

Situational logic in social science inquiry: From economics to criminology

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Abstract Karl R. Popper proposed that the method of explanation in economics, or situational logic, should become the general model for analyses across the social sciences. This article makes good Popper's proposal by extending situational logic to a social problem outside the traditional scope of economics: crime. Specifically, the discussion reviews models developed by economist Gary S. Becker and criminologist Ronald V. Clarke. Becker's 'economic approach' to crime incorporates essential features of situational logic. Clarke's 'situational crime prevention' offers an even better demonstration; it explicitly incorporates the ideas of piecemeal social engineering and unintended social repercussions. Popper took situational logic from Menger and the Austrians, making this emerging area of criminology an extension of Austrian economics.

Keywords Karl Popper · Situational logic · Gary S. Becker · Austrian economics · Situational crime prevention · R.V.G. Clarke

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Karl Popper began thinking about the methodology of social science shortly after publication of *The Logic of Scientific Discovery* in 1934. Although Popper never devised a systematic "logic of social scientific inquiry" as he did for the natural sciences (Jarvie 2001, p. 93), he did give important lectures on social science methodology during the 1960s. In the method of constructing economic models, or situational logic, Popper believed he had found a metatheory of social-scientific knowing. He argued that the

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method of explanation in economics could serve as a general model of explanation suitable for addressing the gamut of problems of concern to the social sciences.¹

My purpose here is to make good the claim of Popper, concerning the usefulness of situational logic. Specifically, I apply his description of economic model-building to a non-traditional problem for economics: crime. Popper himself did not conduct social science analyses, nor did he offer a situational logic of crime.² This project was taken up by Becker (1968), the first economist to extend modern microeconomic analysis to criminology, and his “economic approach” instigated a large literature concerning the economics of crime.³ Becker’s model, I will argue, incorporates essential features of situational logic. My discussion will also point to an even better model. Situational crime prevention, conceived during the 1970s by Ronald Clarke and others at Britain’s Home Office, offers a formulation of situational logic including the wider social philosophy of Popper (Tilley, 2004; Newman, Clarke and Shoham, 1997).⁴

The argument here also shows how situational logic reflects Austrian economics: Popper’s “situational logic” corresponds with Mises’s “praxeology” (Boettke, 1994).⁵ In other words, this emerging area of criminology represents an extension of the intellectual work of Menger, von Mises, and the Austrians. The essay begins with an overview of Popper’s social science outlook. The first part reviews his arguments about how natural and social science are alike and how they differ. The second part describes Popper’s two tasks of social science against the background of the Austrian school of economics. The third part discusses his “logic of the situation” in light of historical and economic methodologies. The final two sections deal with the application of situational logic to crime; Becker’s economic approach and Clark’s situational crime prevention.

1 Natural and social science

In October 1961, Popper gave the opening lecture at a session of the German Sociological Society in Tübingen. The lecture, organized by Theodor Adorno of the Frankfurt School of Critical Theory, has come to be known as the “positivist dispute” in German sociology. It was not much of a dispute, however, because Adorno mistook Popper for a positivist and Popper did not know about Critical Theory. Popper already had the positivism debate in the 1930s when he lived and worked in Vienna and engaged the members of the Vienna Circle (D’Amico, 1990-91).

¹ Popper’s view of economic methodology has been the subject of considerable discussion among specialists in economic methodology: Boland (1990), de Marchi (1988), Birner (1990), Hands (1993), Caldwell (1994). See also the special issues (3 and 4) in vol. 28, 1998, of *Philosophy of the Social Sciences* comprised of papers from the Vienna Workshop on the Logic of the Situation.

² Judging by references to the subject scattered here and there in Popper’s writings, he recognized crime as a social problem but not much more. He did not offer a situational logic of criminal conduct (Popper, 1992, p. ix).

³ One recent count (Eide, 2004, p. 2) places the number of books and articles inspired by Becker on the economics of crime at about 400.

⁴ For early rationales for “situational crime prevention,” see Clarke (1980) and Mayhew et al. (1976).

⁵ For a brief introduction to the praxeology of the Austrian school, see Rothbard (1976).

Popper has been mistaken for a positivist due to his defense of the similarity of natural and social science inquiry. In *The Poverty of Historicism*, he pursued the unity of science as an epistemological and methodological understanding. The study of society can be as scientific as the study of the natural world because science is about method, not subject matter. Scientific theories are capable of falsification; they are expressed in statements that can be disproved by empirical tests. Social scientists engage in science to the extent that they express their theories in statements that can be refuted (Stokes, 1998, p. 75).

Natural and social science are alike in that they both begin with problems. Popper dismissed the positivist method, of beginning with systematic observation and the collection of statistical data, and then proceeding by induction to generalizations and theories, as “misguided naturalism” (Popper, 1992). He particularly disliked the attempt on the part of social scientists to “ape the physical sciences” by practicing methods of measurement they believed to be practiced in natural science. “The doctrine that there is as much science in a subject as there is mathematics in it, or as much measurement or ‘precision’ in it, rests on a complete misunderstanding” (Popper, 1983a, p. 7). Social scientists cannot predict a singular event with reference to universal laws and initial conditions because there are no empirical laws in social science. Trends exist, and they are a useful statistical device, but trends are not universal.

Scientific inquiry, Popper argued, is theory-driven. Theories represent attempts to solve certain problems. What makes this exercise a matter of science is “critical discussion,” the attempt to eliminate a flaw or an error within the theory (Popper, 1994, p. 158).

In his lecture to the Department of Economics, Harvard University, in 1963, Popper summarized his view of the scientific method.

1. We select some *problem*—perhaps, by stumbling over it.
2. We try to solve it by proposing a *theory* as a tentative solution.
3. Through the *critical discussion of our theories* our knowledge grows by the elimination of some of our errors, and understand our problems, our theories, and the need for new solutions.
4. The critical discussion of even our best theories always reveals new problems (Popper, 1994, p. 159).

Critical discussion essentially involves comparison of two or more theories. Theories become provisionally accepted because they offer greater explanatory power over rivals. Theories lose credibility through inconsistency, including inconsistency with the results of empirical tests (Popper, 1994, p. 160).

Popper himself, however, did not apply the principle of falsification to social science consistently (Oakely, 1999, p. 26; Caldwell, 1999, p. 18). He rarely discussed falsification in connection with social science. Instead, he emphasized how the study of human conduct *differed* from the study of the physical world (Hands, 1993, p. 68).

One important difference, as Jarvie (1982) points out, is the “Oedipus Effect.” This idea is easy to grasp but also easy to underestimate in importance. “In general, the Oedipus Effect can be observed wherever the social scientist adds to the stock of information on which people predicate their actions” (Jarvie, 1982, p. 87). Popper chose the title as an allusion to “obliging dreams” in psychoanalysis; Freud admitted that the dreams reported by subjects were colored by the theories of their analysts.

Initially, Popper surmised that the Oedipus Effect distinguished social science from natural science, but later, became aware of the influence of theories on empirical observations in natural science as well (Popper, 1976, p. 121).⁶ He saw the reflective quality of social science as a unique moral obligation. This principle advocates a cautious approach to the acquisition of social-scientific knowledge; because social scientists know so little, they may unwittingly make things worse.

Social scientists incur a moral obligation because sociological knowledge concerns the “use and misuse of power, plain and simple” (Popper, 1994, p. 127). The social scientist, who devises social technology capable of endangering human freedom incurs the moral responsibility to warn people of the dangers and strive to discover effective counter-measures. Morally-responsible social scientists encourage dialogue between social experimenters and the targets of their experiments, even of small-scale social experiments. If social scientists are truly interested in critical discussion leading to improving their theories, part of this task must include uncovering the views of those who have experienced the consequences of such experiments. Stokes (1997, p. 76) summarizes Popper’s point well when he says: “Criticism of social theories and their resultant social policies is not simply the province of social scientists but also those whose lives may be altered by them.”

The most important difference between social and natural science is that human conduct displays rationality (Stokes, 1997, p. 69). Popper suggested that the social scientist starts out with an advantage over the natural scientist because of the rationality of human behavior. The purposive character of human conduct makes the social world *less complex* than the natural world (Jarvie, 1982, p. 88; Redman, 1994, p. 76).

Popper’s discussion of the rationality principle has been trivialized by the suggestion that he is simply referring to the concept of a person in neo-classical economics, that of the information-processing, cost-benefit optimizer (Zafirovski, 1999).⁷ Popper insists that he is not talking about an empirical conjecture but a methodological device (Notturmo, 1998). When offered as an assumption about human nature, that people act to maximize their self-interest, Popper argues that the assumption of “rational choice” is almost certainly false, because a principle that is not universally true is false. Yet he insists that the rationality principle serves as an unavoidable part of every testable theory. Criticism of a social science model should focus on failure of the model rather than the assumption of rationality because we can learn more by improving the model than by seeking to explain the irrationality of behavior (Popper, 1983b, p. 359). In this sense, Popper contributes to the long history of “as if” philosophy; that is, he does not seek to portray reality, but offers a construct for finding our way more easily in

⁶ Billionaire-philanthropist George Soros, who read Popper while studying at the London School of Economics, attributes his success in anticipating financial markets to his appreciation of this principle. He also developed his philosophy of “reflexivity,” taken from the reflexive verb in French, where the subject and object are the same. Soros insists that reflexivity destroys Popper’s notion of the unity of science because the chain of causality in social affairs includes efforts to understand human affairs. Explanation in social science is unlike natural science because the effort to understand the sequence of social events alters the sequence; it leads to social events and in turn, to renewed theories (Soros, 1995, p. 66).

⁷ This is the general response to “rational choice criminology”: rational choice theorists posit an unrealistic, “over-rationalized” concept of a person unlike the actual persons interviewed in empirical studies (Trasler, 1986; de Haan and Vos, 2003).

the world. There are many examples of deriving meaningful insights from a starting assumption known to be false (Vaihinger, 1965).⁸

It is not the assumption of maximization of benefit which constitutes the basis for situational logic. Rather, it is the principle of human agents making problematic choices among alternative courses of action. The range of choices is a function of situation, an approximation of the alternatives afforded by the social context. Situational logic consists of “analyzing the *situation* of the acting person” (Popper, 1992, p. 79). In linking the economic person of marginal utility with a sociological view of situations, as I explain below, Popper references the idea of rationality within the Austrian School. The Austrian economists viewed economic behaviors as embedded in social interactions; they regarded economics as a branch of sociology (Prendergast, 1986, p. 3).⁹

2 Austrian economics

In his lecture to German sociologists, Popper offered his “main thesis” concerning the social sciences: “The method of the social sciences, like that of the natural sciences, consists in trying out tentative solutions to those problems from which our investigations start” (Popper, 1992, p. 66).¹⁰ He concluded by suggesting that sociology concern itself with two “fundamental problems”:

1. Institutions do not act; rather, only individuals act within or on behalf of institutions.
2. We might construct a theory of intended and unintended consequences of purposive action (Popper, 1992, p. 66).

Popper’s understanding of the two tasks of social science reveals the influence of the Austrian School of Economics. Popper’s two fundamental problems are the two basic tenets for economic explanation (Kirzner, 1976).

Carl Menger, the founder of Austrian economics, pioneered methodological individualism. Menger’s “atomistic method” sought to reduce the complexity of the economy to its principal elements, the acts of individual human beings (Udehn, 2002, p. 486). To understand social institutions, we must start with individuals and build models from their choices. Social institutions—the state, law, family—emerge spontaneously as the largely unplanned by-product of many individual choices. Although it is unlikely that Popper read Menger, Popper discussed marginalist economics with Karl Polanyi, who also introduced him to social science methodology. Popper disagreed with

⁸ Vaihinger’s book contains many of these. One of the most useful, from mathematics, is to regard the circle as a polygon with infinitely small sides. While this representation does not correspond with the reality of a circle, it does enable important operations in calculus (Vaihinger, 1965, p. 51). My thanks to Prof. Bryan Magee for drawing my attention to Popper’s contribution to the “as if” tradition in philosophy.

⁹ Although criminologists have called for “theory of situations” in crime reduction (Hope and Sparks, 2000), they appear to remain unaware of Popper’s, and particularly the Austrian School’s, extensive theorizing in this regard. For a discussion of rationality, and the links between Austrian economics and sociology, see Boettke (1998), Zafirovski (1999) and Kurriid-Klitgaard (2001).

¹⁰ Popper said that he did not know the work of the Frankfurt School when he gave his lecture, and that had he known Horkheimer and Adorno were Hegelian-Marxists, he would merely have repeated the arguments he made in *The Poverty of Historicism* (D’Amico, 1990–91).

Menger about the testability of theoretical ideas, but he shared the ideas of methodological individualism and unintended consequences (Hacohen 2000, p. 468).¹¹

Popper's first task reflects Menger's methodological individualism. Popper regards "methodological holism" as the mistaken methodological device of thinking in terms of an abstraction and forgetting about the individuals who give meaning to social institutions. Holism circumvents situational logic through functional accounts of social practices and institutions. Holism asserts that the institution or practice exists independently of the individual's reasons or intentions (Popper, 1992, p. 80). Popper requires that social events "should always be understood as resulting from the decisions, actions, attitudes, etc., of human individuals, and that we should never be satisfied by an explanation in terms of so-called 'collectives' (states, nations, races, etc.)" (Popper, 1966, p. 98). The behavior of collectives, nation states and social groups, must be understood in terms of individual behavior, as individuals represent the animating or causal element in any social structure.

Popper's second task derives from the proposition that the knowledge of society necessary for wide-scale social planning does not exist. It is an argument made by Popper's colleague, F.A. Hayek, who learned it from Ludwig von Mises. No one person can conceive a plan for social activity because the knowledge necessary for such a plan does not exist in a form graspable by a single mind. Social structures, such as the price system, Hayek argued, are spontaneous, not consciously-planned. They are like a path through the woods, a pathway no one engineered but which came about with the decisions of many individuals (Jarvie, 2001, p. 171).

Because our knowledge of society rarely matches our ambitions, wide-scale social experiments are to be avoided in favor of experiments that are limited and local. Popper's argument for "piecemeal social engineering" can be summarized in four propositions (Watkins, 1972, p. 178). First, any purposeful political reform to remedy a problem relies on certain social theories about reforms the measure will bring about. Second, as the sociological knowledge required for wide-scale social planning does not exist, we cannot be certain of the result. It is possible that the sociological theory is false (it will not bring about the desired result) or is incomplete (the measure will bring about some result less desirable than the original problem). Third, if policy-making is rational, rather than random tinkering with people's lives, political reformers should position themselves to learn as much as they can from their mistakes. Fourth, it will be next to impossible to identify and correct specific policy mistakes during revolutionary change in society. Dramatic social change makes it difficult to trace the source of a particular problem to any specific policy.¹²

¹¹ Max Weber, who brought the 'individualist method' from economics to sociology, may have been the source for Popper's methodological individualism. See Jacobs (1990).

¹² Further, utopian planning destroys the capacity of knowledge by wiping out what has gone before. The knowledge gained from many piecemeal experiments is destroyed in the wake of failed utopian experiments (Jarvie, 2001, p. 173).

3 Situational logic

The idea of the “social situation,” Popper (1994, p. 166) told his Harvard audience in 1963, is the fundamental category of social science methodology. Social situation in the social sciences corresponds with a statement of initial conditions in the natural sciences, and the models of theoretical social science may be understood as “typical social situations.” His discussion followed up a suggestion he had made in *The Poverty of Historicism* that the “method of logical or rational reconstruction” constitutes “perhaps the most important difference” between the methods of natural and social science (Caldwell, 1991, p. 14).

Situational logic recognizes a physical world in which individuals act. This world contains physical resources as well as physical barriers. Situational logic also recognizes a world inhabited by other people, with their own intentions, and this social world includes the institutions their actions create. These social institutions create the social character of the physical environment (Popper, 1992, p. 80). Popper emphasized the importance of social institutions to avoid what he called “psychologism.” He denied that psychology can serve as a basis for social science because there is no way of introducing subjective, private states of individuals to empirical tests. Feelings, sensations, and emotions—although clearly part of the mind—are excluded from situational models. Only reflective acts which are purposive and intentional comprise the subject matter of social science. Situational models express empirical hypotheses that may fail tests. Popper requires that social situations be explained from the spectator’s standpoint, not the participants (Jacobs, 1990, p. 566).

Popper gave the example of Richard, a pedestrian who in a hurry to catch a train, wants to cross a road congested by parked cars and moving traffic. The problem to be explained is Richard’s erratic movements as he crosses the road. He encounters physical barriers—parked cars, other pedestrians, and drivers. This is the real world of physical objects. He also navigates the rules of the road, traffic signals, road markings, and other social institutions.

To explain Richard’s movements also requires attributing to him certain aims, such as crossing the road, and knowledge of social institutions that enables him to make his way. It is not necessary to explain *why* Richard is in a hurry to cross the road or his subjective impression of the scene in general. Aims may be clear and consistent or vague and contradictory, and to the extent that they are vague and contradictory, represent barriers to achieving them. The constraints, for Popper, are part of the situation and not the rationality principle. The explanation needs only to specify his “situational aim”: to cross the road as swiftly and safely as possible (Notturmo, 1998). Given this analysis, it is possible to explain or predict Richard’s movements as he crosses. In developing the explanation, a model is constructed, capable of explaining in principle a class of similar social situations (Popper, 1994, p. 167).

Popper noticed the resemblance between situational logic and R.G. Collingwood’s idea of “re-enactment.” “History,” Collingwood wrote, “is the re-enactment in the historian’s mind of the thought of those whose history he is studying” (Collingwood, 1956, p. 282). History is distinguished from natural science because history distinguishes between the inside and outside of an event. The outside refers to observable properties, human action, while the inside refers to the thought processes of which the outside makes manifest. Both outside and inside together constitute historical events,

which are the subject matter of history. The work of a historian begins with understanding the outside of an event, but quickly proceeds to grasping the purposes and intentions of the historical actors. Collingwood is quite clear about the content of historical knowledge; the historian can re-enact only the purposive, intentional element of thought and not feelings, sensations, and impulses. Rational thought represents objective historical knowledge because it is re-enactable, while feelings, sensations, and emotions remain subjective because they can be known only within the immediate situation (Boucher, 1993).

Popper insisted that the historian and social scientist display distinct methodological purposes but recognized the similarity between Collingwood's "historical situation" and his "problem situation" (Popper, 1979, p. 186). Also, he conceded that "tests of situational analysis can sometimes be provided by historical research" (Popper, 1994, p. 170).

Popper preferred to draw a parallel with microeconomics. He credited Hayek's description of economics being the "logic of choice" as the inspiration for situational logic (Popper, 1994, p. 181). In his autobiography, he wrote that the method of situational analysis represented "an attempt to generalize the method of economic theory (*marginal utility theory*) so as to become applicable to the other theoretical social sciences" (Popper, 1976, p. 117). Koertge (1975, 2004) has produced a schematic explicating the methodology of situational logic:

1. Description of the situation: Agent A was in situation S.
2. Analysis of the situation: In situation S, the appropriate (rational) thing to do is X.
3. The RP (rationality principle): Agents always act appropriately (rationally) in the given situation.
4. Explanandum: Therefore, A did X (Koertge 1975, 15; 2004, p. 343).

Hands (1993) demonstrates how situational analysis is the standard method of microeconomic analysis. In Step 1, economists specify the situation of Agent A, a person or firm, in terms of preferences and constraints, such as prices and income. This description includes some motivating consideration, such as maximizing utility or profit. Step 2 constitutes what is known as "economic theory," the formal deduction (using mathematics) of the optimal behavior, X, by Agent A in the particular situation. Step 3 depends on whether the economist aims to explain an observed action or offers "pure theory." If the goal has to do with an observed action, the economist invokes the rationality principle to connect the analysis in Step 2 with the action to be explained. If the goal is pure theory, the economist moves directly to a theoretical result produced by comparative statics (performing the deduction from Steps 1 to 2 twice, with a slight change between the two). Aggregate phenomena are explained by additional steps to demonstrate what the aggregate impact would be of some number of Agent As acting in X manner, and if all As were to do X, what the result would be (Hands, 1993, p. 110; see also Birner, 1990, p. 257).

Having reviewed Popper's proposal concerning social science methodology, his discussion of situational logic and its intellectual links to the Austrian School of economics, it is now possible to explore extensions of economic theorizing to a non-economic problem, that of crime. As I explain in the following two sections, economist

Gary S. Becker in the 1960s and criminologist Ronald Clarke during the 1970s have developed the situational logic of crime prevention.

4 Situational logic in criminology

Gary S. Becker received the 1992 Nobel Prize in economic science for extending microeconomic analysis to non-market behavior, including crime. His 1968 economic approach to crime led to a large literature concerning law and economics, and in turn, to a subjectivist critique of the “orthodox” economic view (Cameron, 1989, Wynarczyk, 2002).

Becker turned to criminology after driving to Columbia University one day during the 1960s. He was late for an oral examination in economic theory and had to decide quickly whether to put the car in the parking lot and risk being late, or park the car on the street and risk getting a citation. He calculated the risk of getting a citation, the amount of sanction, and the cost of parking the car in the lot. As he walked the few blocks (from the street, where he decided to park), it occurred to him that city authorities had probably worked through a similar analysis. The frequency of inspection, and the amount of penalty, depended on their estimates of the calculations motorists would make. The first question he put to the student was to work out the optimal behavior of motorists and the police (Becker, 1993, p. 383).

And as Koertge’s schematic makes clear, Becker’s economic model illustrates situational logic:

4.1 Description of the situation

“The essence of the economic approach to crime is amazingly simple,” Becker (1995) has explained, “It says that people decide whether to commit crime by comparing the benefits and costs of engaging in crime.”¹³

The description of the situation includes both psychological and social characteristics. Becker has drawn attention to this; he insists that “behavior is driven by a much richer set of values and preferences” rather than “narrow assumptions of self-interests” (Becker, 1993, p. 385). People decide whether or not to engage in criminal activity by comparing the benefits and costs of criminal or legitimate activities. For property crimes, this comparison involves material benefits—the household items taken, the money embezzled, the goods obtained by forged check, and so on. For other crimes, there are “psychic, even sick thrills” such as might accrue from violent crimes, including sexual assault. At the same time, criminals weigh the costs of criminal activity, the likelihood of being caught and the severity of the sanction if convicted. These include “psychic costs” as many people do not commit crimes because they believe such behavior to be morally wrong (Becker, 1993).

The economic approach means that people are “acting rationally,” driven in their behavior by the benefits and costs, taking account of all the ethical, psychic and other

¹³ This is a re-statement of his expected utility principle. It specifies that “a person commits an offense if the expected utility to him exceeds the expected utility he could get by using his time and other resources at other activities” (Becker, 1968, p. 46).

aspects that go into determining their behavior. At the same time, enough individuals become criminals because the financial rewards are greater than legal work, after taking into account the likelihood of apprehension and conviction, and the severity of the sanction (Becker, 1993, p. 390).

4.2 Analysis of the situation

Becker expanded his analysis of the parking situation in New York City to a general model of “optimal social policy” using the formal deduction of mathematics familiar to economists. Becker formulated the optimal behavior of the state in seeking to reduce crime (Becker, 1968).

Becker argues that crime reduction is a matter of managing the probability of conviction and imprisonment. Crime decreases as judges demonstrate their willingness to convict and imprison lawbreakers, but more importantly, crime decreases with an increase in the likelihood of being caught. Public spending on crime reduction can be reduced, while keeping the mathematically expected punishment unchanged, by offsetting a cut in expenditures on apprehending lawbreakers with an increase in the sanction to those convicted. Optimal social policy includes not only efforts on the part of the State concerning police and prisons, but also the “economic and social environment” created by public policy. This includes spending on programs to increase employment, school and training programs; increasing the amount of legal jobs available is an important part of crime reduction.¹⁴

4.3 The RP

Becker holds that crime reflects rational thinking; criminals are not mentally or otherwise different from law-abiding individuals (Becker, 1993, p. 390).

The greater criminal activity associated with some social groups does not reflect something peculiar to such groups, but instead the underlying rationality of criminal behavior. In every society, the poor and young are more likely to commit violent crime and the affluent and more-educated more likely to commit embezzlement, fraud and white-collar crimes. The criminal activity of such groups has been explained by ad hoc explanations—*anomie*, differential association, and so on—but such explanations are not necessary (Becker, 1976, p. 46). Poverty is associated with greater criminal activity, Becker reasons, because the poor have more to gain from crime than from doing a legal job. Teenagers commit more crime than adults for the same reason: legal work affords lower earnings and fewer opportunities for them than for adults. Teenage crime is also high because delinquent acts are essentially “free”; there is no punishment for a juvenile who commits a first offense. In addition to sanctions, more resources should be expended on improving legal opportunities for the poor, teenagers and groups who are otherwise more likely to turn to illegal opportunities.

¹⁴ However, for risk-preferring individuals, the likelihood of being caught is more important than the severity of sanction after conviction. Optimal behavior of the state would balance reduced spending on police and courts from lowering the probability of conviction against the preference of risk-preferring individuals for a lesser certainty of punishment (Becker, 1993, p. 390).

Essentially, the rationality principle ensures that the appropriate behavior for an economics professor in a hurry to park does not differ fundamentally from the teenager, longing for a joyride in someone else's car or a burglar looking for salable household items. Becker's analysis reflects Popper's admonition that meaningful criticism occurs within the theory. It is better to maintain the rationality principle and seek optimal responses than propose the irrationality of certain individuals or group behaviors and abandon the search for rational public policy.

4.4 Explanadum

The theoretic result of pursuing optimal social policy concerning crime is a reduction in crime rates. A high crime rate, Becker insists, is not an inescapable part of social life. "I believe that crime is not inevitable. It's not like death and taxes, which always will be with us" Becker (1995) said. While it is clear that Becker does not really believe that crime can be eliminated, he does claim that crime rates can be made to resemble those of the 1950s. Specifically, he attributes a decrease in property crime in the USA during the 1980s and 1990s to courts' willingness to convict and imprison lawbreakers (Becker, 1995).

5 The logic of situational crime prevention

During the 1970s, researchers at the Research and Planning Unit of Britain's Home Office pioneered an alternative means of crime reduction. Ronald Clarke, who later became head of the unit, challenged the idea that no real improvements could be made in reducing crime without tackling the "root causes." He advised crime prevention specialists to focus on specific crime problems and to devise simple, practical ways of decreasing opportunity.¹⁵ Situational crime prevention represents the application of situational logic; it applies economic model-building to a non-traditional economic problem. It explicitly includes steps in Popper's theoretical framework underemphasized in Becker's approach:

1. *Selection of a problem.* The problems selected for analysis in social science should be suitable for piecemeal experiments to alleviate them.
2. *Description of the situation.* All problems in social science exist within a situational context; grasping the situational nature of problems is key to formulating solutions.
3. *Analysis of the situation.* Re-enactment or "rational reconstruction" serves as the basis for critical discussion of solutions. The piecemeal aspect of solutions assures that we can learn from our social experiments.
4. *The rationality principle.* The rational aspect of social situations can be re-enacted by observers outside the situation.

¹⁵ Clarke offered initially a simple "choice model," arguing that it was useful to view offending less as the product of deep social, economic, psychological causes but as the choices of individuals. Recently, situational crime prevention has been elaborated within the framework of "rational choice" theory and "routine activities". See Cornish and Clarke (1986a).

5. *Unintended consequences analysis*. Social scientists bear a moral obligation to understand the unintended social repercussions of their attempts to solve problems.

Clarke describes a model for “action research” based on these steps (Clarke, 1997, p. 15).

5.1 Selection of a problem

Becker selected crime as a problem addressable with situational logic and in this he demonstrated the utility of Popper’s approach. But Becker’s selection of criminality in general rather than specific crime problems (such as the problem of parking illegally in congested areas) leads him away from piecemeal responses and toward wide-scale social engineering. Situational crime prevention differs in its selection of problems. The advocates perceive problems, not as a function of the varying motivations of potential criminals, but as a function of criminogenic situations. They seek to learn why criminal activity clusters at particular places, times, and circumstances. Situational crime prevention, then, focuses on “very specific slices of crime” such as motorcycle theft, fare evasion, and fighting in pubs (Felson, 1998, p. 166).

The problem set for situational crime prevention fits more clearly to Popper’s situational analysis. Consider fan violence at British football matches. It represents a problem for Becker’s economic approach only in so far as such acts contribute to rates of crime reported in annual statistics. The solution, to be implemented as a matter of national policy, would concern optimizing government expenditure for police and prisons in order to deter individual decision makers. From Clarke’s perspective, every crime involves a motivated individual, the criminal, and a target, the victim. But every crime problem also occurs at a particular site, within a given set of circumstances, and as a consequence of necessary interaction between criminal and victim. Violence at football stadiums has displayed a familiar pattern. Analysts determined that “lager louts” arrive hours before the game, drink to intoxication, and set about fans from the visiting team. Because most of the louts relied on public transportation, the government arranged for buses to arrive at the stadium with enough time to purchase a ticket and not enough time to get drunk (Felson, 1998, p. 172).

5.2 Description of the situation

Situational crime prevention seeks to give a full understanding of the crime problem identified: the offenders involved, their motives, and methods. In particular, this understanding concentrates on the situational characteristics that yield the opportunity to carry out the crime. To engage in situational crime prevention, criminologists seek to understand what opportunities particular places and situations afford.

Clarke gives particular attention to social context; he locates the rationality of criminal behavior within particular situations. Becker recognizes, for example, the importance of moral considerations. The belief that breaking the law is wrong precludes individuals from criminal activity even when crime offers undeniable benefit. Clarke insists that moral considerations become meaningful as a matter of crime prevention within specific or local social contexts. Practitioners of situational crime prevention make use of techniques collectively known as “inducing shame or guilt.” These include

rule-setting, strengthening moral condemnation, controlling disinhibitors and facilitating compliance. Strengthening moral condemnation includes, for example, posting placards in retail spaces reading *SHOPLIFTING IS STEALING* (Clarke and Homel, 1997). The situational approach emphasizes the effectiveness of such measures within a given social situation, rather than an effort to improve human character through social policy.

5.3 Analysis of the situation

Situational crime prevention seeks to learn the likely behavior of potential criminals within the situation of interest. *Re-enactment* describes the essential strategy. The practitioners seek to understand how opportunities present themselves to would-be lawbreakers and design responses to thwart such opportunity. The idea is to examine what is known about the actions of the criminal—what has been taken, from where, when, and how—to infer the thought of the criminal in terms of situational aim.

The decision to pursue an intervention involves Popper's critical discussion. Crime prevention specialists discuss the merits and demerits of interventions compared to one another. Cornish and Clarke have identified 25 techniques of situational crime prevention. These are divided into five categories: increase the effort, increase the risks, reduce the rewards, reduce provocations, and remove excuses (for not abiding by the law) (Clarke and Cornish, 1999). The merits and demerits of interventions include expense and feasibility as well as political and ethical aspects. Measures might receive high marks for effectiveness but involve a substantial invasion of privacy. These interventions represent clear examples of piecemeal social engineering; they are limited in time, place, and scope.¹⁶

Situational crime prevention explicitly recognizes the Oedipus Effect. One generation of crime prevention methods (theoretical solutions) leads to new methods of crime (the problem to be solved), and so criminologists must always be mindful of the ability of criminals to foil their interventions. The scenario has been compared to a military arms race and the inevitable cycle of moves, countermoves, and counter-countermoves. Crime prevention specialists can learn from military history. Just as generals often re-fight the last war, situational measures are designed to thwart earlier methods of crime. An increased level of criminal activity can result from a failure of vigilance, on the part of those responsible for crime prevention to keep ahead of those who would commit crimes (Eckblom, 1999).

5.4 The rationality principle

Popper emphasized rationality as a methodological principle because of its potential to aid in a satisfactory explanation. Viewing crime as a rational behavior, as Becker argues, leads to more fruitful analyses of crime prevention than pursuing theories of irrationality and ad hoc explanations.

¹⁶ As John Watkins (1972, p. 179) points out, crime reduction experiments carried out on a national scope can meet the criteria for piecemeal social engineering. He observes that prohibition of the sale of alcohol was premised on the hypothesis that it would lead to a reduction in crime. It led to a refutation of that hypothesis and was repealed.

In situational crime prevention, the rationality principle enables a meaningful analysis of interventions. The process of devising the opportunity for crime depends on the rational or re-enactable quality of criminal behavior. Explanation becomes possible, not because the criminologist grasps the features of the situation that determine the actions of individual, but because the criminologist has a mind similar to that of the criminal (Hayek, 1979, p. 47). The practitioner of situational crime prevention cannot observe the minds of potential criminals. Interventions can be derived within an overall outlook in which the thinking of a criminal is no more irrational than that of a criminologist.

5.5 Unintended consequences analysis

The advocates of situational crime prevention have been aware of the unintended consequences of interventions. Many researchers pay particular attention to displacement, the possibility that implementation of a particular technique does not reduce the amount of criminal activity, but shifts it to some other place, time, or victim (Cornish and Clarke, 1986b, 1987). In their attention to displacement, the advocates of situational crime prevention have taken seriously Popper's prospectus concerning the analysis of unintended consequences.

Clarke and Cornish reject the "hydraulic view" of displacement in favor of the "reduced energies" understanding. From the hydraulic view, the amount of criminality remains constant such that a denial of the opportunity to victimize one target simply means the criminal's shifting attention to another target. The burglar interested in household items, stymied by preventive measures at one residence, simply moves next door. Clarke and Cornish concede that some situational crime prevention measures have diverted the flow of criminal activity elsewhere. But, they also emphasize the "limited rationality" of would-be criminals. The image of the maximizing decision maker, carefully calculating advantage and disadvantage, does not fit with the opportunistic and reckless nature of much crime. The reduced energies view of displacement insists that prevention measures may raise the bar high enough to remove the temptation. The burglar, stymied by residential security measures, decides that there must be an easier way than burglary to secure the items (Cornish and Clarke, 1987). The hydraulic view ignores the fact that the displaced activity was, prior to the prevention measure, the criminal's lowest cost option. By closing off this particular option, the prevention measure raises the cost of the option slightly.

Further, when displacement occurs, the result is not uniformly negative. Reductions in crime have occurred following the introduction of prevention measures that are difficult to attribute directly to the measures. Clarke and Weisburd (1994, p. 169) have decided that this outcome occurs often enough to warrant a different term. "Diffusion of benefit" may be understood as the spread of a beneficial effect of an intervention beyond the places, the individuals identified, or the crimes that were the original focus. In the north of England, a recent Home Office study of measures taken to reduce household burglary found that robbery and other forms of crime against the person decreased in the target areas along with household burglary (Hirschfield, 2004). Criminals often overestimate the reach of crime prevention measures and curb their activity even when not strictly "necessary."

6 Conclusion

Karl Popper proposed that the model of explanation used in economics could be generalized to problems across the social sciences. In situational logic, he believed he had found a means of explanation suitable for the range of social science problems. Although Popper addressed the methodology of social science in important lectures, he did not undertake these analyses.

Extending situational logic to crime offers a good argument for the value of situational logic. Gary Becker's economic approach to crime incorporates important features. In his pursuit of a rational choice explanation of crime, he demonstrates the suitability of situational logic for understanding crime. Although Becker understood the significance of social situations, he chose to give less attention to unintended consequences, and as a result, his discussion of crime policy underemphasizes this important consideration.

Situational crime prevention, as advocated by Ronald Clarke and others, provides a better example of situational logic. The steps involved in conducting situational crime prevention not only include those specified by situational logic, but also Popper's general philosophy of social science, that of beginning with problems and exploring unintended social repercussions. Situational crime prevention seeks to select specific "slices of crime" suitable for piecemeal intervention, to grasp criminal conduct within its situational context, to engage in critical discussion of potential interventions, and to understand the unintended consequences of attempts to solve crime problems (such as displacement of criminal activity).

Although Popper acknowledged Hayek's reference to economics as the "logic of choice" being the inspiration for situational logic, he did not pursue his links to Austrian economics. Had he done so, he might have explored more fully his claim that situational logic consists in "analyzing the *situation* of the acting person" and the dynamics of modeling rationality within the appropriate social context. Nevertheless, in pursuing links between economic models and social science methodology, Popper laid the groundwork for building an Austrian approach to criminology.

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