Journal of Criminal Law and Criminology

Volume 105 | Issue 1 Article 5

Winter 2015

Transforming Piecemeal Social Engineering into "Grand" Crime Prevention Policy: Toward a New Criminology of Social Control

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CRIMINOLOGY

TRANSFORMING PIECEMEAL SOCIAL ENGINEERING INTO "GRAND" CRIME PREVENTION POLICY: TOWARD A NEW CRIMINOLOGY OF SOCIAL CONTROL

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This Article focuses on the Situational Crime Prevention (SCP) approach in criminology, which expands the crime reduction role well beyond the justice system. SCP sees criminal law in a more restrictive sense, as only part of the anticrime effort in governance. We examine the "general" and "specific" responses to crime problems in the SCP approach. Our review demonstrates that the most serious barrier to converting SCP techniques into policy remains the gap that exists between problem identification and problem response. We discuss past large-scale SCP interventions and explore the complex links between them and SCP's better known specificity and piecemeal approach. We develop a graded framework for selecting responses that acknowledge the local, political, and organizational issues involved in identifying and choosing them. This framework determines when SCP interventions and policies can be crafted on the macro level to eliminate or greatly reduce the problem everywhere, and when interventions should be limited to a piecemeal, local approach to eliminate only the specific problem. Finally, we situate this analysis within the general context of the relationship between science and policy, noting the challenges in converting scientific observations into broad social policy and the expansion of crime control beyond criminal justice into the realm of government regulation and partnerships with nongovernmental agencies.

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INTRODUCTION

The criminal justice system normally focuses on two extremes of public action—large-scale legislation of what is considered a crime, and individual arrests and prosecutions. Situational Crime Prevention (SCP), a leading action-oriented approach in criminology, emphasizes an approach between these two extremes. It focuses on particular crime problems, which may include noncriminal problems, usually on a local level, that generate several different individual criminal cases. Thus, a "problem" drinking establishment may generate a number of alcohol-related offenses in its vicinity. Like its sister field problem-oriented policing, SCP's approach begins by defining a problem as beyond any single criminal act or any particular legal case. Yet a problem is also smaller than the overall disorganization or injustice in a community, society, or the criminal law process itself.

SCP calls for minutely analyzing this specific crime type (or problem) to uncover what situational factors facilitate a crime's commission. Intervention techniques are then devised to manipulate the situational factors. In theory, this approach reduces crime by making it impossible for the crime to be committed or by reducing cues that increase a person's motivation to commit a crime during specific types of events.³ SCP is more likely to employ civil and administrative law to regulate establishments or individual behavior than to seek to arrest offenders one by one. This strategy has given rise to a retinue of methods that have been found to reduce crime at a local and sometimes national or international level.⁴ SCP's focus is thus on reducing crime opportunities rather than punishing or rehabilitating offenders as individuals. In sum, SCP expands the role of crime reduction well beyond the justice system. It sees criminal law in a much more restrictive sense, as only part of the anticrime effort in governance. We come back to this point and expand upon it below.

In this Article, we describe the "general" and "specific" responses to crimes and harmful noncriminal problems that are typical of the SCP approach. We demonstrate that there may be inconsistencies, or at least some ambivalence, regarding when or how the general or specific responses should be applied. We propose a graded framework for selecting responses that acknowledge the local, political, and organizational issues involved in identifying and choosing them. The framework helps determine when interventions and policies can be crafted on the macro level to eliminate or greatly reduce the problem everywhere and when interventions should be limited to a piecemeal, local approach to only eliminate the specific problem. This framework also can determine if a mixed response is needed,

since some situationally bound responses require intervention from a distant source.

In what follows, subparts I(A), (B), and (C) outline different types of policies. Subpart I(D) reviews one of SCP's "seminal themes," the need to focus on specific crimes (and legal problems) to identify effective prevention policies.⁵ In subpart II(A), we discuss SCP's twenty-five techniques, and in subpart II(B) we highlight the difficulties in analyzing specific problems that must be overcome to develop large-scale social policies. We also outline the importance of resolving this issue. We discuss past large-scale SCP interventions and explore any contradictions between them and SCP's better-known piecemeal, local approach. Subpart II(C) sets forth our preliminary framework, encompassing three levels of interventions—piecemeal or local; macro; and mixed—and provides a set of guidelines indicating when and where interventions should be attempted on each level. Next, Part III discusses the significant role SCP has played, and will continue to play, as an action-oriented, policy-driven approach in criminology. Subpart III(A) focuses on the issue of problem ownership while subpart III(B) discusses the role of government. Finally, Part IV places SCP within the current debates concerning the relationship between science and policy in other areas such as environmental pollution, public health and climate change. We demonstrate that whether the SCP approach should be used to prevent or reduce certain types of behaviors related to these issues or problems is a difficult question. The answer to this question cannot easily be found in the SCP approach. The decision to use SCP strategies to reduce or prevent certain behaviors is often value-driven and based upon politics as opposed to science.⁶

I. SCP's Specificity Requirement and Effective Prevention Policies

A. LEVELS (TYPES) OF CRIME PREVENTION POLICIES

Crime prevention policies could be categorized as supersized, medium-sized, or little. National governments and multinational corporations create supersized general policies. Multinational corporate

policies are mostly hidden from the public, except on issues that become a matter of public concern and may directly affect corporate interests. National governments, however, are forced to publicly state their positions or policies. Often, government statements convey an intention to translate their positions into laws and regulations of various kinds, or express laws already written. These government policies are typically divided into two substantive kinds: domestic and foreign. Domestic policies state a government's position on crime, health, the economy, education, technology, and so on. Foreign policies focus on strategic relations with other nations, and include defense, the military, trade, policing of borders, international crime, international health, relations with international bodies, and regulation of international zones such as fishing areas. Because of the public policies are such as fishing areas.

Policies of large corporations and nongovernmental organizations may range from foreign policy (where to locate a new factory) to internal labor relations (sexual harassment guidelines), depending on the size and location of the corporation's operations.

Policies of state governments and medium-sized businesses fall somewhere between large and small. In the United States, much of the above is repeated at the state level. Although the right of states to conduct foreign relations is limited, there is still considerable activity in that area, especially in enticing foreign investment.

Little policies are those of local governments, counties, cities and towns. While these are confined mostly to domestic issues, some cities have ranged into the foreign. The New York Police Department, for example, has developed its own antiterrorism organization with operatives placed abroad. But by and large, it is at this level that policies are translated into specific ordinances or regulations. For example, the hour at which a builder may begin his work in the morning in a residential suburb is regulated by many local ordinances.

B. SCP AND THE LOCAL LEVEL

It is at this little or local level that, when possible, SCP's responses are usually directed. Tilley explains why this is so by drawing parallels between Clarke's SCP¹⁰ and various strains of Popperian thought.¹¹ Both perspectives reject schemes to solve large and abstract problems (e.g. "inequality") through grand social engineering initiatives.¹² Popper¹³ and Clarke¹⁴ reject revolutions and endeavors, such as the Mobilization for

Youth implemented by President Johnson in the 1960s, based on grand ideas of eradicating juvenile delinquency by eliminating poverty. A corollary is SCP's distinctive concern with proximal causes of specific problems in both analysis and practice. This emphasis separates SCP from other criminological theories that often focus on distal causes of relatively wide problems. SCP is also based upon a different view of science and of governance than other criminological frameworks, which usually rely on the justice system to address crime problems. SCP sees an important role for crime reduction for many other governmental departments than the legal system, as well as for quasi-governmental actions by private entities. 16

Popper advocated that governments and social scientists tackle small problems one at a time. 17 The central focus of Clarke's approach has similarly been to use situational analyses of when, where, and how specific crimes occur. 18 Cornish's 'script' method, which examines the specific problem or crime in detail, is usually used to identify possible intervention points.¹⁹ As Cornish and Clarke explain, crime "[scripts]... involve such chains of decisions and actions, separable into interdependent stages, involving the attainment of sub-goals that serve to further the overall goals of the crime."²⁰ These analyses identify the opportunities that allow crime to occur. Analysts are encouraged to review the empirical literature to identify similar problems and interventions that were used successfully to eliminate or reduce them.²¹ If no successful interventions in similar settings are identified, analysts are trained to apply SCP's techniques and principles from related frameworks, like routine activities theory, to generate innovative solutions.²² Typically, many possible solutions emerge from the literature or are devised through innovation.

In spite of this demonstrated success in crime prevention, SCP has been criticized by Michael Benson as "leading to piecemeal, finger-in-a-dike-type responses to general problems" because each crime problem is specific to time, place, and opportunity.

C. SCP AND THE MACRO LEVEL

Yet some effective interventions are large-scale and general, such as the impact of the removal of carbon monoxide from the public gas supply in Great Britain on the number of suicides. Clarke and Mayhew exploited that change to demonstrate the potential power of SCP interventions.²⁴ Taking into account population change and other extraneous variables, the number of British suicides fell from about 5,700 people in 1963 to almost 3,700 people in 1975.²⁵ In the early 1960s, gas suicides accounted for over 40% of suicides each year.²⁶ Clarke and Mayhew explained that when the gas was available in people's homes, it was easy to use, deadly, and painless. Other forms of suicide, however, lacked these benefits and most motivated gas suicide seekers did not turn to other methods when the easy opportunity—the poisonous public gas supply—was removed.²⁷ The removal of carbon monoxide from the public gas supply in Great Britain, in other words, led to the almost complete elimination of suicide by gas inhalation. On its face, this evidence refutes Benson's criticism.²⁸

A public health expert might argue that other methods or types of suicide should have been addressed in designing responses, which seems to be the basis of Benson's finger-in-the-dyke criticism. They were addressed, but only in respect to displacement of gas suicide to other methods of suicide. There was no such displacement. There was no attempt to reduce other types of suicide. Thus, while removing coal gas almost entirely eliminated gas suicide and reduced the number of suicides overall, it did not solve the general problem of suicide in society. In other words, suicide was not eliminated.

D. SCP AND SPECIFIC SOLUTIONS

How, precisely, specific solutions for the particular problem at issue are decided upon remains a bit of a mystery. The process appears similar to how a doctor diagnoses a range of puzzling symptoms and develops a treatment plan, which gives rise to the popular view of medicine as an "art" as well as a science. Clarke also offers us diagnostic tools, the famous twenty-five techniques of SCP. The twenty-five techniques are outlined below in Table 1. Clarke explains that the techniques "assist systemization of knowledge about situational prevention and . . . provide practical help to practitioners." Yet the techniques are not so much diagnostic of the situations as they are intervention techniques that *might* be applied after the situation has been analyzed. These techniques have evolved in response to critiques that some situations also provoke offenders to act³² and led Cornish and Clarke to increase the number of techniques from sixteen to twenty-five.

The techniques help identify appropriate interventions. But if they are also used to analyze the problem, it raises the danger that one may find only

what one is looking for. This is an old problem of empirical science: the difficulty in separating theory from observation³³ (called the "Oedipus effect" by some).³⁴ It is similar to the medical-field phenomenon in which physicians may approach an illness with a finite range of treatment plans. The diagnosis in many cases is irrelevant to the treatment plan eventually chosen to alleviate or remove the symptoms. In the latter case, perhaps, there is agreement between SCP and medical diagnosis: there is no need to find the "root cause" of the problem if the available treatment plan works. Often, different treatments are used until one does work. In sum, it is the intervention plan that matters most in diagnosing a problem and responding to it. Do the twenty-five techniques do the job?

II. THE TWENTY-FIVE TECHNIQUES: WHAT ARE THEY, REALLY?

A. SCP'S TECHNIQUES AS GUIDING PRINCIPLES

Table 1 reproduces the basic framework of SCP's twenty-five techniques. Presented in this way, one can see that they are not techniques at all. They say *what* to do, but they do not say *how* to do it. They do, however, clearly *urge* one to do something. The general headings are listed in Column 1 and are based upon five areas that originate from various social psychological theories related to rational choice and behavior modification. Those theories all presume that certain environmental and psychological factors *cause* a specific crime. But because these headings are written in the language of advocacy rather than science, ³⁵ they are a curious mixture of policy and causation. All social policies are written in such language: they presume particular causes and advocate action.

The five headings might best be construed as a set of guiding principles, each of which contains a list of measures that might reduce the probability of a crime event. The principles reflect differing assumptions about the psychology of offending, but are all intended to lead to responses that affect the decisionmaking processes of offenders and thereby reduce offenses. Consider, for example, gun violence. Accepting the SCP scientific observation that the easy availability of guns is one cause of gun violence

leads to the conclusion that we should increase the effort needed to acquire a gun. It seems obvious. But it is not.³⁶ It is a leap from "increasing the effort" to, for example, forbidding the sale of guns, requiring background checks, requiring that guns be manufactured so that they do not work except in the hands of the registered owner, or requiring substantial gun-use training. We are not advocating these policies, but rather simply highlighting how difficult it is to proceed from the initial scientific observation to a social policy that is actually linked to the science.

The five guiding principles are each matched with five specific examples or techniques in Column 2. Each technique advocates action and is more specific than the general principle from which it is derived. Yet the specific examples, from SCP's perspective, remain general statements. They are not specific enough for any particular situation. It is up to the practitioner to apply these techniques to specific situations or problems. They must be applied after an analysis of the situation that includes not only the specific circumstances of the crime, but also the specific circumstances of possible responders, especially the *ownership* and *competency* of those responders.

 Table 1

 Twenty-Five Techniques of Situational Crime Prevention (Abbreviated)

INCREASE THE EFFORT	Harden targets	
	Control access to facilities	
	Screen exits	
	Deflect offenders	
	Control tools/weapons	
INCREASE THE RISKS	Extend guardianship	
	Assist natural surveillance	
	Reduce anonymity	
	Utilize place managers	
	Strengthen formal surveillance	
REDUCE THE REWARDS	Conceal targets	
	Remove targets	
	Identify property	
	Disrupt markets	
	Deny benefits	
REDUCE PROVOCATIONS	Reduce frustrations and stress	
	Avoid disputes	
	Reduce emotional arousal	
	Neutralize peer pressure	
	Discourage imitation	
REMOVE EXCUSES	Set rules	
	Post instructions	
	Alert conscience	
	Assist compliance	
	Control drugs and alcohol	

B. THE CHALLENGES OF APPLYING THE TWENTY-FIVE TECHNIQUES

If SCP demands that crimes be analyzed with as much specificity as possible, how is it that these twenty-five techniques have been so easily applied to a wide range of crimes,³⁷ such as identity theft, cybercrime,

trafficking in endangered species, terrorism, and many more whose specific situations have yet to be analyzed?

Further reflection on the generality of each of the twenty-five techniques shows that they are *examples* of ways in which the guiding principles can be operationalized, but they do not tell us what to do. For instance, examining the well-known technique of "target harden" without looking at the examples would not tell us *how* specifically to analyze a target to determine how to harden it, or even how to figure out what is the likely target in the first place.³⁸ The usual answer is that one must analyze the situation, and, once this is achieved, it will be obvious how to harden the target.

But will it? Take the case of the 1982 Tylenol murders, in which seven people died as a result of taking Tylenol laced with cyanide by unknown persons.³⁹ Was it obvious that the solution to hardening the target, in this case bottles of Tylenol (not the potential murder victims who were the actual targets—a significant insight in itself), lay *not* in changing the specific situational arrangements of the bottles in the drug store? Was it obvious that, similar to the British suicide drop, a response far removed from the crime location was needed? Was it clear that the solution was to change the bottles' packaging, a decision that could be made only far away in the Johnson & Johnson corporate office and implemented at the place of manufacture?

After all, in this case, the specific drug store that sold the Tylenol was located, and an analysis of the situation revealed that the tampering had occurred not at the factory level but in the store. ⁴⁰ A typical piecemeal, local SCP response might have called for installing cameras to keep the shelves under surveillance, or for moving all merchandise behind the counter to prevent its handling by customers. Instead, public outcry caused the response that occurred far away from the situation. The Federal Trade Commission entered the fray, and Johnson & Johnson introduced tamper-evident packaging. Today, almost every company that markets consumable products, from lipstick to iced tea, uses tamper-proof or tamper-evident

packaging. It may have been the most successful crime prevention response ever introduced. It prevented murders in specific locations from occurring everywhere. Of course, we do not know how many murders were prevented. And presumably, the widespread introduction of tamper-evident and tamper-proof packaging resulted from corporate and government policies.

Laycock's approach⁴¹ argues that of course attention was directed to Johnson & Johnson because they were the only ones capable of changing the packaging.⁴² But the prior step of identifying the packaging as the problem was required before the competency of the responder could be determined. This identification of the problem resulted in its "ownership" being transferred from the police to Johnson & Johnson. In other words, in terms of ownership of the big problem, prevention shifted to the multinational corporation. Meanwhile, the police were still stuck with the smaller problem of finding the murderer or murderers, who were never found. The Johnson & Johnson Tylenol example shows that, as one moves further away from the situation in search of a response, the nature of the problem changes, and the competency or ownership of the problem changes with it.⁴³ This is an important point. Distal and proximate causes of crime and noncriminal problems are usually distinguished temporally.⁴⁴ Thus, suffering from prenatal trauma is more distal than being bullied at school. In the Tylenol case, though, we are referring to distal in a multidimensional way to include not only actions that occurred much earlier, but also macrolevel as opposed to micro-level or piecemeal, local planning. In other words, our focus is on the proximity of the agent or agency with the

competency to address the situation. Importantly, the temptation to apply general responses to specific problems has lurked in the SCP literature for decades. ⁴⁵ One of Clarke's initial introductions of SCP over thirty years ago noted that "a [general] 'theory of crime' would be almost as crude as a 'general theory of disease'" ⁴⁶ and called for focusing on "separate" and specific crimes. Interestingly though, a few pages later, Clarke noted that

in some cases . . . it may be possible to protect a whole class of property, as the [British] Post Office did when they virtually eliminated theft from telephone kiosks by replacing the vulnerable aluminum coin-boxes with much stronger steel ones . . . a further example is provided by the recent law . . . which requires all motor-cyclists to wear crash helmets. 47

Since SCP's main concern is crime prevention or reduction,⁴⁸ its conceptual underpinnings and its policy implications (the interventions to reduce crime that flow from it) are intricately linked.⁴⁹ Few SCP scholars have focused on this linkage.⁵⁰

C. DEVELOPING A GRADED FRAMEWORK FOR SELECTING LOCAL AND MACRO-LEVEL SCP RESPONSES

The twenty-five techniques should thus be further elaborated to acknowledge that responses that are distant from the situation be taken into

account and the subsequent ownership/competency of the problem likewise identified.⁵¹ It would take half a book to do this for each of the twenty-five techniques. Instead, we outline what these crime prevention schemes might look like just for the first technique, *harden targets*.

 Table 2

 Levels of Intervention for Hardening Targets

Situation	Typical situationally bound response	Redefinition of problem ⁵²	Macro response (distant from situation)
Theft of cars in residential street	Improve street lightingOwners lock carsOwners move cars into garage	Design of cars makes them too easy to steal	Manufacturers redesign cars, install immobilizers
Use of slugs in New York City parking meters	Do not use parking metersInstall surveillance cameras	Parking meters are too easy to foil	Install slug rejecter devices in meters; build more parking garages
Bank robbery	 Install shields for tellers Guards at bank entrance Install alarms, surveillance cameras 	Bank tellers are too obvious and inviting a target	Install ATMs and do away with tellers completely; shift to online banking.
Robbery of bus drivers	Install shields for drivers	Money is the target, so remove it	Introduce smart cards bought elsewhere
Credit card fraud	Train clerks to check signature and identification	Plastic cards are too easy to counterfeit	Make cards tamper proof;require PIN at point of sale.
Robbery at ATMs	Install better lightingSurveil placeRelocate ATM	Money is the problem	Online commerce and banking
Theft from pay phones	 Make coin boxes impregnable Natural surveillance 	Money is the problem	Phone cards bought elsewhere, ownership of problem moved to corporate from government.
Street corner drug dealing	Formal surveillanceNatural surveillancePolice stings	Street corner is the problem	Redesign streets, traffic movement

Illegal	Build a fence	Cheap labor is	Guest worker
immigration		the problem	program;
			international
			agreements
Shoplifting	Change display of goods	Products are	Redesign products;
	Surveillance	easy to steal	put small products
			in large packages
Soliciting	Remove notices daily from	Phone numbers,	Telephone company
prostitution	phone booth	not the notices,	blocks specific
("carding")		are the problem	phone numbers

Table 2 illustrates that the response that is distant from the situation applies not only to its specific situation (theft of cars in residential streets) but to the theft of cars in other situations as well. Thus, if one can locate the macro level of intervention for a problem, why not go straight to the "root cause" of the security flaw? It is also apparent that there are many situationally-bound responses that require intervention from a distant source. Building a fence along a national border, for example, while the need may be situationally determined, may require massive input from national governments. Making coin boxes impregnable may require that the original manufacturers agree to redesign or retrofit the product.

The responses therefore may be classified roughly into three categories: situationally-bound local approaches, mixed, and macro, as outlined in Table $3.^{53}$

 Table 3

 Responses Classified According to Distance from the Situation

Situationally bound	Mixed	Macro
ATM lighting Risk assessment of facilities Product layout in stores Video surveillance in stores Lock car and house and hide PIN Shred bills Money belt Credit card authentication at point of sale Hide social security number	National border control, fence design Video surveillance of roads, public (common) space Local ordinances (risky facilities, etc.) Credit card authentication (retailers associations) Border control (fence patrols, etc.) Protect personal information (doctors' offices, retail stores)	Product design Urban/rural design/planning Packaging-tamper proof and tamper evident Legislation Regulation Law suits Information systems design (credit card security design, authentication—banks, card issuers, etc.), software, internet International agreements, interstate agreements National border control – smart passports Protect personal information (banks, governments)

As the listings in Table 3 indicate, some problems, perhaps even most problems, require a multilevel approach to responding. Take the example of credit card fraud. At the macro level, even the best-designed tamper-proof credit or smart cards will not prevent fraud if the middle organizations, such as retailers, do not install equipment necessary to eliminate human error at the point of sale.⁵⁴ Consider also the introduction of steering column locks to prevent car theft. The first form of steering column locks was the steel bar, which users locked onto the steering wheel. But the effectiveness of these tools in preventing car theft obviously depends, at the situationally-

bound local level, on an individual user buying and installing the lock. Eventually, manufacturers began installing steering column locks in cars which were effective for some time in preventing theft.⁵⁵ However, thieves figured out ways around the locks, so new technologies were needed. The locks have now been replaced with immobilizers and other electronic security systems installed by manufacturers. While these technologies have been found to be very effective,⁵⁶ they do not prevent the theft of a car in which the owner has left the keys.

Given this complexity in analyzing specific problems and, some might even say, the unanticipated consequences that may result from responding to specific local problems, how are we able to develop social policies that advocate action by individuals and organizations to prevent specific crimes? Is it logical for SCP advocates to make policy statements directed to individuals or organizations, such as, "do not publish social security numbers," to prevent identity theft? Does this policy statement differ from the policy statement made by the medical profession that "smoking is damaging to your health," and the subsequent requirement that this statement be placed on the packaging of cigarettes?

The most serious barrier to converting SCP techniques into policy remains the gap between problem identification and problem response. As we have noted, SCP insists on the minute analysis of the problem to be solved, making the employment of intervention techniques highly specific to the situation's time, place, and type of opportunity present. As Tilley explains, "the story of SCP is one of repeated small achievements." Furthermore, some SCP proponents like Popper argue that grand schemes and policies are doomed to failure because they are too abstract and unrealistic. Indeed, Knepper claims SCP is only applicable to problems that are "suitable for piecemeal experiments to alleviate them," and Eck and Madensen note that SCP's interventions are "at the meso-level . . . below large-scale social institutions." In sum, many SCP proponents claim that grand initiatives are outside its purview. Yet it is clear from Table 3 that

many, if not all, situationally-bound local problems cannot be effectively or permanently solved without interventions at the meso or macro levels. Thus, how can SCP more consistently develop general social policy applicable to many situations—perhaps all situations—for a class of crimes, or even targeting a range of products and services, when it appears to view general responses as secondary?

As we have noted throughout this Article, SCP has mostly eschewed ideal and abstract policies. However, policies that are evidence-driven surely should not be rejected out of hand by SCP, so long as their evidentiary link to the specific problem can be demonstrated. Criminal and other types of law develop and implement such policies. There are professionals—judges, lawyers, administrators and organizations like courts—whose role it is to apply these general statements of law to specific, even unique, cases. Indeed, proponents of SCP have researched the effects of particular legislation on specific crimes.⁶⁰

III. DISCUSSION

SCP's twenty-five techniques are more accurately classified as mechanisms for implementing a set of guiding principles that advocate a range of possible responses to potentially specific situations. However, depending on how the responder closest to the situation analyzes, or redefines, the specific problem, the response may be transferred to the person or organization most competent to respond to the problem. Again though, this outcome will depend on what kind of problem it is. Clearly, the ownership of the problem could be transferred in both directions, from the macro- to the local-level, and from the local- to the macro-level at various times. An example of the former relates to the protection of potential terrorist targets. Clarke and Newman argue that the "responsibility for protecting targets must 'cascade' down from the highest level of government to progressively lower levels (and to corporations and businesses)."61 These "top-down" government initiatives to protect targets involve the sticky issue of the government's role in implementing policies. At the same time, these government initiatives must acknowledge that many, if not all, of the situations described above are the domain of private businesses, local, national and multinational. Suffice it to say that, in many situations, it may be difficult for government to obtain businesses' (and individuals') consent to do what they want them to do to solve a particular

problem. The enormous increase in government regulation in the past few decades⁶² attests to the acknowledgment that governments are increasingly assuming the ownership of problems (e.g. global warming). And governments at the same time must rely on businesses and individuals to implement their policies. However, in the face of the doubtful effectiveness of government regulation⁶³ in changing behavior (with some notable exceptions, such as car seat belt use) the question remains whether it makes practical sense to define the ownership of problems away from the situations in which they occur.

The process also works in the other direction. For example, the first use of fences as a situational response to thwart suicide bombers and other terrorist infiltrators in both Israel and the West Bank was not implemented on the national level.⁶⁴ Initially, local police and community leaders, who were trying to stop terrorists from making incursions into their communities, constructed these fences in a piecemeal fashion. It was only at a much later date that the use of physical barriers became national policy. Thus, if analyses of specific problems identify a consistently successful policy implemented in various locales, that policy could be considered for a supersized intervention.⁶⁵ Similarly, heeding Tilley's admonitions discussed above, perhaps national-level interventions should only be undertaken after analyses of local problems identify a consistently successful policy implemented piecemeal in various locales. This approach would help insure that if a policy failed to reduce crime or had unintended results, these negative consequences would only affect the specific locales that implemented the strategy.

A. PROBLEM OWNERSHIP

In some cases, ownership may be "shared" by several potential responders. These responders usually include governmental agencies outside the legal system and private sector entities. Whether ownership is shared depends upon "the ways of thinking and working of whichever groups of applied social scientists or practitioners are [involved]." However, the actual technique or action that should be implemented to respond to the problem remains a challenge to those given the task to solve. Presumably, finding a solution requires heavy input by designers, engineers, technicians, and others with technical and detailed knowledge of the problem at both the macro and micro levels. Again, SCP's focus on agencies, organizations, and individuals beyond the criminal justice system to reduce crime distinguishes it from other criminological frameworks.

At the macro level, corporate individuals may have to face such questions as:

What are the implications of repackaging an entire line of products to prevent theft?

How can we obtain cooperation from retailers to install new devices for authenticating credit card ownership?

How can we design or redesign a product, its marketing, or its packaging to make it less attractive to steal but still attractive to buy?

How can we convert theft-reduction techniques into profit centers, for example, marketing of virus protection software, converting retail store identification cards into special membership cards offering extra privileges.

And at the local level:

To what extent is this problem solvable at the micro level?

Is this problem mostly situationally determined (in that local influences are interacting with the proximal causes) or is it mostly determined by factors distant from it?

How can, or should, the problem be redefined and its ownership shifted to those distant from the situation?

What policies are needed to make such shifts in ownership possible?

Drawing from the $CLAIMED^{68}$ framework, how can individuals or organizations—whether within or distant from the situation—that are identified as competent to

address the problem, or parts of it, be mobilized to undertake particular prevention tasks and roles?

Finally, specialists must also consider whether resistance from retailers or any other key constituent will be greater on either of the levels. And for crime prevention specialists, what are the overall advantages of a particular macro intervention that may have been derived from analysis of a specific local problem but may apply to many diverse situations? Macro interventions appear to be an effective way to prevent many crimes with one significant intervention. But is there any way to measure the preventive effect of such macro interventions, since the measure of their success is the number of crimes that did not happen? This challenge must be overcome if we want those distant from the specific situations of crime to acknowledge their responsibility for incorporating crime prevention techniques into their products, services, and marketing. Without a general solution to this measurement problem, the way forward to regulate the negative externalities of crime produced by corporations and other large organizations is severely hampered and will only ever be achieved on a piecemeal basis.⁶⁹

B. THE GOVERNMENT'S ROLE

What is the role for government? Do SCP attempts to implement national level prevention efforts inevitably lead to social engineering (long feared by SCP proponents)⁷⁰ or excessive social control (also long feared by SCP critics)?⁷¹ On one hand, as noted, efforts to change people have mostly been shunned by SCP as too grand. Unlike the rest of criminology, which is offender-focused, SCP focuses on events, targets, and opportunities. Similarly, interventions aimed at redesigning products, like the changes to the British gas supply and Tylenol's packaging, raise fewer social engineering worries.⁷² These are not utopian schemes designed to remake people: they are product-focused prevention efforts. Unlike grand initiatives to eliminate poverty, inequality, or crime, for that matter, SCP's national

prevention efforts are not focused on abstract causes. SCP's Tylenol solution, for instance, addressed general but concrete solutions: tamper-proof packaging of all consumer products, not the causes of random murder. To ther words, product redesign is accomplished by companies or organizations that have a vested interest in the product's success and safety.

On the other hand, a more complex issue is *not* the redesign of products, but the national-level regulation of the use, or non-use, of products, goods, and substances by people. Some products, goods, or substances have been linked to many crimes (either as physical tools or as chemical disinhibitors) and are called crime facilitators. The most common examples are alcohol, drugs, and firearms. Laycock explains that these products or substances "facilitate or are variously involved in crimes locally. The rules governing these facilitators, and the ease with which they can be accessed, are [and should be] controlled by central government." Indeed, Van Dijk, in his address accepting the prestigious Stockholm Award, extolled the virtues of SCP and called for regulating access to crime facilitators. Van Dijk argued that "[t]he restriction of access to alcohol for young people would take a serious bite out of violent crime And . . . governments . . . should make every effort to reduce gun ownership among their population."

While nationally restricting access to crime facilitators could reduce crime, it also raises the danger of a slippery slope toward social engineering. In addition to endorsing strict gun control laws, 77 former New York City Mayor Bloomberg also favors regulating the intake of sugar through soft drinks and other similar foods and drinks. 78 These sorts of initiatives affect everyone, and companies cannot simply implement them, unlike product redesign. With American society's focus on individual

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rights, it seems that implementing initiatives that require individuals to act in a certain way or that restrict them from acting in another way will be more controversial and difficult to achieve.⁷⁹ Severely regulating or restricting access to products like alcohol, drugs, firearms, or, for that matter, sugar, could also paradoxically create crime if black markets emerge. After all, SCP has long noted that "opportunity makes the thief."80 The history of prohibition, and some could argue, the long war on drugs, provide some support for this notion. Further, SCP has consistently supported a "market" approach (a general, not specific, response) to achieve reductions in drug crimes and trafficking in stolen goods and in endangered species.81

In sum, SCP proponents may first want to focus on product redesign, like guns that will fire only when held by registered owners, before considering regulation of crime facilitators. Importantly, though, any regulation that does occur would by definition be more limited and raise fewer concerns if implemented locally and piecemeal as opposed to through national policies.

It remains to be seen just how far these kinds of controls will reach, given the resourcefulness of individuals and businesses in working their ways around such regulations. As Ekblom⁸² and others have shown, criminals who are dedicated to getting what they want are very resourceful at adapting their techniques in the face of preventive responses such as target hardening. The history of car theft, for example, clearly shows that each time new ways of thwarting car theft are introduced, thieves find a way around them.83

We have come a long way since Clarke first introduced SCP.⁸⁴ All things considered, the theory has advanced rapidly. Other approaches to crime prevention have yet to even acknowledge that new policies are needed to prevent crime and that the ownership of many crime problems lies way beyond police. Few theories in criminology highlight crime prevention or even reduction as their prime concern. Conversely, SCP is a policy-based approach of prevention and requires rather little tinkering to apply its policies to many situations and to many levels of government and private organizations. Its guiding principles and their techniques apply easily and broadly to many diverse kinds of crimes. Indeed, its policies will become even more widely applied because SCP is so well-adapted to how crimes (methods, techniques, targets, etc.) change along with historical, cultural, and technological conditions.

Yet when we examine the macro level of SCP as we have demonstrated in this Article, it is clear that many specific crimes cannot be successfully prevented or reduced without the cooperation of corporations, businesses, and other organizations in addition to the police. SCP therefore must continue to engage the same problem of social control, the central question addressed by sociologists since the creation of their discipline: How do you get people and organizations to do what you want?⁸⁵

IV. CRIMINOLOGY, SCIENCE, AND POLICY

Our final comments relate to a larger issue that has lurked in the background of this Article: the question of the relationship between science and policy. It is obvious that any attempt in SCP to move from scientific observation (e.g., evidence that availability of guns is a cause of gun violence) to a policy (e.g., criminalizing the ownership, use, or manufacture of guns) entails a large leap that leaves science behind and enters the murky fields of values and politics. In this respect, criminology has lagged behind other fields of science such as environmental pollution and climate change whose findings have motivated their advocates to convert their science into public policy, often with political and controversial results. For example, if

we take the public health problem of obesity and the presumption that it is the intake of too much sugar that is the cause, we may follow SCP's first guiding principle and increase the effort needed to consume sugar. The final social policy, expressed in regulations as in New York City, may be to forbid the sale of sixteen-ounce containers of soda.

One can see, however, that it is a leap from the scientific observation that individuals become obese because of the intake of too much sugar, to the final policy that forbids the sale of large containers of soda. This response was massive and general, but it was directed at a highly specific target. That this intervention will reduce the sugar intake and presumably solve the public health problems of diabetes and obesity of New Yorkers seems to anticipate the science rather than follow it. The scientific thing to do—evidence-driven public policy—would be to first assess if the proposed intervention is plausible *a priori* in terms of tested theory, and, if so, assess its effectiveness.⁸⁶ One possibility would be to run trials to determine whether legislating against the sale of sixteen-ounce sodas actually does reduce sugar intake among New Yorkers. To put it another way, it is one thing to observe that sugar intake is bad for one's health; it is another thing to legislate the reduction of sugar intake even though, from the SCP perspective, making sugar less accessible (increasing the effort needed to obtain sugar) fits nicely into SCP's guiding principles of the Twenty-Five Techniques. SCP has always acknowledged that just because a policy *could* be implemented does not mean it should be employed. Those charged with designing the interventions are encouraged to weigh individual privacy and other rights with public safety and community concerns to devise the type of prevention policy society is most comfortable with.⁸⁷

In fact, policy statements directed against specific crimes with the goal of preventing them everywhere88 are commonly met with cries of overbearing control.⁸⁹ These policy statements, after all, seek to prevent crimes before they happen (as in preventing cancer). 90 But preventing cancer appears to be a more popular justification for issuing blanket policies advocating social control, perhaps because particular corporations with deep pockets have been successfully sued for causing cancer. Social critics like Garland have imagined the onset of the "culture of control" and blamed SCP for it,⁹¹ yet they withhold criticism of the government entities and regulations that now control the tobacco industry.⁹²

A more complicated criminology example is the recent interest among some criminologists in "green criminology," especially crimes against the environment. These criminologists have been joined by climatologists and other natural sciences in claiming that all of this pollution has caused climate change and that immediate action must be taken to address this problem. In the realm of criminology, Newman has observed that "radical criminologists" have taken just one position on this problem: they define environmental pollution as a crime and advocate that it be punished in the traditional manner (i.e., fines, prison, shaming, etc.). 93 This approach is, from the SCP point of view, traditional rather than radical, since it directs its concern against the offenders rather than the situational environments. Newman asks the rhetorical question, what if we were to treat carbon production as a market problem rather than a crime problem?⁹⁴ Which would be the most effective in reducing carbon? Even if we had such research, we would only be halfway there in terms of policy. The next step in formulating policy requires an assessment of costs, benefits, and values mixed in with the persuasiveness of the scientific findings. In the field of climate change, this process can take on quite remarkable contortions. The advocates who are scientists use the authority of science to claim that their problem trumps all other problems (e.g., world hunger, economic development). And the scientists who disagree are disparaged as skeptics, even though healthy skepticism is a hallowed principle of the scientific method.

We hasten to add that we do not take sides on this issue. We simply use the climate change controversy to illustrate what may lie ahead for criminology as it moves increasingly into the realm of crime prevention. SCP is at the forefront of this frontier and has much to offer mainstream criminology. It may be argued that the controversies and issues of value are good reason for mainstream criminology to stay away from policy and

defend the (presumed) neutrality of scientific criminology. However, modern technologies like social media, communications, and information technologies, bring with them new forms of crime along with the technologies of control designed to prevent them. Such technologies include surveillance and geospatial analysis linked into immense databases of personal information. Furthermore, the criminalization of terrorism will force criminologists to acknowledge the political nature of crime and both the necessity and difficulties in constructing policies to prevent it.⁹⁵ These changes in the nature of crime as well as the possibilities to prevent it are already upon us. Like it or not, mainstream criminology will be dragged into the policy challenges of the preventive crime control in the near future. This paper has shown that SCP has already made great strides in this direction, but that the way forward, especially in terms of evidence-based crime prevention, faces many difficult challenges with respect to preserving and carefully defining the important link between science and policy.

CONCLUSION

In this Article, we have shown that Situational Crime Prevention, an action-oriented approach in criminology, could be harnessed to develop policies at the macro and local levels of society in the service of crime reduction. The graded approach that we have outlined for linking the macro and local levels of analysis in terms of problem definition and response provides a general framework for moving forward. Our goal in this Article was to outline a new criminology of social control. We view its publication in this particular journal, which deals in parallel fashion with the topics of criminal law and criminology, as highly appropriate and significant. We have shown that Situational Crime Prevention holds the key to spanning the gap between these two fields. This gap is rapidly being filled by an immense array of regulatory activity by governments at various levels and by innovative efforts on the part of corporations to circumvent, exploit, and comply with regulations aimed at the reduction of crime and other social problems. While the traditional response to crime is punishment administered by means of the criminal law and the justice system, SCP demonstrates that there are many alternatives to—including variations of punishment in solving crime problems.