists to advance conceptual frameworks and proposals aimed at enabling agents to achieve a broad range of goals, such as *emancipation*, *equality*, and *justice.* The operational means by which to achieve such broadly conceived social goals is to motivate or give rise to individual and collective action that is *purposive* in character. In this way, social theory takes on a *programmatic* character, and draws upon both descriptive and explanatory accounts of phenomenal and social experience, as well as upon normative insights into society and politics. The interaction between the normative, the descriptive, and the programmatic components of social theory is illustrated in Figure 1-2.

Broadly construed, programmatic social theory seeks to provide agents with al-

[2]See, e.g., Alexander [1].

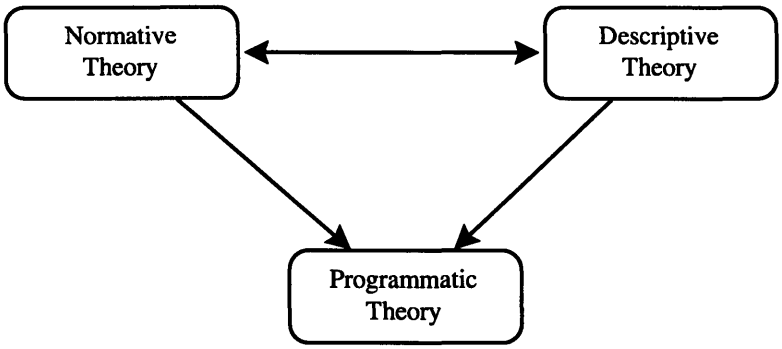

Figure 1-2: The interaction between the normative, the descriptive, and the programmatic components of modern social theory.

ternative directions and paths for social and political transformation. Programmatic social theory therefore seeks to provide plausible accounts of what is, in effect, *possible* within a particular social order. To this end, programmatic social theory ultimately seeks to put forth and defend views concerning the *desirability* or *preferability* of one possible social world over another. By identifying and characterizing specific social desires or needs—some or all of which may or may not be known to the social agents in question—programmatic social theory endeavors to create conceptual frameworks and schemes whereby *alternatives* concerning different conceptions of, and proposals for, social transformation can be evaluated in such a way as to ultimately motivate or give rise to intentional action.

Central to this characterization of programmatic social theory is the notion of *social possibility.* For our purposes here, the notion of social possibility is used to convey a sense of what is *potentially realizable* in a particular social order. At a foundational level, the notion of social possibility underlies our conceptualization of the options that social agents take to be open to them at any one time. In this way, the notion of social possibility underlies our most basic and fundamental conceptions of human agency and purposive action. The notion of social possibility therefore serves as a conceptual bridge between individual action, on the one hand, and social system behavior, on the other.

This thesis puts forth and defends a conception of social possibility that is markedly

epistemic in character. In the theoretical framework that is developed, the *knowledge* or *epistemic states* of social agents is taken as a central and inalienable element of human agency. From this vantage point, human judgement and cognition is seen, ultimately, to provide the bases for what agents hold to be socially possible.

An epistemic grounding of the notion of social possibility such as the one put forth here can be justified on several fronts. First, insofar as the notion of purposive action entails some form of *deliberation* or *intentionality* on the part of social agents, it seems reasonable to suppose that the notion of social possibility must be predicated on a theory of human judgement or cognition. At a base level, human judgement provides the necessary abstract relational structures and inference mechanisms that allow social agents to discern and make sense of possible alternatives and possible courses of action.

Perhaps the most compelling justification that can be made for an epistemic grounding of the notion of social possibility is that in order to arrive at plausible accounts and explanations of human agency and the functioning of social systems, it is necessary to somehow isolate, make reference to, or represent the epistemic states of the social agents in question. Only in this way is it possible to speak meaningfully about the *interests*, *wants*, and *preferences* of social agents.

Of course, an epistemic grounding of the notion of social possibility is but one way to speak meaningfully about the *interests*, *wants*, and *preferences* of social agents. For instance, it is worth noting that according to the so-called *ontological* viewpoint, social science must, at a base level, endeavor to focus on the attitudes, emotions, and subjective dispositions of social agents. In this regard, the differences that might separate an ontological conception of social possibility versus an epistemic conception are, for the most part, subtle and will not concern us here. Clearly, in the absence of some manner in which to *describe* or *represent* the knowledge, wants, and preferences of social agents, the notion of deliberative action loses much of its commonsense meaning and connotation. If we reject an epistemically or ontologically grounded conception of social possibility and, in the process, rid ourselves of wants and preferences, then deliberative action ceases to be purposive in character, and instead takes on a seemingly

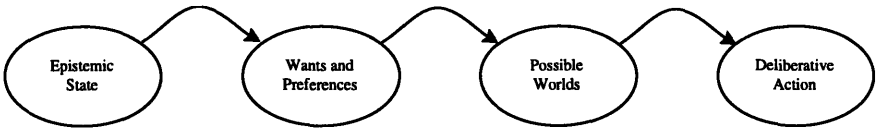

Figure 1-3: The relation between knowledge and information, wants and preferences, possible worlds, and deliberative action.

haphazard or random character. Such views are most closely akined to the so-called *behaviorist* program in social theory, which—in its most radical form—eliminates all references to belief, knowledge, purpose, and meaning in social-theoretic discourse and analysis.

The essence of the conception of social possibility that is advanced in this thesis can be summarized along the following lines. First, at any one time, our perception or understanding of what is socially possible can be construed as constituting a subset of our total corpus of knowledge and information about the social universe. This knowledge and information is seen to influence the manner and way in which social agents arrive at and express wants and preferences within a particular social order. If knowledge of and about the social universe serves, ultimately, as the basis upon which agents arrive at judgements as to what is socially possible, then implicit in this characterization is the assumption that some social worlds may, in fact, *not* be possible given an agent's current state of knowledge and information about the social universe. Finally, it is from these judgements about what is socially possible that deliberative action—both individual and collective—ultimately stems. These ideas are illustrated in Figure 1-3.

This thesis represents an attempt to bring together various conceptual and theoretical strands relating to the notion of social possibility. In particular, an important objective of the thesis is to isolate what appear—at first glance—to be divergent claims and points of view concerning the notion of social possibility. To this end, the thesis identifies those areas where there is consistency and complementarity among what appear, on the surface, to be rival viewpoints and traditions. Chapter 2 of the thesis draws upon results from possible worlds semantics and modal logics of knowl-

edge to develop a framework for reasoning about social possibility and the epistemic states of social agents. The central objective of this chapter is to go beyond the broadly sketched conceptual frameworks that social theorists have, in the past, used to talk about the notion of social possibility. Chapter 3 establishes a formal link between the broadly construed, abstract frameworks that underlie *critical theories* of society and politics and the logical framework put forth in Chapter 2. The motivation for pursuing this line of inquiry stems from the fact that critically-oriented theories are primarily concerned with those facets of social reality that impose fundamental limits on human options and potential through domination and oppression [14]. As interesting and thought-provoking as some of this body of work has been, much of it has, nevertheless, remained at a level of abstraction that has thus far made it difficult for scholars to interpret concrete historical events and to arrive at programmatic proposals for social and political transformation. Chapter 4 widens the scope of the analysis, and examines the notion of social possibility in the broader context of recent social thought, with particular emphasis on Roberto Unger's brilliantly conceived *Politics* [34, 35]. The thesis concludes in Chapter 5 with a tentative assessment of the relevance of the ideas and concepts set forth here for modern social theory.

Chapter 2

The Logic of Possibility

The role of formal logic and mathematics in social-theoretic discourse and analysis is a topic that is fraught with controversy and debate. Much of the controversy that surrounds this issue can ultimately be traced to fundamental and long-standing disputes about the nature of society and the social sciences. On this point, two salient views emerge from the literature. One view holds that analytical formalism should play a central role in our attempts to understand and describe the vast complexities of social reality. In fact, a dominant view in contemporary social science is that *description* and *explanation* should be conducted and represented in terms of concepts and frameworks that lend themselves, ultimately, to mathematical expression. However, a competing view maintains that *meaning* and *subjectivity* are central and inalienable components of social life, and that, for this reason, the social sciences must be seen to differ in fundamental respects from the physical sciences. According to this particular view, mathematical formalism can play little more than an ancillary role in our best efforts to comprehend the social universe.

Clearly, there can seem to be a tensions between these two views. This chapter lays the foundations for a theory of social possibility that seeks to strike an instrumental balance between these two opposing viewpoints. In particular, the chapter puts forth a systematic framework for reasoning about social possibility and the epistemic states of social agents. The logical framework that is presented draws upon results from possible worlds semantics and modal logics of knowledge. This logical framework

can be interpreted as an initial attempt to probe the applicability of these formal concepts to social-theoretic discourse and analysis. In what follows, the basic elements of the possible worlds model are introduced. As part of this discussion, various formal properties of knowledge and their relevance to social theory are considered. In the subsequent chapter, we examine the potential relevance of formal logic in social theorizing. In particular, the possible worlds model put forth in this chapter is used to reason about the cognitive structure and emancipatory character of critical theories.

2.1 Possible Worlds Model

The commonsense notion of *possibility* is, in many respects, both vague and abstract. One consequence of this ambiguity is that the word "possibility" often takes on different meanings and connotations, depending on the situation or context in which it is used. As outlined in Chapter 1, our purpose here is to arrive at a formal and rigorous conception of the notion of social possibility, one that serves, ultimately, the social-scientific purposes to which the everyday notion is put.

The *modal* concept of possibility has long been a topic of interest to logicians and philosophers, alike. A widely held conception of possibility proceeds from the assumption that the world can be in a number of possible states, one of which is the state of the *actual world.* In this way, besides the *true* state of affairs, there are a number of other possible states of affairs or *possible worlds.* Typically, intelligent agents do not have enough information to be able to tell with certainty which world among these possible worlds is the actual world. This is the essence of the so-called *possible worlds* model, which, in recent years, has been applied successfully in a diverse range of disciplines, including artificial intelligence,[1] economics,[2] linguistics,[3] and political science.[4]

[1]See, e.g., Genesereth and Nilsson [12] and Moore [26].

[2]See, e.g., Bicchieri and Chiara [4], Parikh [28], and Samet [30].

[3]See, e.g., van Bentham [3].

[4]Two decades ago, in a much-neglected book, Jon Elster [8] attempted to explore the potential role of quantified modal logic in social-theoretic discourse and analysis. Elster's book was written with the intention of demonstrating the practical role that abstract logic could play in helping social

2.1.1 Possible Worlds Syntax and Semantics

Reasoning about the *epistemic states* of social agents requires that we make reference to a formal language of some kind. Suppose that we have a group consisting of n social agents, labelled $1, \ldots, n$. In the possible worlds model, we assume that the agents reason about a social reality or universe that is described in terms of a nonempty set Φ of primitive propositions, which we label p, q, r, etc. In order to describe the epistemic states of the n agents, we augment our formal language by defining a *modal operator* K_i, where $K_i\varphi$ denotes "social agent i knows φ," for $i = 1, \ldots, n$. In using the primitive propositions in Φ to reason about their social reality, we assume that agents are able to form more complicated formulas by closing off under conjunction, negation, and the modal operators $K_1, \ldots, K_n$.

The notion of possible worlds is a central element of most model-building exercises.[5] The possible worlds model sketched above has, during the course of the past decade, found considerable use in the fields of artificial intelligence and epistemology.[6] A central theme in much of this work is that the notion of possibility can, in some respects, be viewed as the *dual* of knowledge. Specifically, in a given state, the more worlds that a social agent considers possible, the less knowledge he is said to have. In principle, then, an agent's *state of knowledge* allows him to differentiate between various possible social worlds. The formal relation between knowledge and possibility can therefore be stated as follows: An agent is said to *know* a fact φ if and only if φ is

scientists pose and answer questions in ways that they might not otherwise have pursued. In writing the book, Elster had hoped that the use of modal logic in social inquiry would give rise to new theories of, and approaches to, social science. Several reasons can be singled out for why Elster's project was largely unsuccessful. First, it is important to recognize the historical context in which this particular work rests. Two decades ago, when Elster's book was published, social theory was, as a discipline, distancing itself from approaches to discourse and analysis that were based on analytical theorizing. At the time, a good deal of scholarship focused on *hermeneutic* theory, as well as upon critically-oriented studies. In this setting, mathematical and logical formalism was largely eschewed in favor of alternative forms of analysis and argumentation. It is important to recognize, also, that while the field of modal logic had, by the 1970s, made important advances, the direct relevance and usefulness of these tools, concepts, and techniques were not as large and significant as they perhaps needed to be in order to attract widespread interest among social theorists.

[5]Possibilistic reasoning underlies our most basic conceptions of judgement, deliberation, and rationality. For an insightful discussion of this point, see Levi [21].

[6]See, e.g., Fagin et al. [9] and Gärdenfors [11].

true at all the worlds that he considers possible. In this way, knowledge is construed as being an all or nothing affair; If there is *at least one* possible world where φ does not hold, i.e., where φ is false, then the agent cannot be said to have knowledge of φ.

In a given state, an agent will consider some social worlds to be possible and others not. Possible worlds are therefore not seen as possible *tout court*, but rather as possible *relative to* a particular state or set of states. A logical construct known as a *Kripke structure* provides a convenient means by which to capture this intuition and to give our language a formal semantics. A Kripke structure for n agents is a tuple

$$M = (S, \pi, \mathcal{K}_1, \ldots, \mathcal{K}_n),$$

where S denotes a set of *states* or *possible worlds*, π maps each state $s \in S$ and each primitive proposition $p \in \Phi$ to a truth assignment,[7] and $\mathcal{K}_i$ is a binary relation on the states of S, for $i = 1, \ldots, n$.

The truth assignment π allows us to capture the *contextual* nature of truth. Specifically, for each state $s \in S$, π tells us whether $p \in \Phi$ is true or false in state s. The binary relation $\mathcal{K}_i$ is, in effect, a *possibility relation* for agent i. In particular, $(s, t) \in \mathcal{K}_i$ if agent i considers world t possible, given his information in world s.

The assignment of truth values to propositions is an important element of any logical system. In possible worlds semantics, we define a binary relation, $\models$, between a formula φ and a pair (M, s) that consists of a Kripke structure M and a state s in M. The clause $(M, s) \models \varphi$ is read "φ is true at (M, s)," and is defined as follows:

$$\begin{aligned}
(M, s) &\models p \quad (p \in \Phi) \quad \text{iff} \quad \pi(s)(p) = \textbf{true}, \\
(M, s) &\models \varphi \wedge \psi \quad \text{iff} \quad (M, s) \models \varphi \quad \text{and} \quad (M, s) \models \psi, \\
(M, s) &\models \neg\varphi \quad \text{iff} \quad (M, s) \not\models \varphi.
\end{aligned}$$

Readers familiar with propositional logic will recognize these three clauses as the

[7] Formally, this mapping is defined as $\pi(s) : \Phi \rightarrow \{\textbf{true}, \textbf{false}\}$, for each state $s \in S$.

standard logical definition of truth. To complete our definition of the binary relation $\models$, we add the following clause to the three that are listed above:

$$(M, s) \models K_i\varphi \quad \text{iff} \quad (M, t) \models \varphi \quad \forall t \ni (s, t) \in \mathcal{K}_i.$$

This clause states that agent i knows φ in state s of structure M if and only if φ is true at all worlds i considers possible in s. In this way, by conceptually linking the function π and the binary relation $\mathcal{K}_i$, we are able to characterize knowledge in terms of both truth value assignments and possibility relations.

Using possible worlds semantics, it is possible to decide whether a formula is true at a given world. In general, we recognize that some formulas are *always* true, while others are only *sometimes* true. It is a relatively simple matter to formalize these intuitions using the possible worlds framework. Specifically, we say that a formula φ is *valid* in M, which we denote by $M \models \varphi$, if $(M, s) \models \varphi$ for every state s in S. Alternatively, if $(M, s) \models \varphi$ for some state s in S, then φ is said to be *satisfiable* in M. More generally, a formula φ is said to be *valid*, which we denote by $\models \varphi$, if it is valid in all structures. Similarly, φ is said to be *satisfiable* if it is valid in some structure.

2.2 Formal Properties of Knowledge

The possible worlds model presented above provides a formal means with which to reason about social possibility. Within this framework, we are able to render concrete the notion that given any social order or state, there exists a set of states that are socially possible with respect to that state. In addition, the modal operator K_i provides a formal means by which to represent the epistemic states of social agents. We now examine some of the formal properties that are typically associated with the modal operator K_i.

We begin with two pairs of axioms for knowledge and inference, respectively:[8]

[8]Together, these axioms and rules of inference comprise what Halpern and Moses [15] call the

All instances of propositional tautologies;

$$(K_i\varphi \wedge K_i(\varphi \Rightarrow \psi)) \Rightarrow K_i\psi, \quad i = 1, \ldots, n;$$

From φ and $\varphi \Rightarrow \psi$, infer ψ;

From φ, infer $K_i\varphi$.

Propositional tautologies are, of course, central elements of any formal, axiomatic system. In this respect, the first axiom above specifies that all instances of tautologies of the propositional calculus are valid. The second axiom—typically called the *distribution axiom*—states that each social agent knows *all* of the logical consequences of his knowledge. The third axiom is, of course, quickly recognized as *modus ponens.* Lastly, the fourth axiom states that if φ is true, then agent i knows that it is true.

It is important to recognize that, together, these axioms and rules of inference posit the existence of *idealized* social agents that know *all* of the consequences of their knowledge and, moreover, know all things that are true. In this respect, the agents are assumed to be capable of *perfect* reasoning. Naturally, real-world social agents are typically characterized by *imperfect* reasoning, in that, at any one time, they may violate one or more of the above axioms and rules of inference. This observation notwithstanding, our concern here lies primarily with the *normative adequacy* of these axioms, as well as the degree to which this logical formalism provide a useful means with which to reason about social possibility and the epistemic states of social agents. Naturally, substantive extensions to the basic theory put forth here would need to account for the cognitive limitations of social agents.

The classic conception of knowledge is as *true, justified* belief.[9] Under this interpretation, an agent cannot have knowledge about something that is, in actuality,

axiom system K_n.

[9]Horwich [18] provides a particularly lucid account of the relation between knowledge and truth.

false. In this way, only true facts can be known [15].[10] This requirement is typically formalized in terms of the *knowledge axiom*

$$K_i\varphi \Rightarrow \varphi, \qquad i = 1, \ldots, n,$$

which states that if agent i *knows* φ, then φ must be true.

We now turn to two axioms that relate to issues of *meta-knowledge*, i.e., knowledge about knowledge. The first of these axioms is the *positive introspection axiom*, which is stated as follows:

$$K_i\varphi \Rightarrow K_iK_i\varphi, \qquad i = 1, \ldots, n.$$

What this axiom states is that if social agent i knows φ, then he knows that he knows φ. Stated more generally, an agent knows what facts he knows. The analogue of this axiom is the so-called *negative introspection axiom*, which is defined as follows:

$$\neg K_i\varphi \Rightarrow K_i\neg K_i\varphi, \qquad i = 1, \ldots n.$$

This axiom states that if agent i does not know φ, then he knows that he does not know φ. In this way, an agent knows precisely what facts he does not know φ [15].

Another common axiom of knowledge is

$$\neg K_i(\mathbf{false}),$$

which states that an agent cannot know inconsistent facts.

Modal logicians have used these axioms—and a host of others[11]—to arrive at various conceptions and formal characterizations of knowledge. Using the axioms presented above, it is possible to prove the following theorem, which we state here

[10] Consistent with this conception of knowledge, Genesereth and Nilsson [12] argue that while agents can have *false beliefs*, the notion of *false knowledge* is devoid of useful meaning.

[11] For presentations of alternative logics for knowledge and belief, see, e.g., Hughes and Cresswell [19], Mints [25], and Wansing [36].

without proof.[12]

Theorem 1 *For all formulas φ and ψ, all structures M, and all agents $i = 1, \ldots, n$,*

1. $M \models (K_i\varphi \wedge K_i(\varphi \Rightarrow \psi)) \Rightarrow K_i\psi$;
2. *If* $M \models \varphi$, *then* $M \models K_i\varphi$;
3. $M \models K_i\varphi \Rightarrow \varphi$;
4. $M \models K_i\varphi \Rightarrow K_iK_i\varphi$;
5. $M \models \neg K_i\varphi \Rightarrow K_i\neg K_i\varphi$.

2.3 Common Knowledge

In situations where there are two or more social agents, it is often useful to be able to say something about facts that everyone in a particular group knows. Along similar lines, it is also useful to be able to represent situations where a particular fact is *common knowledge* among a group of agents. In simple terms, common knowledge refers to those facts that "any fool knows" [9]. More specifically, it is easy to envision situations where everyone knows that everyone knows a particular fact. This type of "second-order" knowledge can be generalized to include facts that everyone knows that everyone knows that everyone knows them, and so on.

In formalizing these notions, we augment our language with the addition of two modal operators, E and C, where $E\varphi$ denotes "everyone knows φ," and $C\varphi$ denotes "φ is common knowledge." The formula $E\varphi$ is true if and only if every agent i knows φ, for $i = 1, \ldots, n$.[13] This characterization motivates the following axiom:

$$\models E\varphi \iff K_1\varphi \wedge \cdots \wedge K_n\varphi \ .$$

Similarly, the formula $C\varphi$ represents the infinite conjunction

[12] For a simple proof, see, Fagin et al. [9].

[13] Note that in the single-agent case, $E\varphi \equiv K\varphi$.

$$E\varphi \wedge EE\varphi \wedge \cdots.$$

For the modal operators E and C, given a Kripke structure M, we define

$$\begin{aligned}
(M,s) &\models E\varphi \quad \text{iff} \quad (M,s) \models K_i\varphi \qquad \text{for all } i = 1,2,\ldots,n,\\
(M,s) &\models C\varphi \quad \text{iff} \quad (M,s) \models E^k\varphi \qquad \text{for } k = 1,2,\ldots,
\end{aligned}$$

where $E^1\varphi = E\varphi$ and $E^{k+1}\varphi = E\left(E^k\varphi\right)$, for $k > 1$.

Using the above axiomatization of the modal operators E and C, the following theorem is easily proved.[14]

Theorem 2 *For all formulas φ and ψ, all structures M, and all agents $i = 1,\ldots,n$,*

1. $M \models E\varphi \Leftrightarrow (K_1\varphi \wedge \cdots \wedge K_n\varphi)$;
2. $M \models C\varphi \Leftrightarrow E(\varphi \wedge C\varphi)$;
3. *If* $M \models \varphi \Rightarrow E(\psi \wedge \varphi)$, *then* $M \models \varphi \Rightarrow C\psi$.

The first part of this theorem follows directly from the semantics of the modal operator E. The second part of the theorem allows us to minimize the effects of *bounded rationality.*[15] In particular, since $C\varphi \equiv E(\varphi \wedge C\varphi)$, social agents are freed from having to learn the facts $E\varphi$, $E\varphi^2$,..., etc. in an individual fashion. The last part of the theorem—sometimes called the *induction rule*—provides a formal mechanism for deducing that common knowledge holds in a given structure [15].

[14] A straightforward proof is found in Halpern and Moses [15].

[15] Simon [31] provides a concise introduction to the notion of bounded rationality.

2.4 Distributed Knowledge

The last concept that we consider in this chapter is that of *distributed knowledge*. As its name implies, the motivation behind this concept is to describe situations where knowledge is, in effect, *distributed* within a group. If, for example, each social agent in a group knows a different fact, then the distributed knowledge of the group is the knowledge we would have if it were possible to somehow aggregate or combine the individual knowledge of all the agents. For example, consider a situation where there are two social agents. Suppose that one agent knows φ, and that the other agent knows $\varphi \Rightarrow \psi$. Using *modus ponens*, it is clear that knowledge of ψ is distributed among the two agents. The notion of distributed knowledge therefore provides a conceptual means with which to describe the *total* or *combined knowledge* of a group of agents.

In formalizing our intuitions about distributed knowledge, we augment our language with a modal operator D, which, given a Kripke structure M, we define semantically as follows:

$$(M,s) \models D\varphi \quad \text{iff} \quad (M,t) \models \varphi \quad \text{for all} \quad t \ni (s,t) \in \mathcal{K}_1 \cap \cdots \cap \mathcal{K}_n.$$

What this definition states is that distributed knowledge of φ at state s of structure M requires that social agents combine their knowledge in such a way that the only worlds that they consider possible are those that are in the intersection of the set of worlds that each agent, individually, considers possible [15].

As before, we can specify axioms for the modal operator D that allow us to further refine our intuitions about distributed knowledge. One axiom that is commonly put forth is

$$K_i\varphi \quad \Rightarrow \quad D\varphi, \qquad i = 1, \ldots, n.$$

This axiom states that if a group of n social agents know a fact φ, then, collectively, they have distributed knowledge of φ. Analogous to the case for the modal operator

K_i, it is easily shown that the following inference rule is valid:

$$D\varphi \wedge D(\varphi \Rightarrow \psi) \Rightarrow D\psi.$$

Finally, we state the following inference rule for distributed knowledge:

$$\models (\psi_1 \wedge \cdots \wedge \psi_n) \Rightarrow \varphi \quad \Longrightarrow \quad \models (K_1\psi_1 \wedge \cdots \wedge K_n\psi_n) \Rightarrow D\varphi.$$

This rule states that if the finite conjunction $\psi_1 \wedge \cdots \wedge \psi_n$ implies φ, and if agent i knows ψ_i (for $i = 1, \ldots, n$), then, collectively, the agents have distributed knowledge of φ.

2.5 Summary

The foregoing discussion put forth some of the rudimentary building blocks of possible worlds semantics and modal logics of knowledge. Our main intent has been to set the stage for a consideration of the potential applicability of these concepts for social-theoretic discourse and analysis. The following chapter seeks to establish connections between the formal concepts put forth above and key concepts in the area of critical theory.

Chapter 3

An Application to Critical Theory

In the late twentieth century, *critical theory* has emerged as a distinct and important subfield of modern social theory.[1] Conceptually, critical theorists argue that *positivism*—as a distinct and discernible mode of thought—gives rise to reified world views that construe the status quo and existing social orders as the way the social universe must necessarily be [14]. In this respect, critical theorists hold that positivism is fundamentally limited in its ability to give rise to alternatives to the prevailing social order. In contrast, a defining feature of critical theories is their *emancipatory* character. That is, critical theories are intended to give rise to processes of enlightenment and emancipation within a particular social order. This enlightenment and emancipation process is generally viewed as a *transition* from some *initial state* of bondage, delusion, frustration, or suffering to some *final state* of freedom, knowledge, or satisfaction [13].

The structure and content of critical theories typically take the form of *programmatic proposals* that seek to impart or give rise to a *reflective capacity* that allows social agents to come to a better or, perhaps, *truer* understanding of what their interests and desires are. Such modes of social discourse and explanation seek, ultimately, to open the door for heightened forms of emancipation and enlightenment, as well as

[1] For an insightful historical overview of the conceptual evolution of critical theory, see, e.g., Honneth [17]. An excellent account of the historical and conceptual foundations of critical theory is found in Morrow and Brown [27].

to achieve freedom from coercive forms of power and control over human affairs.

While, conceptually, these are, noble aims indeed, in practice much of critical theory is derided by social theorists as reducing to little more than pessimistic critiques of existing social orders or, alternatively, to "hopelessly naive utopias" [33]. In this way, argues Jonathan Turner, critical theorists "generate formulations which often have little foundation in the operative dynamics of the universe" [33, p. 160]. Consistent with this criticism, Thomas Wilson adds that "the critics of 'scientific' social science appear to argue directly or indirectly for a vague and unsatisfactory idealism, subjectivism, or even outright ideologizing" [37, p. 386]. Of course, such comments only begin to scratch the surface of the broader set of issues and debates that surround the question of what should be the *aims* and *methods* of social science. Clearly, it is possible to distinguish between those who view critical theory as overly ideological and idealized, on the one hand, and those who feel that most (if not all) analytical theorizing in the social sciences represents a misguided effort to arrive at better understandings of social reality, on the other. In this chapter, an attempt is made to mitigate the seeming tension that exists between these two opposing viewpoints. In particular, we apply the logical framework put forth previously in Chapter 2 to an analysis of the cognitive structure and emancipatory character of critical theories.

3.1 Critical Theory and Social Possibility

At a foundational level, critical theories seek to provide agents with alternative conceptions of what is *potentially realizable* in a particular social order. In this way, the notion of social possibility clearly underlies our conceptions of, and approaches to, the idea of a critical theory. In outlining this general view, Raymond Geuss argues that critical theories must show "that a transition from the present state of society ... to some proposed final state is 'objectively' or 'theoretically' possible" [13, p. 76]. In addition, says Geuss, the proposed final state must be shown to be "inherently possible" [13, p. 76]. Possibilistic reasoning is therefore central to the cognitive structure and emancipatory character of critical theories.

Insofar as critical theories attempt to reduce the amount of identifiable suffering in a particular social order, it is important to accurately characterize the *initial state* of suffering of the social agents in question. Geuss outlines three possible configurations for this initial state [13]:

1. The social agents know that they are suffering and are aware of the social institutions or arrangements that are causing their suffering;

2. The social agents know that they are suffering, but they are unaware of the causes of their suffering;

3. The social agents are in an apparent state of contentment, but, in actuality, they are suffering from ideological delusions that keep them from recognizing their true state of suffering.

Clearly, the *epistemic states* of social agents play an important role in the characterization of the possible configurations for the initial state of suffering. In particular, social agents are characterized as either *having* or *lacking* knowledge about their initial state. In addition, agents are also characterized in terms of their awareness, or lack thereof, of the cause(s) of their suffering.

3.2 Reasoning About the Cognitive Structure and Emancipatory Character of Critical Theories

As stated previously, the emancipatory process that critical theories seek to give rise to can be construed as a multi-step transition from some initial state to some final state. The direction that this transition takes depends upon the epistemic states of the social agents in question. Specifically, if social agents do not know that they are suffering, a critical theory must enlighten the agents in such a way as to give rise to a state where they have knowledge of their suffering. In a similar fashion, agents may be unaware of the causes of their suffering. Such instances require that a critical

theory give rise to or impart a reflective capacity that enables social agents to develop an awareness or understanding of what these causes are.

In using the possible worlds model put forth previously in Chapter 2 to formalize these features of critical theory, we begin by defining a Kripke structure M over a nonempty set Φ_{CT} of primitive propositions, which are taken here to comprise or otherwise define the structure and content of our critical theory. As before, we can construct more complicated formulas by closing off the primitive propositions in Φ_{CT} under conjunction, negation, and the modal operators $K_1, \ldots, K_n$.

Defining a n-agent Kripke structure M over Φ_{CT} requires that we specify the set S of possible social worlds, the primitive propositions of Φ_{CT}, the truth assignment π, and the accessibility relations $\mathcal{K}_1, \ldots, \mathcal{K}_n$.

For our purposes here, the finite set S of possible social worlds is comprised of three states, which we define as follows:

$$S = \{s_1, s_2, s_3\},$$

where

$$\begin{aligned} s_1 &\stackrel{\text{def}}{=} \text{Agent is in a state of suffering, the cause of which is } C; \\ s_2 &\stackrel{\text{def}}{=} \text{Agent is in a state of suffering;} \\ s_3 &\stackrel{\text{def}}{=} \text{Agent is content, enlightened, and emancipated.} \end{aligned}$$

In terms of the above characterization, each of the n social agents can, at any one time, be in one of three possible states: s_1, s_2, or s_3. In order to represent these states in a simple and concise fashion, we define the following indicator variable:

$$x_i = \begin{cases} 1, & \text{if agent } i \text{ is in state } s_1, \\ 2, & \text{if agent } i \text{ is in state } s_2, \\ 3, & \text{if agent } i \text{ is in state } s_3. \end{cases}$$

The n social agents thus give rise to an n-tuple $(x_1, \ldots, x_n)$, which, at any one time,

is in one of 3^n states.

Suppose, for the purposes of illustration, that the critical theory under consideration consists of two primitive propositions, p_i and q_i, which we define as follows:

$$p_i \stackrel{\text{def}}{=} \text{Agent } i \text{ is suffering;}$$
$$q_i \stackrel{\text{def}}{=} \text{Agent } i\text{'s source of suffering is } C.$$

The function π can now be defined as follows:

$$(M, s) = (M, (x_1, \ldots, x_n)) \models p_i \quad \text{iff} \quad x_i = 1 \text{ or } x_i = 2,$$
$$(M, s) = (M, (x_1, \ldots, x_n)) \models q_i \quad \text{iff} \quad x_i = 1.$$

With the exception of defining the accessibility relations $\mathcal{K}_1, \ldots, \mathcal{K}_n$, we are now in a position to use the possible worlds model to reason about the cognitive structure and emancipatory character of critical theories. For ease of exposition, we focus here on the single-agent case.[2]

In what follows, we use the possible worlds model to reason about two types of situations that can arise in the emancipatory process:

- The situation where the social agent *knows* that he is suffering;
- The situation where the agent is in a state of *delusion.*

Let us begin by trying to capture the situation where the social agent is in a state of delusion. Recall that in this state, the agent believes that he is not suffering when, in actuality, he is. It is a simple matter to capture this situation using the logical framework put forth above. Specifically, for our structure M—partially defined above—this situation can arise in one of two ways:

[2]In the single-agent case, we abbreviate $(M, (x_1)) = (M, (1))$ as $(M, 1)$, $(M, (x_1)) = (M, (2))$ as $(M, 2)$, and so on. In addition, we drop the subscript i in the modal operator K_i and in the possibility relation $\mathcal{K}_i$.

$$(M,1) \models \neg Kp,$$
$$(M,2) \models \neg Kp.$$

As defined previously, $(M,1) \models \neg Kp$ if and only if $(M,t) \models p$ for at least one t such that $(1,t) \in \mathcal{K}$.[3] A similar situation holds for $(M,2) \models \neg K_p$. In general, these two relations hold if there is at least one world the agent considers possible in state 1 and state 2, respectively, where p does not hold. The question, then, of whether the social agent is in a state of delusion becomes a matter of how the agent defines the possibility relation $\mathcal{K}$ in structure M.

In defining the possibility relation $\mathcal{K}$ in structure M, suppose, for example, that in state 1, the social agent considers state 3 possible. The rationale for this might proceed along the following lines. In state 1, the agent is suffering, and is aware of the cause(s) of his suffering. From this vantage point, the agent can either be optimistic or pessimistic about his future possible social worlds. If the agent is optimistic, then he considers emancipation from his suffering possible. State 2, however, is ruled out as a possibility, as that would entail a loss of information about the causes of his suffering. Now, since $\pi(1)(p) = \textbf{true}$ and $\pi(3)(p) = \textbf{false}$, it follows that $(M,1) \models \neg Kp$. We see that since the agent's knowledge is such that there is a world he considers possible where p is false, he cannot be said to have knowledge of p. If, instead of adopting a position of optimism, the agent were to adopt a position of extreme pessimism, thereby holding that in state 1 there are no other possible social worlds, then we have that $(M,1) \models Kp$. *In this case, knowledge can be seen to come at a cost, namely, the emancipatory vision of the social agent.*

In what way is the situation any different for $(M,2) \models \neg Kp$? As before, we first delineate what social worlds the agent considers possible in state 2. Suppose, for example, that given his information in state 2, the agent considers state 1 possible.

[3]Recall that $(M,1) \models p$ (for $p \in \Phi$) if and only if $\pi(1)(p) = \textbf{true}$. Also, recall that $(s,t) \in \mathcal{K}$ if and only if the social agent considers world t possible, given his information in world s.

In this way, the agent considers it possible to move from a state where he has no information about the cause(s) of his suffering to a state where he does have such information. Suppose, further, that the agent does not consider state 3 possible, given his information in state 2, the reason being that he must, as mentioned previously, have information about the causes of his suffering before a critical theory can give rise to a process of emancipation. Thus, for this particular characterization, we have that $\pi(2)(p) = \textbf{true}$ and that $\pi(1)(p) = \textbf{true}$. Consequently, it follows that $(M, 2) \not\models \neg Kp$ or, alternatively, that $(M, 2) \models Kp$. Implicit in this characterization is an inherent optimism on the part of the social agent that a process of enlightenment can take place in such a way as to give rise to a state of awareness of the cause(s) of his suffering.

We now briefly examine two other knowledge relations. Using the same Kripke structure M defined above, it follows that $(M, 1) \models Kq$, which simply says that when the actual situation is state 1, the agent *knows* that the cause(s) of his suffering is (are) C. The rationale here is that in state 1, the agent considers state 3 possible. Thus, since $\pi(1)(q) = \textbf{true}$ and $\pi(3)(q) = \textbf{true}$, the result follows directly. By stating that the agent considers state 3 possible, given his information in state 1, we implicitly assume that he would, as part of the emancipation process, retain his knowledge of the cause(s) of his suffering. Using a similar line of reasoning, it is a simple matter to verify that when the actual situation is state 2, we have that $(M, 2) \models \neg Kq$, which agrees with our intuition.

3.3 Summary

The preceding discussion put forth a detailed illustration of how the notion of social possibility can be seen to underlie several concepts that are central to the conceptual foundations of critical theory. Our modest attempt at utilizing possible worlds semantics and modal logic to represent formally the cognitive structure and emancipatory character of critical theories suggests that useful conceptual linkages can be drawn between logical analysis and reasoning on the one hand, and broad concep-

tual frameworks, on the other. Use of the logical framework set forth in Chapter 2 has allowed us a formal means by which to clarify and represent critically-oriented concepts that have heretofore been presented in vague and ambiguous terms. The approach adopted here allows a convenient means by which to represent and probe a problematic set of issues and concepts that have previously been difficult to analyse or discuss in a rigorous fashion. More generally, the approach suggested here illustrates that it is possible to establish conceptual links between seemingly disparate fields such as modal logic and critical theory, thus affording social theorists a level of precision of language and discourse that was previously unavailable to them.

Chapter 4

Social Possibility and Theories of Society

It was Prince Bismarck who noted, more than a century ago, that politics is the art of the possible. Conceptually, Prince Bismarck's venerable utterance is as much a way of thinking about possibility as it is a conception of politics. However, there can seem to be a troubling circularity in this joint conception of politics and possibility: If politics is ultimately the instrumental means by which we come to know or understand what is possible in a particular social order, then what precisely is "politics"? Moreover, assuming that a reasonable definition of politics is somehow within reach, how should such a definition inform our understanding of what is possible in society? Clearly, our understanding of society and politics both informs and shapes our conceptions of, and approaches to, the notion of social possibility. The preceding chapters put forth a conception of social possibility that draws upon key concepts and results from possible worlds semantics and modal logics of knowledge. In this thesis, we have sought to probe the relevance and applicability of these concepts to modern social-theoretic discourse and analysis. Thus far, we have concerned ourselves mostly with the formal and mechanical elements of the proposed interplay between the abstract, logical framework put forth previously, and the broader conceptual frame in which it rests. In this chapter, we begin by rethinking the notion of social possibility, and question the manner and degree to which the notion of social possibly can potentially

broaden and inform our conceptualization and understanding of what is perceived as "feasible" or "realistic" in social or political discourse. Next, we probe the theoretical implications of drawing the formal distinction made earlier between the *actual* and the *possible* in social-theoretic discourse and analysis. In particular, we ask to what extent, or in what sense, can we take possible social worlds to exist? Having probed the cognitive status of the notion of possible social worlds, we then consider some of the problems that underlie modern social theory's efforts to appraise social possibility, and we explore the relevance of these ideas for transformative politics. Finally, we touch briefly upon the inherent problems faced by social agents in moving from the *possible* to the *probable* in transformative politics. In our discussion, all of these issues are evaluated and considered in light of recent social thought, with particular emphasis on Roberto Unger's *Politics* [34, 35].

4.1 Social Possibility Reconsidered

It is, perhaps, an all-too-common feature of everyday social and political discourse that agents express what can seem to be an apparent interest and enthusiasm in exploring alternatives to the prevailing social order or *status quo*, all the while deploring the lack of *real* alternatives in politics.

Generally, what is viewed as "feasible" or "realistic" in politics can be seen to fall into one of two possible extremes. At one extreme, there are those initiatives or proposals that are thought to lie far away or remote from current experience or practice. The perceived remoteness of such proposals inevitably leads social agents to reject or cast them aside on the grounds that they are little more than utopian dreams. At the other extreme, there are initiatives or proposals that are thought to entail small, perhaps incremental, changes in the prevailing social order. Such stepwise approaches to social or political transformation are often denounced or derided as being little more than reformist tinkerings which, ultimately, are unlikely to affect much in the way of large-scale, cumulative change.

What is taken as possible in society and politics depends, in large measure, upon

our understanding of social and phenomenal experience, combined with what are perhaps our deepest and most profound conceptions of how civil society should be organized. As Roberto Unger argues, "no ideas ... about possibility ... can be defined or even understood outside the setting of a particular view of how things happen in a particular time and place" [35, p. 173]. In this way, the notion of social possibility is necessarily *context-bound.* If, as Unger argues, the notion of social possibility is little more than a "short-hand allusion" to particular explanatory theories and modes of explanation, then, taken outside the realm of experience, this abbreviated form of explanation loses much—if not all—of its useful connotation and meaning. In this way, Unger is correct in noting that statements or propositions about social possibility gain their "sense and meaning from the particular explanatory theories to which they implicitly refer" [35, p. 174].

This line of reasoning suggests that our characterization of the notion of social possibility must go further in providing a telling account of how the *idea* of possible social worlds can potentially give rise to intentional action and social transformation. In our discussion thus far, we have said only that the notion of social possibility is a useful *heuristic* for describing what is potentially realizable in a particular social order. In order to arrive at a more robust, well-defined conception of the notion of social possibility, our characterization of possible social worlds must seek to address *what* is actually being described, and how social agents arrive at such judgements in the first place. These are two issues to which we now turn.

4.2 The Actual and the Possible in Society

As typically construed, the notion of social possibility is premised on the simple intuition that social reality can be in any number of possible states, one of which is the state of the *actual world.* In this way, the *true* state of affairs in a particular social order is but one of a number of possible social worlds. Despite the intuitive appeal of this view of social possibility, it is not without both conceptual and pragmatic difficulties. For instance, this conception of social possibility suffers from an inherent

ambiguity and vagueness, stemming, ultimately, from difficulties surrounding the cognitive and ontological status of possible social worlds. In particular, the question of whether possible social worlds *exist*—even if only in some limited or restricted sense—is, in many ways, central to our conceptions of, and approaches to, the notion of social possibility and its potential use in social-theoretic discourse and analysis.

In addressing this issue, we begin by considering what is perhaps the most vexing problem facing the notion of social possibility, namely, *to what extent, or in what sense, can we take possible social worlds to exist*? David Lewis provides the following pragmatic response to this question:

> I believe there are possible worlds other than the one we happen to inhabit. If an argument is wanted, it is this: It is uncontroversially true that things might have been otherwise than they are. I believe, and so do you, that things could have been different in countless ways. But what does this mean? Ordinary language permits the paraphrase: there are many ways things could have been besides the way that they actually are. On the face of it, this sentence is an existential quantification. It says that there exist many entities of a certain description, to wit, 'ways things could have been,' I believe permissible paraphrases of what I believe; taking the paraphrase at its face value, I therefore believe in the existence of entities which might be called 'ways things could have been.' I prefer to call them 'possible worlds' [22, p. 84].

For our purposes here, it is useful to rephrase Lewis' words by speaking of "the way things *can potentially be*," rather than "the way things *could have been.*"

The distinction between the *actual* and the *possible* in society naturally leads us to inquire as to what it is that *differentiates* or *demarcates* the actual from the possible in society. From a pragmatic perspective, it seems difficult to construe possible social worlds as concrete particulars that interact in a spatiotemporal fashion with the phenomenal world. As Robert Stalnaker notes, "no one thinks that other possible worlds are literally 'out there' in space ..." [32, p. 49].

In what sense, then, can possible social worlds be said to exist? We may, for instance, reasonably assert that what differentiates our social world—the actual world—from other possible social worlds is, quite simply, that we are "here" and not "there" [32]. However, the intuition that underlies this view may not go far enough in specifying whether possible social worlds are the same sorts of things as the actual world. And while an extreme *realist* position about possible social worlds seems difficult to defend in pragmatic terms, we must still confront the rather problematic issue of *how* social agents come to have knowledge and insight about such worlds? If possible social worlds are, in some sense, causally disconnected from social agents, then how can they ever *know* anything about these worlds? Stalnaker summarizes this problem as follows:

> If the truth or falsity of our modal claims depends on the existence of things and events which are causally disconnected from us, then even the simplest claims about what is possible are *unverifiable* speculations [32, p. 49, emphasis added].

If, in this way, our simplest claims about social possibility are really nothing more than "unverifiable speculations," then what can be said about our ability to judge the *reasonableness* or *realism* of programmatic theories or proposals that seek, ultimately, to enlarge our conception or perception of what is socially possible? Clearly, there are no hard and fast answers to this line of questioning. If, however, we wish to salvage some portion of the intuition that underlies the "here" vs. "there" distinction made earlier, it is possible to side with Lewis in holding that possible worlds differ "not in kind, but only in what goes on at them" [22, p. 85]. Under this view, the forcefulness or realism of programmatic proposals turns primarily on the degree to which the arguments that support such proposals are able to convey a sense of what it is that "goes on" at these possible social worlds. To this end, programmatic proposals must possess clear and tangible links to the concerns, interests, and pursuits of the social agents in question.

These considerations lead us to conclude that possible social worlds are not, as

Stalnaker puts it, "a particular kind of thing or place," but rather a contingent feature of the actual world [32]. In this way, possible social worlds do not exist independently of human action, experience, or thought. Rather, they are derived, at least in part, from our capability to remake society. To hold otherwise is to posit the existence of a closed list or domain from which social agents take their visions of what is possible in a particular social order.

4.3 Transformative Politics and the Appraisal of Social Possibility

The foregoing discussion suggests that any reasonable conception of social possibility begins, at a base level, with an affirmation that things can be otherwise than they are. This disavowal of pre-written scripts and closed lists of alternatives and possible social worlds leads agents to consider new and different ways for construing and ordering social experience and society. To this end, programmatic social theory seeks to probe the implications and the limits of ideas and conceptions about what is possible in society.

These well-motivated aims and aspirations notwithstanding, effecting change within an established social order is rarely a simple matter. The pushing and probing that transformative politics necessarily entails inevitably encounters various levels of resistance, in that the institutions and systems of belief that comprise a particular social order are, to varying degrees, *anchored* or *entrenched.* Naturally, the entrenchment of beliefs, formative contexts, and institutions renders any attempts to revise these structures inherently problematic, if not altogether unrealizable.

Despite the problem of entrenchment, the pushing of social and political boundaries is, nevertheless, a necessary part of our attempts to continually broaden and refine our sense of what is possible in society and politics. By seeking to broaden and refine our sense of social possibility, we cease to view social and political structures as being immutable and unrevisable. As Unger puts it,

> unless we occasionally move at the edge of our imaginative capabilities we cannot hope to extend our vision of reality and to refine our conception of how things may be ordered [35, p. 87].

Movement of this sort, along the periphery of social and phenomenal experience, always entails a certain degree of *experimentalism.* Intrinsic to this idea of experimentalism—and the *learning* that experimentalism almost invariably gives rise to—is the related idea that increased social and political experimentation does not come without incurring certain *risks.* As Unger cautiously points out,

> There is no sure way to tell which of those alternatives has the best long-run potential. Though some alternatives are either more promising or more accessible than others, there is no good way to define the class of possible alternatives or evolutionary trajectories, even for a particular society at a particular moment in its history [35, p. 100].

As discussed earlier, the notion of social possibility is, by its very nature, defined in terms of the here and now. The *appraisal* of social possibility is therefore always a positional matter. Consequently, we can never divorce the appraisal of social possibility from theory or context. It is the context-dependent and theory-laden nature of the appraisal of social possibility that Unger aptly alludes to when he speaks of the "conditionality of worlds."

The inevitable conditionality of social worlds ultimately leads us to seek alternative modes of inquiry, description, and explanation in social thought. Clearly, the demise in this century of positivist social science and the view of history as a ready-made script radically alters our conceptions of individual and collective action, social organization, and transformative politics. Social theory's collective disavowal and rejection of ready-made scripts has lead to a conceptual understanding of society and politics that is in sharp contrast to what Unger calls *deep-logic analysis.* Deep-logic analysis proceeds from the assumption that, at any one time, there are constraints that *uniquely determine* which social worlds are possible and which social worlds are

impossible. In this way, deep-logic analysis spells out the logical conditions under which possible social worlds become actual [35].

Naturally, it is possible to reject the tenets of deep-logic analysis on the grounds that such conceptions of society and politics place unrealistic restrictions on human potential and what is taken to be socially possible. By asserting emancipation from what Unger calls "false necessity," we are able, as he puts it, "to affirm that things can be otherwise" [35, p. 145].

How, then, in light of these considerations, should the realism and feasibility of programmatic proposals and strategies for social or political transformation be judged? Or, stating the question somewhat differently, in what sense is it meaningful to enquire as to the manner and the degree to which our systems of belief, social frameworks, and institutional orderings influence our wants and preferences, as well as our assessments or determinations of what is socially possible?

In approaching this line of questioning, we begin by noting that not all beliefs are on par with one another. Social agents may, for any number of reasons, believe some propositions more than others and, moreover, they may be more *committed* to some beliefs than others. Having made this observation, we recognize that, within a particular social order, some beliefs, formative contexts, and institutional arrangements are more deeply entrenched than others. Clearly, the more entrenched that particular beliefs, formative contexts, and institutions are, the more difficult they are to *revise* or *transform.* The obvious corollary to this view is, as Unger affirms, that "when formative contexts become more disentrenched, their influence over their own sequels ... diminish" [35, p. 157].

This characterization suggests that one possible approach to assessing or judging the realism or feasibility of programmatic proposals is to give explicit consideration to the *degrees of entrenchment* that are associated with the specific beliefs, formative contexts, and institutional arrangements that characterize a particular social order. Ultimately, these varying degrees of entrenchment have an important bearing on what is abandoned, what is retained, and what is put up for grabs in society and politics.[1]

[1]Operationally, our assessment of the entrenchment of one formative context relative to another

Naturally, the actual degree to which particular beliefs, formative contexts, and institutional arrangements are entrenched depends, in large measure, upon the manner in which social and political life is organized and understood. At a base level, these structures are reflective of what has proven successful in past approaches to social decision-making, experimentation, organization, and problem solving. In this way, as Robin Lovin argues, formative contexts reduce the "infinite possibilities to realities of a particular social order" [23, p. 9].

4.4 Moving From the Possible to the Probable in Transformative Politics

How social agents, in effect, *decide* what is abandoned, what is retained, and what is put up for grabs in transformative politics is clearly dependent upon a number of interrelated factors, not the least of which are the interests, desires, and collective engagements of the agents in question.

Actual movement from one set of beliefs, formative contexts, or institutional orderings to another is a precarious affair, in that such development and evolution rarely, if ever, follows a predetermined script. Rather, in moving from one formative context to another, each formative context *influences* the scope and character of new contexts, rather than uniquely determining them according to some predefined script. This characterization is in sharp contrast with the type of deep-logic analysis described previously, where future possible social worlds are *logically* determined by the past. And while no institutional ordering is ever *neutral* with respect to its preferences (either explicit or implicit) among different forms of experience and understanding, the influence that one formative context exerts on another is reasonably construed as being a matter of degree, rather than as something that is inherently *deterministic*

is fundamentally premised on the idea that some beliefs and contexts are more *useful* than others for human inquiry and decision-making. The notion of entrenchment, in its most general sense, is often tied to issues relating to the *explanatory power* and *information value* of causal explanations and predictive theories. For technical discussions of the notion of *epistemic entrenchment*, see, e.g., Gärdenfors [11] and Levi [20].

in character.

Our ability to discern and track the *sequential effects* of formative contexts is inherently problematic, especially in light of the radical contingency of institutional arrangements. Unger characterizes this problem in terms of the *influence* that each formative context exerts on its own sequel. He writes:

> This sequential influence never determines particular outcomes. At most it makes certain lines of transformation more *likely* than others. Given the complexity of the circumstances involved in each instance of context change and the difficulty of comparing such instances, we have little prospect of ever being able to quantify these probabilities. ... an element of *prediction* is required for the intellectual guidance of transformative practice [34, p. 313, emphasis added].

Conceptually, then, we have moved from *possibility* to *probability* in our characterization of transformative politics. In making this conceptual shift, we arrive at a potentially powerful means by which to judge the reasonableness and forcefulness of programmatic proposals. Unger is correct in pointing out, however, that this characterization is problematic, if only because it is rarely a simple matter to reliably estimate the probabilities in question. Our efforts to quantify these uncertainties can be frustrated or thwarted for any number of reasons. Social agents may, for instance, lack the knowledge and information necessary to arrive at reliable probability assessments. In this regard, social agents are likely to face any number of practical constraints, such as the accessibility, availability, and cost(s) of obtaining what may be relevant or specific knowledge and information. More generally, issues relating to human *ignorance* and *bounded rationality* are also likely to impose fundamental constraints on the degree to which agents are able to reliably quantify such values. In general, social agents must confront the basic fact that there always exists a tension between the *scope* of transformative action and the *depth* of the time horizon in which such action is ultimately expected to play out. Intuitively, the larger the scope, and the longer the time horizon, the more difficult it is to arrive at reliable es-

timates of the transition probabilities that underlie any sort of directional movement in transformative politics.

Despite these difficulties, the notions of possibility and probability play important roles in the ways that we conceive and approach programmatic social theory and transformative politics. At a foundational level, both concepts can be seen to underlie our very understanding of utopian thought. As William Galston observes, utopian visions serve a markedly *evaluative* function in our attempts at context revision and transformative action. Utopias, says Galston, "exist in speech; they are cities of words" [10, p. 18]. Nonetheless, utopian thought must, as a matter of practical necessity, be *constrained* by possibility. This is a view that Galston clearly embraces in the following passage:

> Utopia is realistic in that it assumes human and material preconditions that are neither logically nor empirically impossible, even though their simultaneous presence may be both unlikely and largely beyond human control to effect [10, p. 18].

Realism in utopian thought is ultimately seen, therefore, to be a function of social possibility. Without some measure of realism, utopian thought loses its usefulness as a guide for human deliberation and action. As Galston argues, "we may long for the impossible, but we choose and act in the belief that our goal is possible" [10, p. 18]. John Dunn sides with this view in asserting that "what is *likely* to happen is almost always more important to a human agent than what just conceivably *might* happen" [7, p. 84, emphasis added].

4.5 Summary

The preceding discussion has sought to further our understanding of the notion of social possibility. In particular, the theoretical conception of social possibility sketched in this chapter has sought to probe the underlying foundations of the logical framework put forth previously in Chapter 2. The end-result of our theorizing suggests

that while a logical framework for social possibility provides a potentially useful and convenient means by which to represent social-theoretic statements and propositions, such a framework constitutes only a first step towards a more general and comprehensive theory of social possibility that seeks, ultimately, to inform individual and collective action, as well as transformative politics.

A logical framework such as the one set forth in this thesis is clearly an important prerequisite for such a theory of social possibility. It must be stressed, however, that while formal logic may provide a compact and systematic means by which to represent abstract social-theoretic concepts and propositions, abstract logical systems are, by themselves, sterile and devoid of tangible links between agents and the social universe that they inhabit. A central challenge in contemporary social-theoretic discourse and analysis remains one of arriving at conceptual schemes and frameworks that allow social scientists to capture the diverse range of human agency and institutional patterns. The potential for creative interplay that exists between abstract laws, analytical frameworks, and conceptual schemes represents a promising avenue for the advancement of modern social theory.

Chapter 5

Conclusion

In this thesis, I have sought to cast the notion of social possibility in several different lights. In so doing, I have sought to highlight the centrality of the notion of social possibility in the foundations of modern social-theoretic discourse and analysis. The conception of social possibility advanced here establishes a formal link between specific aspects of modern social thought that are often thought to be at considerable odds with one another. Drawing, first, upon results from possible worlds semantics and modal logics of knowledge, the thesis demonstrates how these formal methods can be used to reason systematically about social possibility and the epistemic states of social agents. More generally, by grounding the notion of social possibility in an epistemic context, the thesis has sought to lend credence to the rejection of visions of society and humankind that are founded upon naive forms of social determinism, under which rigid constraints are placed on the types of social organizations that are deemed possible by societies and the agents that ultimately play out the dramas of human experience.

In our efforts to arrive at alternative conceptions of social possibility and, in the process, to reimagine and remake society, we cannot be blind to the fact that antinecessitarian approaches to social theory such as the one suggested here do not, by themselves, preclude the possibility of constraints and influences that, in effect, dominate formative contexts and institutional orderings. History seems to support the claim that while such constraints can potentially be changed, resolved, or otherwise

successfully negotiated, it is rarely a simple matter to *actualize* such change and transformation in the real world. For this reason, programmatic social theory and transformative politics require for their success—perhaps above all else—a heroic blend of passion, insight, discipline, coordination, shared commitment, and trust.

By affirming that social worlds can be remade, the notion of social possibility is divorced from references or allusions to predetermined scripts or "invisible hands." In seeking to arrive at both plausible and useful accounts of how social worlds get remade, social theorists must continue to make strides towards identifying and characterizing the inherent complexities and difficulties faced in moving from one institutional or imaginative context to another. Our quest for broader conceptions of social possibility and transformative politics must ultimately lead us to abandon the necessitarian assumptions of traditional approaches to social and political discourse. With this abandonment should come new conceptions and approaches to social description, explanation, and prediction. By eschewing naive social determinism, we can therefore begin to seek disentrenchment—however slight—from the binding and restricting social and epistemological contexts that pervade almost every aspect of ordinary human experience.

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