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Graham Farrell

Preventing Repeat Victimization

ABSTRACT

Revictimization or repeat victimization of people and places represent a large proportion of all victimization. Preventing revictimization may prevent a large proportion of all offenses. Repeat crimes are disproportionately likely in high-crime areas and in the period shortly after a crime—suggesting that efficient crime prevention might be achieved through rapid, transitory responses to victimization. The extent of revictimization is typically underestimated. Knowledge of revictimization patterns may provide bases for more effective prevention of domestic violence, burglary, car crimes, and other offenses. Quick response alarms, loaned to “high-risk” targets on a temporary basis, are one possible way forward for efficient crime prevention and offender detection.

The phenomenon of revictimization has been recognized in the criminological literature for over two decades. Small percentages of the population, and of victims, suffer large percentages of all criminal victimizations. Only comparatively recently have the policy implications of repeat victimization begun to be recognized. If revictimization constitutes a large proportion of all victimization, then preventing revictimization will prevent a large proportion of all offenses. Focusing preventive resources on identified victims simultaneously uses past victimization as a justifiable rationale for allocation of crime prevention resources, opens up a new set of strategies for preventing crime, poten-

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tially promises greater preventive efficiency than many strategies now in use, and highlights a new set of empirical and theoretical issues for analysis and understanding. Research on revictimization is in its early days, but results are promising and suggest that more energy and resources be invested in basic research and evaluation of prevention programs, and that investigation of victim careers, by analogy to the now maturing body of work on criminal careers, may yield considerable fruit.

Distinct patterns of the nature of revictimization have begun to emerge from the literature. The most obvious is that a relatively small proportion of the population experience a large proportion of all crime. There is a highly skewed distribution of crime in the population that is not due to chance. This observation holds up to rigorous testing from a variety of different sources. Table 1 (below) shows that research using at least nine different research methods has generated similar patterns. Similar patterns of revictimization have emerged from hospital records (Johnson et al. 1973), interviews generated from recorded crime (Zeigenhagen 1976), local victim surveys (Sparks, Genn, and Dodd 1977; Hope 1982; Jones, Maclean, and Young 1986; Farrell 1992), national victim surveys (Gottfredson 1984; Hough 1986; Trickett et al. 1992), comparative international victim surveys (Hindelang, Gottfredson, and Garofalo 1978; Fienberg 1980; Reiss 1980), a survey of hospitalized victims of assault (Shepherd 1990), participant observation (Genn 1988), victim referrals to a Victim Support scheme (Sampson 1991), police recorded crimes (Forrester, Chatterton, and Pease 1988*a*; Forrester et al. 1990; Polvi et al. 1990; Burquest, Farrell, and Pease 1992), and police incident logs (Farrell 1992; Lloyd, Farrell, and Pease 1994). In addition, the degree of skew in the distribution of victimization is such that the 2 or 3 percent of respondents to victim surveys who are the most victimized commonly report between a quarter and a third of all incidents.

Crime prevention has been defined as the securing of a future non-event (Forrester et al. 1990). By inference, there are two necessary criteria for efficient crime prevention: a reliable predictor of future victimization, and a practical, cost-effective means of preventing the predicted crime. An extensive literature including work in several countries suggests that prior victimization may be a good predictor of future revictimization; hereafter I use the term "the revictimization predictor." The predictor can be refined according to differential char-

TABLE 1

Published Sources on Repeat Victimization and Crime Prevention

Source	Crime Type(s)	Data Source/ Method of Study
Sparks, Genn, and Dodd (1977)	various	local victim surveys
Hindelang, Gottfredson, and Garofalo (1978)	personal crime	U.S. cities survey
Johnson et al. (1973) Zeigenhagen (1976)	gunshot and stab wounds violent crime	hospital records victim survey based on recorded crime
Fienberg (1980)	various	National Crime Survey
Reiss (1980)	various	National Crime Survey
Nelson (1980)	burglary and robbery	National Crime Survey
Sparks (1981)	general	discourse, based on Sparks, Genn, and Dodd (1977)
Gottfredson (1984)	various	1982 British Crime Survey
Hough (1986)	violent crime	1982 British Crime Survey
Jones, Maclean, and Young (1986)	various	local crime survey
Genn (1988)	domestic violence	participant observation
Shapland et al. (1991)	business crime	crime survey
Shepherd (1990)	violent crime	survey in hospital waiting rooms
Skogan (1990 <i>a</i> , 1990 <i>b</i>)	N.A.	discourse based on Na- tional Crime Survey and other survey experience
Sampson (1991)	various	victim support referrals
Hope (1982)	school burglary	survey
Forrester, Chatterton, and Pease (1988 <i>a</i> , 1988 <i>b</i>)	residential burglary	recorded crime
Forrester et al. (1990)	residential burglary	recorded crime
Polvi et al. (1990, 1991)	residential burglary	citywide recorded crime
Pease (1991, 1992)	residential burglary	recorded crime
Burquest, Farrell, and Pease (1992)	school burglary	recorded crime
Sampson and Phillips (1992)	racial attacks	weekly local victim survey
Trickett et al. (1992)	property/personal	British Crime Survey
Farrell, Buck, and Pease (1993)	domestic violence	calls to police
Farrell and Pease (1993)	various	review of prevention work
Tilley (1993 <i>a</i>)	crime against small business	recorded crime

NOTE.—N.A. = not applicable.

acteristics to increase its accuracy. The literature also suggests that the circumstances and conditions produced by targeting revictimization may foster the development of new and innovative prevention techniques and more efficient deployment of existing ones. Thus, preventing victimization may satisfy the first condition while producing circumstances conducive to the attainment of the second. As a rider, however, the dearth of practical application to date means that the revictimization predictor has been used mostly to generate promising hypotheses rather than to test hypotheses.

Parallels exist between predictive uses of prior victimization and prior offending. Prior offending is the single most reliable predictor of future offending (see, e.g., Nuttall et al. 1977). Preventing recidivist offending would prevent a large proportion of all offending, just as, it appears, preventing revictimization would prevent a large proportion of all victimization.

An emphasis on victim-oriented prevention may be attractive to victims, practitioners, and policymakers. This may be particularly true in the light of a growing literature that portrays victims as neglected by the criminal justice system (Shapland, Willmore, and Duff 1985; Newburn and Merry 1990). With respect to the revictimization predictor, if, as Farrington and Tarling (1985) suggest, the most successful criminological predictors are usually those obtained using simple methods, then the one presented here may serve well.

Here is how this essay is organized. Section I is an introduction to the subject matter. It defines revictimization and discusses terminology, research that is not included, and some complexities of revictimization. Section II reviews the literature on the extent and nature of revictimization. Section III presents the first major application of preventive insights arising from a focus on revictimization—the Kirkholt Burglary Prevention Project. Section IV presents refinements of the revictimization predictor that may make crime prevention more efficient for predicting repeat crime in both time and space and even with respect to building design. Section V discusses possible disadvantages of the approach. Section VI discusses some of the methodological issues encountered in the study of revictimization and the evaluation of the approach to crime prevention. Section VII discusses the prevention of repeated domestic assault, developments in burglary prevention, and alternative applications of the preventive approach. Section VIII introduces the fruitful symbiosis that could develop between pre-

venting revictimization and offender detection based around the revictimization predictor. Section IX presents conclusions.

I. Introduction

Revictimization or repeat victimization are the terms preferred here to refer to the repeated criminal victimization of a person or place. People subject to revictimization are here termed repeat victims. A variety of different terms have arisen to refer to the same phenomenon: revictimization, multiple victimization, repeat victimization, multivictimization, repetitive victimization, and recidivist victimization. There has been little consistent usage of terminology to date. The grounds for the choice of terminology deserve some explanation. "Revictimization" is preferable to multiple victimization because it makes clear that revictimization is distinct from incidents in which multiple offenders commit a crime or in which more than one victim is affected in a single incident. These have both been described as "multiple victimization" (Sparks 1981). The terms "revictimization" and "repeat victimization" can be used largely interchangeably with respect to crime prevention: both imply a link, however constituted, between one victimization and the next, thereby highlighting the potential for intervention. A preference for "revictimization" comes from the ease with which the parallels can be fashioned and recognized between revictimization and reconviction or recidivism, particularly with respect to criminological prediction.

A. *"Preventing Revictimization" and "The Criminology of Place"*

Parallels can be drawn between the works discussed in this essay under the theme of preventing revictimization and some of the work undertaken by Lawrence Sherman and his colleagues. Examples include the Repeat Call Address Policing experiments, which involved a focus of activity on locations from which calls are frequently made on police services (Sherman, Buerger, and Gartin 1988; Sherman and Weisburd 1988), and the emphases of "the criminology of place" (Sherman, Gartin, and Buerger 1989) and "hot spot" policing (Sherman 1989) in focusing policing activity. Similarly, work on domestic violence from the Minneapolis Domestic Violence Experiment (Sherman and Berk 1984) through to the replications (Sherman et al. 1991; Sherman 1992a) revolve around prevention of repeated crimes against a single victim. It would be difficult to draw a distinct line between

crime “hot spots,” repeat call address policing, and the prevention of revictimization. Some of the revictimization work discussed here bases crime analyses on calls to the police. Among common themes are the use of empirical data to identify crime patterns, a policy interest in prediction, and an interest in identifying the causal mechanisms of crime. However, there are differences; the emphasis on preventing revictimization, for example, is on crime and crime prevention rather than on reducing calls for police service. The link between the two might be that between problem-oriented policing (Goldstein 1979, 1990; Sherman 1991) and crime prevention through crime analysis (Ekblom 1988), both of which are manifestations of the epidemiological approach.

Because these developments have been comprehensively covered in a recent *Crime and Justice* volume (Sherman 1992*b*), findings from problem-oriented policing research are not detailed here, though they are discussed in the light of their implications for preventing revictimization.

B. Determinants of Revictimization

The term “revictimization” can refer to a variety of different circumstances and conditions in which one criminal victimization is followed by another. The probability of revictimization will vary according to the initial type of crime. Revictimization of a person or place may be related or unrelated to a prior incident. A subsequent crime may be of the same or a different type. The offender(s) may or may not be the same. The victim and offender may or may not know each other. The offender may know the victim but not vice versa. Two parties to a long-running dispute may be both repeat victims and repeat offenders. The probability of revictimization may be influenced by individual and environmental characteristics. Individual-level characteristics affecting revictimization probabilities may be ascribed or acquired. To go further still, the specific characteristics of and motivation behind the crime, be they instrumental, expressive, violent, nonviolent, or acquisitive, or a combination of these, may all influence revictimization probabilities. Sparks (1981) asks, “What is the typical time period between victimization and revictimization?” Undoubtedly this varies with any of the above differences between crimes, and more, and is a crucial issue. Do rates of repeats vary by area, and if so why? Is revictimization more likely at certain times of the day, week, month, or even year? Are certain types of household or building more prone

to repeat burglary and vandalism? How do these factors relate to different car crimes?

The list of the factors that may influence revictimization is not intended to be exhaustive but to serve as an introduction to the intricacies of the subject. Some of these ingredients may be important to the development of more accurate revictimization predictors. The extent to which they refine the predictor will have direct implications for the optimal allocation of crime prevention resources.

C. Paradox and Prudence in Crime Prevention

A paradox of much crime prevention effort, highlighted by Harvey, Grimshaw, and Pease (1989) with respect to crime prevention officers, and Hussain (1988) with respect to Neighbourhood Watch, is that the distribution of crime prevention activity and resources is often inversely related to need. Those with the highest probability of victimization may also be those least likely to be provided prevention resources, and those resources that are in the public domain may inadvertently go elsewhere. In the United Kingdom at least, crime prevention officers can spend much of their time in public relations work and other tasks that have at best a tangential link to crime prevention.

Crime prevention policies based on the prevention of revictimization may bring about a more effective and defensible allocation of resources. If victimization is a good predictor of revictimization, targeting the latter is a practical and prudent strategy, in effect concentrating resources on those crimes that are the most predictable in time and space. By definition, it targets those who disproportionately experience crime—shifting supply of resources closer to demand.

D. Crime Rate Measures

To the extent that measurement determines the perception of the problem, measures of crime rates have direct implications for crime prevention policy. The two most commonly used measures of crime rates are prevalence and incidence. Crime prevalence refers to the estimated percentage of the population at risk who are victims in a given time period (victims per head). Crime incidence refers to the average number of crimes per 100 of the population at risk (crimes per head). A third measure is crime concentration which is the average number of victimizations per victim (crimes per victim) (Barr and Pease 1990; Barr et al. 1991). In short, prevalence counts victims, incidence counts crimes, and concentration counts average victimizations per victim.

There will almost always be more crimes than victims, so incidence is higher than prevalence, and concentration is greater than one.¹ This is because some people and places are victimized on more than one occasion. However, even when presented side by side, incidence and prevalence rates only suggest the extent of revictimization through a comparison of their differences and do not suggest the inequality of victimization found in all aspects of the literature. The concentration rate can be used to compare the rate of repeat victimization, between two areas or subgroups of the population for example, where it might not be otherwise apparent from differing incidence and prevalence rates. If revictimization is prevented, crime incidence will fall close or equal to crime prevalence.² The three measures are almost the sum total of progress in the measurement of victimization to date.

Barr and Pease (1990) suggest further measures that account for skewed or unequal distribution and might be applied to crime rates. These would not require any artificial limits to be placed on the number of victimizations a person can report to a crime survey for a given time period (this is discussed in more detail later), because the measures would not be distorted by a small number of people experiencing a large number of crimes. Barr and Pease (1990) suggest the Gini coefficient as a possibility taken from urban geography. The Gini coefficient measures inequality between zero (complete equality) and one (complete inequality). A measure of inequality has important potential applications: measuring change in inequality through time for instance. A crime prevention initiative might have different effects on prevalence and incidence, which would be effectively shown as a change in crime distribution through the population. Personal crime is more unequally distributed (has a higher Gini coefficient) than property crime, largely due to personal crime's higher prevalence. When victims only are considered however, personal and property crime are both more evenly distributed (as would be expected when nonvictims are taken out) but show greater similarity in the distribution of victimization (Farrell 1994*a*). If revictimization were reduced, the Gini coefficient would

¹ Possible exceptions to the rule will depend on counting procedures used. Crimes for which there is more than one victim may have greater prevalence.

² This is without considering the possibility of a dispersion of benefits (Clarke 1992, in this volume), a free-rider effect (Miethe 1991), or domino prevention (Farrell, Buck, and Pease 1993) that could make preventive inroads into crime prevalence. Essentially these all refer to occasions when the benefit of crime prevention spreads to areas or targets that were not directly designated for prevention, most likely through the perception of increased risk and effort or reduced rewards to offenders.

move closer to zero. Trickett et al. (1994) use the Gini coefficient to measure inequality of victimization between areas across the 1982, 1984, and 1988 British Crime Surveys and conclude that inequality in the distribution of victimization has increased through the 1980s but that the increase was largely due to an increase in repeat victimization.

More research into measures of distribution would improve our understanding of victimization. In economics, the concentration curve and ratio, the Herfindahl Index, and the entropy and relative entropy coefficients are commonly used measures of concentration, distribution, and inequality (see, e.g., George and Joll 1981), as is Atkinson's inequality index (Atkinson 1970). With respect to general methodology in the study of revictimization, just as Fienberg (1980) used a Markov-chain analysis to study revictimization, this is a method that has been used in the study of criminal careers (see, e.g., Stander et al. 1989). Studies of revictimization, insofar as they may be "victim careers," could benefit greatly from the method and analytical techniques of its more developed counterpart, the study of criminal careers. How does a victimization lambda vary by crime type, by area, over time, and by subgroups of the population, for example?

II. The Extent of Revictimization

Repeat victimization appears to be robust across types of crime and methods of study. Repeat victimization can be by the same or different types of crime, or both. A "survey of surveys" shows that five crime surveys have each demonstrated similar patterns of the extent of repeat victimization.

A. *The Extent of Repeat Victimization*

Revictimization constitutes a large proportion of all victimization. It is necessary to establish a firm empirical foundation in order to demonstrate why preventing repeat victimization may be an attractive general crime prevention strategy. Revictimization findings are restricted neither to types of crime nor to particular methods of study. Methodological limitations in the study of revictimization, discussed in a later section, suggest that the extent of revictimization is often understated.

Table 1 presents a list of published sources that distinguish the extent of revictimization in a variety of forms. They cover a variety of crimes and research methods and differ in the degree to which revictimization is the subject of discussion. Sparks, Genn, and Dodd (1977) and Hindelang, Gottfredson, and Garofalo (1978), both classic

works, one British, one American, were the earliest works to undertake an extensive analysis of revictimization using crime survey data. They remain prominent among the existing literature for their breadth and thoroughness. However, it should be noted that they were preceded by the works of Johnson et al. (1973) and Zeigenhagen (1976).

The Johnson et al. study (1973) is the earliest work on revictimization found in an extensive literature review. It attempted to describe the social, medical, and criminal characteristics of victims and recidivist victims of gunshot and stab wounds from the records of a U.S. hospital. The study emerged from the authors' personal experiences that the same people returned to the hospital time and again, as repeat victims of these types of violence. Case histories were constructed that showed that some victims, while not always "frequently" returning to the hospital, did so every year or every other year throughout the 1960s. Since it can be supposed that only a small proportion of all violence reaches hospital records, most going unreported, the study might be seen to suggest that some people live with violent repeat victimization as part of their everyday lives, in some cases over their lifetime. The purpose of the study was to try to increase awareness of repeat victimization, with its cost to hospitals and public funds being of major concern. The earliest work to use a victim survey and concentrate on repeat victimization was Eduard Zeigenhagen's *The Recidivist Victim of Violent Crime* (1976). Zeigenhagen's study surveyed 268 victims of attempted homicide, assault, rape, robbery, and aggravated robbery. Seventy-five persons, 28 percent of those surveyed, reported more than one violent victimization within the five years prior to the survey. Of these, most had been victimized twice, but fifteen, or 5.6 percent, had been previously victimized between three and six times. "Thus," Zeigenhagen concludes, "victimization appears to be a chronic condition for a subset of the recidivist group." This is an observation that recurs throughout the literature.

Hindelang, Gottfredson, and Garofalo devote one chapter of their 1978 book on victimization to revictimization. Sparks, Genn, and Dodd (1977) devote the bulk of one chapter of their 1977 book to an analysis that is similar in many ways. The works concurrently introduced statistical modelling to the study of revictimization. Each attempted to fit the spread of revictimization to a Poisson distribution. Neither set of data fitted this model, suggesting that revictimization was not caused by "bad luck" or chance; that is, it did not correspond to a chance distribution of independent, single-incident victimizations

in a population sampled with replacement. Sparks, Genn, and Dodd (1977) had conducted a victimization survey in three London boroughs and tried to fit a “contagious” Poisson model (where the probability of revictimization is increased by prior victimization), then moved on to a heterogeneous model. The heterogeneous model attempted to fit subgroups of the population, divided by, for example, age, gender, and ethnicity, to separate Poisson distributions, for which they had greater success, but concluded it was “far from perfect.”

Hindelang, Gottfredson, and Garofalo (1978) used data from eight U.S. cities and over 165,000 interviews—though the chapter on revictimization combines data from twenty-six different city surveys to give a database of 600,000 cases. The book is mainly known for developing the lifestyle/exposure theory of victimization (see Meier and Miethe 1993). However, the chapter on repeat victimization (they use the term “multiple victimization”) acknowledges methodological difficulties studying revictimization. This is perhaps not surprising in that they were charting difficult and unknown criminological territory while trying to wield a data set of 600,000 person-cases from over 250,000 households across twenty-six cities. The logistical problems must have been considerable by any standards, even before the particular nuances of the study of repeat victimization could be considered. A primary difficulty seems to have lain in the problem of reconciling “series” and “nonseries” repeat victimization. They define a series offense as “three or more similar victimisations that occur to the same person during the [six month] reference period and for which the victim cannot recall details of the individual event” (Hindelang, Gottfredson, and Garofalo 1978, p. 126).

A further point to note when data from the U.S. National Crime Victimization Survey (NCS) are compared to, for example, British Crime Survey data, is that the NCS typically uses a six-month reporting period for crimes. While the aim behind this is to try to reduce respondent memory problems or “telescoping” (see Skogan 1981, 1986*a*, for a discussion of these methodological issues), the effect is to reduce the apparent extent of repeat victimization that takes place over time. Some incidents would be repeats of incidents prior to the period, and some precursors to incidents after the six-month period. The effect of a shorter reporting period is to reduce the apparent extent of repeat victimization. In their analysis, series incidents were given a value of one (so that a series of five or ten incidents was counted as one incident). To have two “series” incidents therefore, a victim would have

to have two series, each with three or more related incidents. The analysis separates these “series” incidents from nonseries repeated incidents. The exclusion of series incidents from the NCS analysis later prompted one of the consultants to the 1966–67 President’s Commission on Law Enforcement and Administration of Criminal Justice (in which the NCS finds its origins), to calculate the effect during the course of developing his own work on repeat victimization: According to Albert J. Reiss, Jr. (cited in Skogan 1981, p. 9): “including series incidents (for analyses of the NCS) would increase the estimated number of crimes in the United States by 18 percent.”

It is perhaps due to this that Hindelang, Gottfredson, and Garofalo state for both personal and property crime that the survey indicated “repetitive victimization” was an “extreme rarity” (1978, p. 127). Given their preamble about the rarity of repeat victimization—which was indeed borne out by their data and was the reason they increased the sample size for the analysis—it is perhaps a testimony to their largely unwritten recognition of these methodological issues that they devote a whole chapter of the book to the subsequent analysis. This seems the only plausible explanation, since otherwise it seems paradoxical to devote such extensive analysis, and not only analysis, but extensive publication space, to this “extreme rarity.” It is further testimony to the work that, within the constraints imposed by the data set and method, some of the patterns that they discover and describe concur almost exactly with those that have been found by other studies. Hindelang, Gottfredson, and Garofalo established distinct patterns of repeat victimization that they summarized as follows:

First, both once-victimised persons and once-victimised households were more likely to have suffered subsequent victimisation than were members of the population (persons or households respectively) selected at random. For personal victims, this is accounted for—but only in part—by the finding that repetitive victims were more likely than one-time victims to be victimised by persons known to them. Second, persons living in households in which another household member had been personally victimised had a greater risk of personal victimisation than persons living in households in which no other household member had been personally victimised. Third, persons living in households that had been victimised by a household crime had a higher risk of personal victimisation than persons living in households that had not been victimised by a household crime. [1978, p. 149]

For personal crime, Hindelang, Gottfredson, and Garofalo observed that “for simple assault, the unconditional likelihood of victimisation in the general population . . . was 15 per 1,000, but among victims of aggravated assault the likelihood was 103 per 1,000. Similarly, the unconditional likelihood of aggravated assault was 12, but among victims of simple assault it was nearly seven times as great (82)” (Hindelang, Gottfredson, and Garofalo 1978, p. 132).

The same probability patterns were evident in their findings for property crime—a victimization by one type of property crime was a good predictor of victimization by another type of crime. More spectacular still, the findings held across personal and property crimes, where they found that, “overall, regardless of the age, marital status, or sex of the respondent, the likelihood of having been a victim of at least one personal crime was about twice as great for members of households that were victims of household crimes as for members of households that were not victims of household crimes” (Hindelang, Gottfredson, and Garofalo 1978, pp. 138–39).

In 1980, James Nelson followed up some of this work with analysis of U.S. National Crime Survey data. Unlike Sparks, Genn, and Dodd (1977), Nelson found that the heterogeneous Poisson or negative binomial model provided a good fit for the distribution of repeated burglary and robbery. It does seem highly plausible that while the whole population is far from homogeneous, when different subgroups of the population are investigated, these would have similar rates of revictimization. This is consistent with the lifestyle/exposure model of victimization. Nelson concluded that “the negative binomial model is consistent with the hypothesis that the probability of being victimized is constant over time and does not depend upon the number of prior victimizations, but that not all persons, businesses, and households have the same probability of being victimized . . . [and that] regardless of the interpretation, the analysis shows that victimization rates are not unduly affected by small numbers of persons having unduly high rates” (1980, p. 870).

Nelson’s paper presents a strong argument: the model fits the theoretical background of lifestyle theory, and the empirical evidence fits the model. However, Wesley Skogan (1990*a*, 1990*b*) suggests that the second of Nelson’s conclusions may be due to the weakness of the data specifically with respect to repeat victimization, and this may in turn mean the good fit of the negative binomial model needs to be reexamined. Skogan has played a large role in the development of victim

surveys to date (for examples, Skogan 1976, 1981, 1986*a*, 1986*b*, 1990*a*, 1990*b*), with a prominent role in the design and redesign of the NCS and a role in the design of the British Crime Survey. He has commented on the significance of repeat victimization in at least three papers. The first (Skogan 1990*a*) was an examination of the series incidents and the 18 percent of U.S. crime that (according to Albert J. Reiss, Jr.) went missing. Skogan summarizes the methodological limitations of the NCS for the study of revictimization when he writes: “[Series victimisations] were defined as groups of three or more similar incidents which respondents could not adequately differentiate in terms of their placement in time. Because incidents in this category are presumably too frequent and similar to be enumerated individually, they have been dealt with in the worst way possible—they are not counted at all. Series incidents (even the most recent episode, which is fully described in the interview) have always been excluded from analysis on the grounds their frequency is uncertain and that they might not all fall in the same NCS category. This of course makes a shambles of any effort to use the NCS to document the extent of multiple victimisation” (1990*a*, pp. 260–61).

So much for the U.S. National Crime Survey. Despite these criticisms, it is tempting to hope that the work which Hindelang, Gottfredson, and Garofalo (1978) presented (the U.S. Cities Survey and the NCS were closely linked) may have developed some useful patterns even if they were based on extreme underestimates of the extent of repeat victimization. The decisive factor would be to determine whether the extreme underestimates of revictimization produced a bias in the results or just a large underestimation of the extent of the problem. Skogan goes on to address the practical and policy implications of repeat victimization when he writes: “Repetitive victimisations are important for policy purposes because they are predictable from past reported crimes, they typically involve offenders who are immediately identifiable, intervention is possible, and they add disproportionately to the overall crime count” (1990*a*, pp. 259–60).

In a further paper, Skogan (1990*b*) draws attention to repeat victimization and business crime. Skogan’s analysis of NCS data (presumably taking account of some of the methodological problems he had previously acknowledged) indicated that victimization of business establishments was heavily concentrated within a small pool of businesses. Skogan also cites Shapland et al.’s (1991) finding that “multiple victimisation drove the total crime count in English industrial estates,

and that on the worst estates businesses could expect to be victimised five times per year" (Skogan 1990*b*, p. 9). The skewed distribution of victimization in business crime is reflected in further work by Shapland (in this volume). Preventing repeated business crime is touched on in the next section with respect to the work of Tilley (1993*a*).

Other attempts were made to investigate repeat victimization through mathematical and statistical techniques. In an article that was a decade ahead of its time, Albert J. Reiss, Jr. (1980—two years after his methodological criticisms), using data from the U.S. National Crime Survey wrote: "Evidence of repeat victimization makes it clear that victimization is not a random occurrence. . . . Moreover, in repeat victimization, there is a proneness to repeat victimization by the same type of crime" (1980, p. 52).

This was a finding echoed by Fienberg (1980), though using different methods of analysis. The two articles are complementary and were published in the same volume. Reiss constructed a crime-switch matrix to explore the difference between observed repeat victimization as reported in the NCS and repeat victimization that would be expected due to random chance. Fienberg used a semi-Markov model to observe the likelihood that a repeat victimization was of the same or a different crime type to a prior victimization. The recognition that one victimization incident may be followed by another of the same type has direct implications for crime prevention.

After 1980, revictimization does not seem to appear as a major subject of study for most of the next decade. Unfortunately, this was also the decade that saw a boom in victimological study, so a large body of conceptually related work has developed largely without recognizing or accounting for revictimization. Where it was studied, revictimization was usually revealed and presented as subsidiary to the main topic of analysis. However, the works listed in table 1 all contribute to the development of the picture of revictimization. While no single reference from the rest of table 1 may be convincing in its own right, the whole is greater than the sum of the parts. This is not intended as a criticism, since the works cited here are those exceptional ones that touched on the topic. It is difficult to state that table 1 presents an exhaustive list, since revictimization is often hidden within, or secondary to, another subject of study.

Repeat victimization is mentioned in the report of the first Islington Crime Survey (ICS) (Jones, Maclean, and Young 1986, p. 84). The survey showed that for all crimes, 47 percent of households reported

repeat victimization, and that repeat victimization was most likely for assault (38 percent), followed by vandalism (37 percent) and burglary (24 percent). Much lower rates of repeat victimization were reported for theft from the person (17 percent), as might be expected for a relatively "anonymous" crime, though no information is provided with respect to repeat robbery. The apparently low frequency (15 percent) of repeat sexual offenses reported can probably be put down to the fact that those sexual assaults that are reported may be much more likely to be "stranger violence," with sexual assaults by men who are known, and which may be more likely to be repeated, going largely unreported. The higher rate of repeat victimization for all crime than for any of the individual types suggests repeat victimization can be by different types of crime as well as by the same type of crime.

Genn (1988) provides a shift away from the conventional definition of repeat victimization used so far in this essay. Genn provided an exacting critique of victim surveys that, she argues, impose a strict definition of "a crime" and "a victim" on the interviewee. In short, Genn's thesis was that most victim surveys undercount repeat victimization since they have only a one-year reporting period, limit the number of crimes that can be reported, and impose an artificial limit on those that are reported. Genn suggests that, in particular for certain types of crime such as domestic violence, some people are forced to live with almost continual victimization as part of their everyday lives. Genn returned to the research site of the survey detailed in Sparks, Genn, and Dodd (1977) to conduct some follow-up interviews. Genn's participant observation study of repeat victimization included spending several months with a group of victims on a high-crime estate in north London. Genn reports that, "after some months of association with this group of people, I no longer found it surprising that a structured questionnaire administered to one household should uncover some thirteen incidents of 'victimization' " (1988, p. 93).

Genn argued that for some households, victim surveys often picked up only a fraction of the total incidents. Without presenting a direct recommendation about how it should be developed, Genn argues that criminology may need to reconceptualize the understanding of "a crime" as a single, isolated, or discrete event and the understanding of "a victim" as the victim of an isolated event.

Hough (1986) indicated the presence of repeat victimization in his analysis of the 1984 British Crime Survey and violent crime. He presented both crime incidence and prevalence rates side by side, from

which it could be seen that the extent of revictimization varied by type of violent crime and that, since the concentration rate (ratio of incidence to prevalence) for "all" violent crime was greater than that from the sum of the individual crime types, then repeat victimization could also be by different types of violent crime. More recent evidence regarding different types of crime is provided by Mayhew, Aye Maung, and Mirrlees-Black (1993) from the 1992 British Crime Survey. While only 5 percent of respondents reported a burglary, 83 percent of these reported only one, and the 6 percent of victims (1 percent of respondents) who reported three or more to the survey accounted for 17 percent of burglaries (Mayhew, Aye Maung, and Mirrlees-Black 1993, p. 49). Violent crime was analyzed by different types of violence for which rates of revictimization vary. The prevalence of violent crime was generally quite low, at or around 1 or 2 percent. However those people who were victims were much more likely to be repeat victims, with the 17 percent of victims who reported three or more violent incidents to the survey accounting for 45 percent of all incidents (1993, p. 86). Thefts involving cars in the United Kingdom were much more prevalent at 17 percent than either burglary or violent crime, but a similar pattern of revictimization occurs. The 8 percent of victims (1 percent of respondents) who reported three or more thefts involving cars accounted for 22 percent of all thefts involving cars (1993, p. 71). These findings are all subject to the conditions that a victim could report a maximum of five series of incidents (Mayhew, Aye Maung, and Mirrlees-Black 1993, p. 150), and series incidents were given an arbitrary top limit of five crimes (1993, p. 157), and that the BCS is a time-bounded survey (some incidents might be repeats of ones prior to the survey, and some may be predecessors of ones after the survey period). Each of these factors suggests the findings are underestimates of the extent of revictimization.

A report by Alice Sampson (1991) presents information about repeat victims referred to a "high-crime" estate-based Victims Support scheme. Of 289 referrals to the scheme over two years, Sampson found that forty-six households or residents (16 percent) were victims of more than one reported crime and that "these victims accounted for 38% of the crimes" (1991, p. 6). In addition, twenty of the repeat victim households suffered from both property and personal crimes, twenty from at least two property crimes, and eight people were victims of interpersonal crime only. Of the forty-six repeat victims, "in 10 cases it is not known if the incidents were related or unrelated; in 23 cases the

(victim support) workers thought they were unrelated; and in 13 cases the incidents were related (they were either domestic attacks, neighbour disputes, or the offender was known but did not live in the same flat or next door)" (Sampson 1991, pp. 6–7).

Referrals to Victim Support are also subject to what Maguire (1991, p. 408) calls the "huge filtering process" whereby, for a variety of reasons, less than 1 percent of crimes committed result in a visit from Victim Support. There is reason to believe that the filtering process would disproportionately affect repeat crimes in a similar way to recorded crime (see Sec. VI), so that as a measure of the true extent of revictimization, Sampson's findings may be an extreme underestimate.

In a survey of victims of assault at an accident and emergency hospital in Bristol, Shepherd (1990) found that 43 percent of victims were repeat victims of assault. Of these, 27 percent reported involvement in more than two assaults, and 7 percent reported having been assaulted more than ten times. This distribution of violence mirrors the skewed distribution of crime found in other studies. Shepherd also studied social factors and suggested that repeat victims of assault are more likely to be unemployed, with 58 percent of unemployed respondents as repeat victims, compared to 38 percent of employed victims. In addition, Shepherd suggests that unemployed victims are twice as likely as employed victims to have experienced more than two previous assaults: 44 percent compared to 22 percent.

B. A "Survey of Surveys" Showing the Extent of Revictimization

Tables 2–6 show frequency distributions of victimization for five crime surveys, encompassing two decades. Table 2 shows the heavily skewed distribution of victimization found in the survey by Sparks, Genn, and Dodd (1977) that was conducted in 1973. Table 3 shows a previously unpublished distribution of victimization from a Home Office local crime survey on a "high-crime" estate in South London. Further details of the estate and the work are given in Sampson and Farrell (1990).³ Tables 4–6 show frequency distributions from three sweeps of the British Crime Survey (BCS): 1982, 1988, and 1992. The BCS is a periodic survey averaging over 10,000 respondents. The comparison shows the similarity in the patterns between two local surveys and a national survey. While three tables from different British

³ Table 3 excludes car crime, which was not the focus of the study, though the evidence from the British Crime Survey described above suggests this would only have increased rather than decreased the extent of revictimization.

TABLE 2
The Distribution of Repeat Victimization
from a Survey of Three London
Boroughs in 1973: All Offenses

Number of Times Victimized	Respondents (in Percent) (<i>N</i> = 545)	Incidents (in Percent) (<i>N</i> = 582)
0	54.7	.0
1	22.0	20.6
2	10.3	19.2
3	7.3	20.6
4	2.0	7.6
5 or more	3.7	32.0
Total	100.0	100.0

SOURCE.—Sparks, Genn, and Dodd (1977), p. 89.

NOTE.—The values do not correspond to those which would be generated solely from the table on p. 89 of Sparks, Genn, and Dodd (1977) but take account of the fact that it states “the total number of incidents reported by the sample in response to the screening questions was 582” (p. 74).

TABLE 3
Distribution of Repeat Victimization
from a Survey of a “High Crime” Estate
in South London: All Offenses

Number of Times Victimized	Respondents (in Percent) (<i>N</i> = 600)	Incidents (in Percent)
0	67.3	.0
1	16.5	21.2
2	6.5	16.7
3	3.7	14.1
4	3.5	18.0
5 or more	2.5	30.0
Total	100.0	100.0

Crime Survey sweeps may make this look less like a survey of five surveys, they show the same national patterns across the course of a decade.

In the 1973 London study shown as table 2, 45.3 percent of respondents had been victimized on one or more occasions, and 23.3 percent of the population had been victimized more than once. The 3.7 percent of the population who said they had been victimized five or more times accounted for 32 percent of all incidents reported. This is perhaps the earliest study from which a numeric value can be put on the heavily skewed distribution of victimization and the first from which it can be inferred that while the majority of the population are not victimized, even among those who are victimized, a small minority of the victimized population experience a vastly disproportionate amount of all crime. This is to anticipate the result that is found across the next four surveys.

Table 3 shows a distribution of victimization that is extremely skewed. Six hundred people were interviewed in the survey. Repeat victims accounted for 78.8 percent of all crimes reported. In addition, the higher rate of repeat victimization on the "high-crime" estate than in the British Crime Survey corresponds with the findings of Trickett et al. (1992) that repeat victimization is more intense in high-crime areas. Other findings derived from the survey with respect to repeat victimization were that 5 percent of the respondents reported 62 percent of the personal crimes. Of the victims of personal crime, a third were repeat victims of personal crime, and one in six had experienced at least two different types of personal crime in the last year. A person or household reporting a burglary or attempted burglary was more than twice as likely to report a personal crime. In the "high-crime" estate victim survey, fifteen people (2.5 percent of respondents) reported 141 incidents (30 percent of total incidents) (Farrell 1992). The proportionate distribution of repeat victimization is slightly more concentrated than that revealed by the survey of three London boroughs.

Table 4 is from Gottfredson's (1984) analysis of the 1982 British Crime Survey. The extent of repeat victimization in the BCS is evident when he writes: "Of the victims of personal crime in the BCS, 72% were one time victims while 28% were repetitively victimised. For all crimes in the survey, the corresponding percentages are 56% one-time victims and 44% multiple victims" (1984, p. 42).

Table 4 suggests that over 70 percent of all criminal incidents reported by the 1982 BCS were experienced by repeat victims, who

TABLE 4
 Distribution of Repeat Victimization
 from the 1982 British Crime Survey:
 All Offenses

Number of Times Victimized	Respondents (in Percent) (<i>N</i> = 10,905)	Incidents (in Percent)
0	68.1	.0
1	17.8	29.1
2	6.2	20.3
3	3.1	15.2
4	1.8	11.8
5 or more	2.9	23.7
Total	99.9*	100.1*

SOURCE.—Gottfredson (1984).

* Total percentage does not add to 100 because of rounding.

made up only 14 percent of the population (total victimized respondents made up 32 percent). Further, 2.9 percent of the respondents reported 23.7 percent of the total incidents. From Gottfredson's original paper, similar patterns of the distribution of victimization for household offenses and personal offenses can also be generated.

Table 5 shows the distribution of victimization for the 1988 British Crime Survey. The method by which the data were produced differs slightly from that for the 1982 survey. The 1988 analysis, as with the 1992 analysis in table 6, was conducted using "screener" or "filter" questions to the survey on the main questionnaire. The 1982 data were calculated by Gottfredson from the victim-form responses of victims. This methodological difference probably accounts for most of the difference in findings between the 1982 survey and the two later sweeps of the BCS. It may also explain why the proportion of the population that is victimized at all is closer between table 2 (44.3 percent) and tables 5 (40.7 percent) and 6 (40.5 percent), since Sparks, Genn, and Dodd also used screener questions.

The 1988 and 1992 British Crime Surveys show almost an exact correspondence in the distribution of victimization—almost eerily so since for either the percentage frequency of respondents or the percentage frequencies of incidents, the results never differ by more than

TABLE 5
 Distribution of Repeat Victimization
 from the 1988 British Crime Survey:
 All Offenses

Number of Times Victimized	Respondents (in Percent)	Incidents (in Percent)
0	59.3	.0
1	19.9	18.5
2	9.1	16.8
3	4.2	11.6
4	2.5	9.1
5 or more	5.0	43.9
Total	100.0	99.9*

SOURCE.—Shah (1991).

* Total percentage does not add to 100 because of rounding.

TABLE 6
 Distribution of Repeat Victimization
 from the 1992 British Crime Survey:
 All Offenses

Number of Times Victimized	Respondents (in Percent)	Incidents (in Percent)
0	59.5	.0
1	20.3	18.7
2	9.0	16.5
3	4.5	12.4
4	2.4	8.8
5 or more	4.3	43.5
Total	100.0	99.9*

SOURCE.—Farrell and Pease (1993).

* Total percentage does not add to 100 because of rounding.

seven-tenths of a percentage point. This suggests that there was little change in the inequality of distribution of victimization between the two surveys, a finding that also occurs in Section III on area crime rates and the revictimization curve, though through a slightly different analysis.

III. The Kirkholt Burglary Prevention Project

This section describes the first crime prevention project based on a revictimization prevention strategy. The Kirkholt burglary prevention project (Forrester, Chatterton, and Pease 1988*a*, 1988*b*; Forrester et al. 1990; Pease 1991, 1992) is presented at this stage in the essay in order to track the chronological development of the applied study of revictimization. To a large extent, the Kirkholt project acted as a catalyst for much of the more recent work on the prevention on repeat victimization that is presented in following sections.

A. Phase I: Devising Preventive Strategies and Implementation

Crime prevention through crime analysis (Eckblom 1988) is the phrase that springs to mind when the literature of the Kirkholt project is studied. Data and evidence were collected, common themes and factors of the problem identified, and specific prevention measures devised and introduced.

The Kirkholt project was situated on a public housing estate in Rochdale in the northwest of England. The initial research phase combined interviews with known (detained) burglars, interviews with burglary victims and their neighbors, and the analysis of available burglary data to find that, "once a house has been burgled, its chance of repeat victimisation was four times the rate of houses that had not been burgled at all" (Forrester et al. 1988*b*, p. 2289). While of a housing stock which was of a type that nationally had a medium burglary rate (Hough and Mayhew 1985), the Kirkholt estate had a recorded burglary rate double that for both recorded and unrecorded burglary for a high-crime housing type. The data generated by the research phase showed that nearly half of those households burglarized in December 1986 had been burglarized earlier in the year. It was evident to the project team that the prevention of burglary revictimization would prevent a large proportion of all burglary.

The second crucial aspect of the strategy was that within the general revictimization framework, prevention would be by all locally appropriate means. Recognition of this point is crucial to an understanding

of both developments that were to come and the earlier suggestion that preventing revictimization may produce the conditions for the development of new, innovative, and cost-effective means of crime prevention. The Kirkholt approach was not one single method or technique to prevent burglary. It was a package of measures that united under the general banner "the prevention of revictimization."

The strategies devised depended on the specific problems identified. The research phase showed that the taking of money from electricity and gas prepayment meters was a factor in many of the burglaries (49 percent). The meters were sitting targets for burglars since they were emptied only every three months and so could accumulate large amounts of money. To prevent revictimization, the relevant utility services agreed to replace meters after a burglary, with the agreement of the householder. A second factor in many burglaries was the relative ease with which burglars appeared to enter premises, invariably by the first route attempted. To prevent revictimization, when a household was burglarized, it would receive a security upgrade, and valuables in the home were property marked by postcoding. The security upgrading was not of a general nature but was specific to the means of entry that were described by both burglars and victims. An estate-wide burglary monitoring system was set up so that security upgrading could be revised to reflect changes in burglary practice. In order to reduce the opportunity for revictimization, around households that had been burglarized, small neighborhood watches were developed, consisting of immediate neighbors and called "cocoon" neighborhood watches. Neighbors were asked to watch out for burglars returning to the victimized household: the watches were specifically set up and specifically focused rather than general, as in the case of previous Neighbourhood Watch schemes. As an incentive, neighbors were also provided with security upgrading. Victims were provided with information on services available in the local area.

The rate of burglary on the Kirkholt estate fell to 40 percent of its previous level after five months of the start of the program. Revictimization fell to zero over the same period and did not exceed two in any of the following months.

B. Maintenance and Continuation

The second phase aimed to maintain and continue the practices developed in the first phase, to develop additional initiatives within the community, and to secure community ownership of the project. It

became part of the local housing authority routine that burglarized properties were given priority for repairs. Other elements included a school-based crime prevention program, provision of offenders from the area to attend groups to address their problems, a cheap savings and loan scheme for residents, and better-informed probation officers and courts.

The lower burglary rate on the estate was maintained, and the project became "owned" by the community after the research team withdrew. The reports suggested that displacement of burglary did not occur to a great extent. The burglary rate in surrounding areas dropped, but not to the extent that it did in Kirkholt.

1. *Evaluations and Conclusions.* The Kirkholt project was rigorously evaluated in the main Home Office reports (e.g., Forrester et al. 1990). However, this was by the researchers who were paid to develop the project. Consequently, as with any apparent success, critics soon challenged the findings. It was suggested that the reduction in the burglary rate was not due to the burglary prevention project but was due to other work undertaken on the estate at the time, particularly a "Warm and Dry" project that improved the condition of the homes of elderly people on the estate. Fencing on the estate was improved generally. More recently, an independent evaluator, David Farrington, was called in to assess the disagreements. After rigorous analysis of the data into different time periods and different properties according to when they received different treatments and were or were not burglarized, Farrington determined that the reduction in the burglary rate could not be attributed to the Wet and Dry program and that the reduced burglary rate was attributable to the burglary prevention program (Farrington 1992*b*). Farrington observed, however, that it would be preferable to identify the precise active ingredient in the prevention program. In searching for the active ingredient or mechanism by which prevention occurs, it should be evident even from this brief description that none of the techniques in the Kirkholt project were extraordinary. They were ordinary prevention methods. The most innovative was the focused or cocoon neighborhood watches, which consequently received most publicity. A retrospective analysis would suggest that it was the specific context of the strategies that led to the drop in burglaries. The innovation lay in the application of existing knowledge in a different context: that of the prevention of repeat victimization, and the tailoring of the technique to the specific problems identified in order to increase the risk and effort and reduce the awards to committing the most likely

burglaries. This is a view largely supported by Nick Tilley's appraisal of three putative replications of the Kirkholt project that are discussed below.

2. *Putative Kirkholt Replications.* Replication is a form of evaluation since it tests the external validity of a project. Tilley (1993*b*) evaluated three efforts at preventing residential burglary that purported to replicate the Kirkholt project and were undertaken as part of the United Kingdom Safer Cities Programme. The first project focused on burglary and experienced increases of 21.5 percent and 42.8 percent in burglary incidence in the two years of the project, though these rises were much lower than those of adjoining areas. The second produced an apparent large drop in burglaries, and the third a rise of 9 percent in burglary incidence compared to a rise of 139 percent in the rest of the police division. Tilley appraises the manner in which they attempted to "replicate" Kirkholt. None of the projects had nearly as high a burglary incidence rate as Kirkholt when they started, and Tilley concludes that

[Putative Replication 1] is a replication of Kirkholt only in the sense that it used a similar repertoire of methods that were tailored to the local situation, which had been subject to systematic examination. The differing outcome patterns are to be expected. Whatever these had been they could neither confirm nor disconfirm the findings in Kirkholt.

In the case of [Putative Replication 2], though the outcome pattern was similarly successful to that in Kirkholt, the context, measures and mechanisms differed radically. It cannot be considered a replication in scientific realist terms of any or all of Kirkholt, and thus its success is of no confirmatory value.

[Putative Replication 3] . . . comprised an offer of security upgrading to those in the area already victimised whose risk of reburglary was shown thereby to be reduced. Though the crime rate was not as high as in Kirkholt, there was a similar decrease in burglary risk amongst those already victimised following target hardening. Some linked elements of context, measure, mechanism and outcome patterns are similar, and thus there is partial replication in scientific realist terms. [Tilley 1993*b*, p. 17]

Tilley concluded that strict replication is neither appropriate nor possible in different local contexts. At the other extreme, Tilley identifies relativist replication that he refers to as "anything goes" (Tilley 1993*b*, p. 13) replication, which is also not applicable since the defini-

tion of replication can be as narrow or as wide as the replicator so wishes. Tilley proposes scientific realist replication: “rather than attempting to mimic a large number of ‘attributes,’ ‘variables,’ ‘conditions’ and so forth from one trial to the next the trick is to recognise and to reproduce those salient features of the context which are needed for the [crime prevention] mechanism/s to be activated” (Tilley 1993*b*, p. 14).

3. *Preventing Revictimization as a General Crime Prevention Strategy.* Whatever the differing opinions about the Kirkholt project, it played a pivotal role in the development of subsequent research into revictimization and its prevention. The project prompted Pease (1991, 1992) to conclude that the prevention of revictimization might be an attractive general crime prevention strategy. The approach would have certain advantages, including

- Attention to dwellings or people already victimised has a higher “hit rate” of those likely to be victimised in the future.
- Preventing repeat victimization protects the most vulnerable social groups, without having to identify those groups as such, which can be socially divisive. Having been victimised already probably represents the least contentious basis for a claim to be given crime prevention attention.
- Repeat victimization is highest, both absolutely and proportionately, in the most crime-ridden areas (Trickett et al. 1992), which are also the areas that suffer the most serious crime (Pease 1988). The prevention of repeat victimization is thus commensurately more important the greater the area’s crime problem.
- The rate of victimization offers a realistic schedule for crime prevention activity. Preventing repeat victimization is a way of “drip-feeding” crime prevention.
- Even from the unrealistic view that crime is only displaced, avoiding repeat victimization at least shares the agony around (see Barr and Pease 1990; Pease 1991, p. 76).

While the Kirkholt project focused solely on burglary prevention, Pease argued that its theoretical base provides a foundation for crime prevention of a general nature. This is not to argue that the opportunity reduction and situational measures used in the Kirkholt project are generally applicable—these were tailored for the specific project—rather, that crime prevention in general might concentrate on the phe-

nomenon of repeat victimization. The “drip-feeding” of crime prevention is an analogy created to suggest that targeting repeat victimization is more practically viable—it is spread through time and hence less labor intensive and easier to maintain.

IV. Increasing the Accuracy of the Revictimization Predictor

This section presents the major refinements of the revictimization predictor that have arisen to date. A study that shows how design can be influential in determining the likelihood of revictimization in some instances is first covered. The evidence on the role that repeat victimization plays in the relationship between low- and high-crime areas is then reviewed, and it is suggested that the revictimization predictor might be refined according to the overall level of crime in an area. Last, existing studies showing that revictimization is likely in the immediate aftermath of a crime are covered and the implications for crime prevention are discussed.

A. *Revictimization and Design*

The influence of architectural and environmental design on the crime rate has long been the focus of attention in crime prevention (see, e.g., Clarke and Mayhew 1980). However the impact of design on repeat victimization is not well documented. That certain buildings may be more likely to be repeatedly victimized as well as victimized could have important prevention implications if they can be identified. Hope (1982) presented data on the extent of repeat victimization in schools that precedes other work on the subject by a decade (Burquest, Farrell, and Pease [1992] and Tilley [1993a] are discussed later in this section). Hope’s first startling finding is that “a school or college is 38 times more likely to be burgled than a residential dwelling” (1982, p. 1).

If crime prevention were prioritized, this suggests that schools in general may be excellent sites for efficient prevention work. In addition, however, the statement may inadvertently disguise the extent of revictimization. It may have been the incidence rather than the prevalence of school burglary that was disproportionately higher than that of residential burglary, and the prevention emphasis should perhaps be on revictimization. The most likely explanation may be that the prevalence of school burglary was higher and that the rate of repeat victimization was disproportionately high. Restricting the definition solely to forced entries, Hope notes that recorded incidents probably

provided a conservative estimate of the extent of the crime (Hope 1982, pp. 2–3). The extent of repeat school burglary is evident later in the text when Hope writes, “Some 38 schools (64%) had less than five burglaries between 1977 and 1978 including 11 schools (19%) which had no burglaries at all. In contrast, 19% had 10 or more burglaries each during this two year period. The most victimised school had 24 burglaries.”

Moreover, Hope develops a “design continuum,” grouping the schools in the study into one of three categories according to size, area of site, number of buildings, age, and so forth, using thirteen factors in total. The average number of burglaries per school was calculated for each design category. Schools within the three categories averaged 1.4, 5.1, and 7.9 burglaries each for the two-year study period. In essence, Hope had refined the predictability of revictimization in schools according to thirteen design criteria. Perhaps a study that updated Hope’s 1982 work could use a revictimization predictor to inform the efficient allocation of resources for both crime prevention and offender detection. There is a need for other studies covering design factors and their importance in refining the predictability of revictimization. This could be true for both residential and commercial burglary. Similarly, design factors in relation to motor vehicles could also be important. While it has long been recognized that certain makes of car are more likely to be victimized (e.g., Clarke and Harris 1992), whether or not incidence increases disproportionately in relation to prevalence remains to be empirically determined.

B. High-Crime Areas and Repeat Victimization

Trickett et al. (1992), broach the important question whether certain areas have high crime rates because more people are victimized or because there is more revictimization of the same people. The evidence is presented here as figure 1 using area data from the first three sweeps of the British Crime Survey—1982, 1984, and 1988. The data were grouped into deciles according to crime incidence. The 10 percent of areas with the lowest crime incidence rate are decile 1, the 10 percent of areas with the next lowest incidence rates are decile 2, and so on.⁴ The resultant curves are shown for personal and property crime. The raw data and the regression equations are presented in the Appendix.

⁴ I am indebted to Dan Ellingworth of the Quantitative Criminology Group at Manchester University for providing me with the raw data grouped into deciles using the same method as the Trickett et al. (1992) paper.

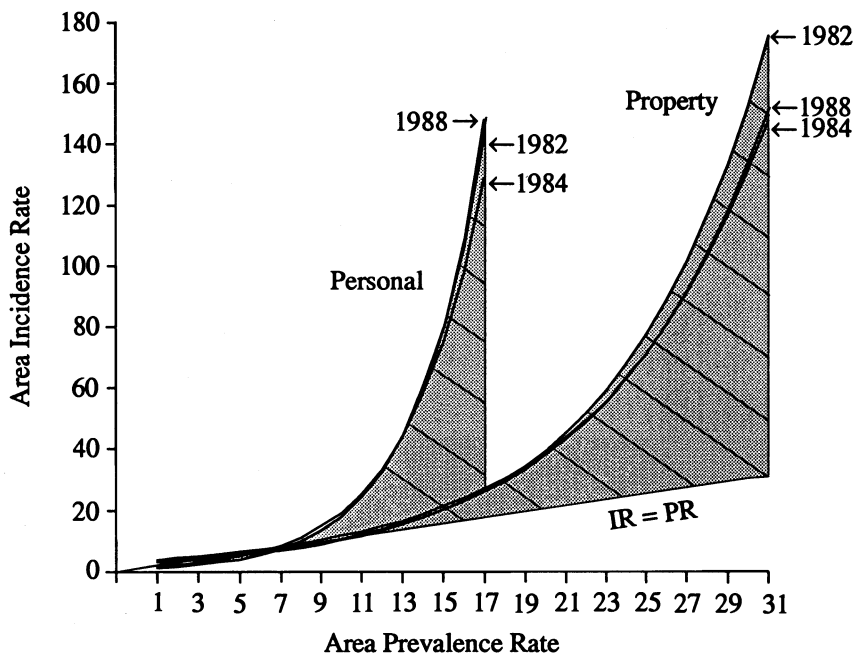


FIG. 1.—Area revictimization curves (British Crime Survey data—personal and property crime, 1982, 1984, 1988). Source: Farrell and Pease (1993).

For both of the crime types, there is consistency of both position and curvature across each of the surveys. This consistency suggests the findings can be viewed with a high degree of confidence.

In figure 1, revictimization exists where crime incidence is greater than crime prevalence. A state of no revictimization is shown by the line $IR = PR$ (incidence rate = prevalence rate). Since the areas under each curve represent total victimization, at a glance it is evident that revictimization constitutes a large proportion of all victimization. However, for areas with higher crime prevalence (more victims per head), this is disproportionately the case. Trickett et al. (1992) conclude that there is a positive nonlinear correlation between the overall incidence of crime and the extent of revictimization (well beyond what would be expected by a random process). As a consequence, the accuracy of the revictimization predictor will correlate with area crime prevalence and incidence rates; or, the higher an area's crime rate, the higher the rate of repeat victimization.

Crime prevention focused on high-crime areas could be expected to

prevent more crime per unit of investment merely because there is more crime. However, figure 1 shows that the rewards to the prevention of revictimization may be disproportionately high in high-crime areas. With an increasingly accurate predictor, the opportunity for preventing revictimization is commensurately greater. The identification and focusing of prevention on highly predictable crime appears potentially efficient in such areas. As a refinement of the predictor, a revictimization prevention policy in high-crime areas could be expected to be even more efficient in terms of crimes prevented (as well as per unit of labor and expenditure) than focusing on revictimization across all areas. Tables showing the area decile counts of crimes and victims and the incidence and prevalence rates used in figure 1 are in the Appendix. The greatest increase in revictimization appears between the ninth and tenth deciles, so that preventing revictimization would be at its most efficient in the 10 percent of areas with the highest crime incidence.

It may also be that across crime type, revictimization is more likely in higher-crime areas. Given the empirical finding that personal crime is more likely when property crime has been experienced and vice versa, in the light of the above evidence, it would not be unreasonable to expect that this relationship grows stronger as overall crime levels increase. Further research, for example, a development of the British Crime Survey area analysis, might be able to tease out the nature and interactive effects of this relationship. While the focus of this essay largely precludes the causes of repeat victimization (Farrell [1994*b*] addresses causality for specific crime types), a possible rationale for an “across crime-type revictimization area-effect” might be found through a quick look at recent criminal career research. Farrington writes of the London longitudinal survey that “it was concluded that offenders did not specialize in violence . . . [and] violent offenders are essentially frequent offenders” (1992*a*, p. 21).

This could provide one explanation for the likelihood that victims are revictimized both by a different type of personal crime or by a property crime.

A further explanation of disproportionate revictimization in high-crime areas might be found in routine activity theory. A crime occurs on the convergence in time and space of a suitable victim or target and a motivated offender in the absence of a capable guardian (Cohen and Felson 1979). If all three of suitable victims, motivated offenders, and the absence of guardians increase, then the effect may be to dispropor-

TABLE 7
Crude Model of Routine Activities, High Crime Rates,
and Revictimization

Area	Input: Routine Activities			Output: Crime Rate		
	Number of Suitable Victims/Targets	Frequency of Motivated Offenders	Frequency of Interactions Where Guardians Absent	PR	IR	CR
A	1	1	1	1	1	1
B	2	2	2	2	8	4
C	3	3	3	3	27	9

SOURCE.—Farrell, Ellingworth, and Pease (1994).

NOTE.—PR = prevalence rate. IR = incidence rate. CR = concentration rate.

tionately increase revictimization. Table 7 shows a simplified model for three hypothetical areas with different levels of the variables that make up routine activities theory, based on the model of Farrell, Ellingworth, and Pease (1994).⁵ A linear increase in the three constituent factors produces a linear increase in crime prevalence but a nonlinear increase in crime incidence.

Of course, table 7 is extremely crude. In most instances there will be an absence of one of the contributing variables—hence, crime does not take place everywhere all of the time. The model can be varied for the absence and differing levels of one or more factors, and the effects on the crime rates can be monitored. An absence of any one factor produces zero crime. In the model, relatively more suitable victims would increase prevalence and incidence but not necessarily concentration. Relatively more offenders increase concentration rather than prevalence. Routine activities theory suggests that when crime does take place, aggregate area rates may be in some way determined by the interaction effect of different levels of the constituent variables, and that, since incidence is the product of prevalence and concentration, repeat victimization may play a fundamental role in the picture. Where there are many suitable targets but few motivated offenders, repeat victimization might be expected to be lower. The aim of crime prevention is to reduce either or both the availability of suitable victims

⁵ Table 7 reports work in progress that has been revised on the basis of probabilities of interactions occurring and the influence of a “contagion effect.”

or the absence of guardians, and the aim of preventing criminality is the reduction of the supply of motivated offenders. The crude model could be made more realistic through, for example, introducing frequency of interactions as well as numbers of both victims and offenders (perhaps based on lifestyle theory), but in the present, largely illustrative context there would be diminishing marginal returns to such added complexities. Perhaps the model could be developed empirically through building the routine activities variables from information in victim surveys. The practical implications for crime prevention of the model would be to help determine which levels of which variables produce known crime rates and to tease out the effects of different policies designed to affect the different variables in different ways.

C. The Time-Course of Revictimization

This section discusses the most important refinement of the revictimization predictor to date: the length of time between one victimization and the next. A discussion of the pioneering work on residential burglary is followed by case studies of school burglary, racial attacks, domestic violence, and business crime. Each study demonstrates that the risk of revictimization is greatest in the period immediately after victimization and that this is robust across crime type, location, and the method and period of study. Based on this evidence, two main policy implications are developed: crime prevention measures need to be moved quickly into place following victimization, and temporary prevention measures that provide cover during the high-risk period after victimization might be an effective and efficient means of preventing crime.

When Albert J. Reiss, Jr., studied the likelihood of revictimization by type of crime in 1980, the available data sources were not sufficiently flexible to allow reliable conclusions to be drawn about the time period between one victimization and the next. Consequently, the policy implications of the findings about the nature of revictimization were not fully exploited.

A decade later, Polvi et al. (1990, 1991) published their findings from a study of residential burglary in Saskatoon, Canada, that showed there was a much greater chance of a repeat burglary in the period immediately after a burglary and that the magnitude of this risk declined with time: "The likelihood of a repeat burglary within one month was over twelve times the expected rate, but this declined to less than twice the expected rate when burglaries six months apart

were considered. Analysis of the repeat burglaries within one month showed that half of the second victimisations occurred within seven days of the first" (Polvi et al. 1991, p. 412).

The Canadian study analyzed recorded crime data for a four-year period. To date this remains the largest and most comprehensive study of the time between victimizations, for which they coined the term the "time-course." However, as with all pioneering work, the results required replication and application in other contexts. In isolation it did not provide sufficient evidence to make generalizations across different types of crime, across different cities and countries, and through the use of different data sources. Four further, smaller-scale studies from the United Kingdom are described below. Each is of a different type of crime; two concerning different property crimes, and two different interpersonal crimes. Between them, the four studies use three different types of data.

1. *School Burglary and Property Crime.* Of the case studies, this is the most similar in crime type and data source to the work cited above. The data presented here were first published by Burquest, Farrell, and Pease (1992). The study was of the extent of police-recorded property crime at thirty-three schools in an area of Merseyside, England, in 1990. Seven schools reported only one crime, and the most victimized school reported twenty-eight crimes for the one-year period. Of the total of 296 crimes reported, 263 (97.6 percent) were repeat crimes. Of these, 208, or 79 percent, were revictimizations occurring within one month of a prior victimization. Figures 2 and 3 are graphs of the revictimization time-course for recorded school property crime. Figure 2 shows the decline in the likelihood of revictimization in the months following a crime. The period of highest risk is easily identifiable as the first month. Figure 3 shows the likelihood of revictimization within the first month and how even then it declines sharply with time. Revictimization is heavily skewed toward the date of the prior victimization.

Figure 2 shows two curves, one of the actual crimes, and one weighted to take account of the one-year time-period of study. The weighting accounts for the fact that some schools will have victimizations either immediately before or after the period of observation that may be repeats (or precursors) of crimes captured within the one-year window.⁶

⁶ The formula used was $W = (T + R)/(T - R)$, where W is the weight applied to each point on the graph, T is the number of time periods of observation, R is the time period in which repeats are counted, subject to T and R being measured in the same

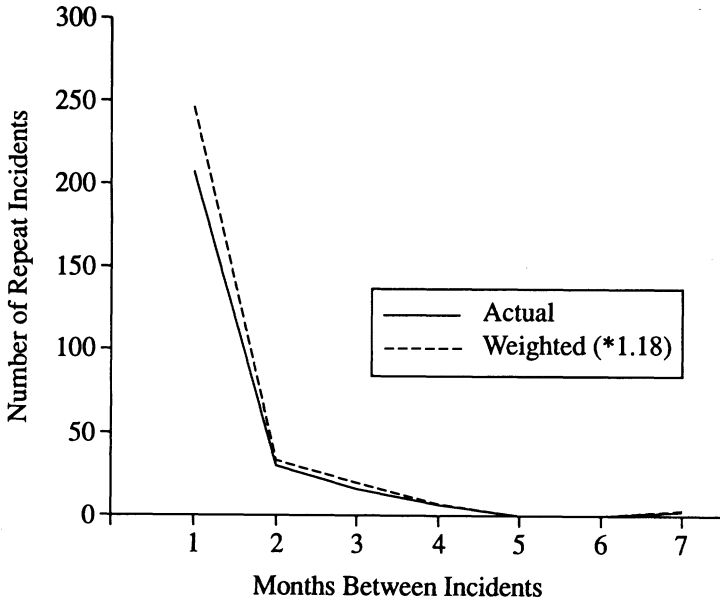


FIG. 2.—Time-course of repeat school crime (grouped thirty-day periods, Liverpool 1990). Source: Burquest, Farrell, and Pease (1992).

2. *Racial Attacks.* The evidence is from a study by Sampson and Phillips (1992) of racial attacks on an estate in the East End of London. The data were generated through weekly interviews over a six-month period with the families potentially at risk of violent racial attacks. Of the thirty families in the study, the analysis showed that “67% of the families were multi-victims . . . many of the families have experienced attacks before and after this [six month] period. However . . . within any one time period some families suffered more than others. Seven families reported no incidents during this period. The most heavily victimised family was harassed on average once every six days. The second and third most victimised were attacked on average every nine days. Furthermore, subsequent victimisations were most frequent within the first week of the first attack” (Sampson and Phillips 1992, p. 6).

Figure 4 is reproduced from the original with authors' permission. The revictimization time-course for racial attacks shows identical pat-

units of time. In figure 2, a one-year study period ($T = 12$) looks at repeats within one month ($R = 1$), so that each point on the graph is weighted by $W = 13/11$.

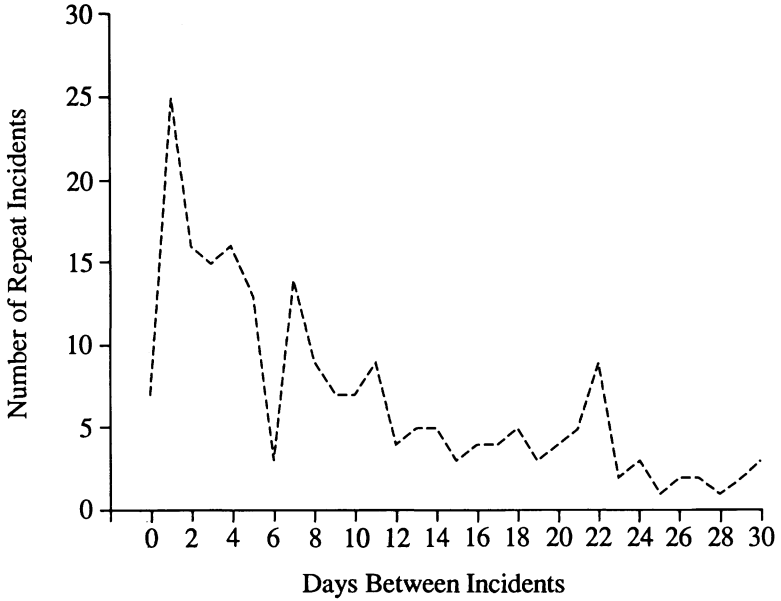


FIG. 3.—Time-course of repeat school crime (repeats within one month, Liverpool 1990). Source: Burquest, Farrell, and Pease (1992).

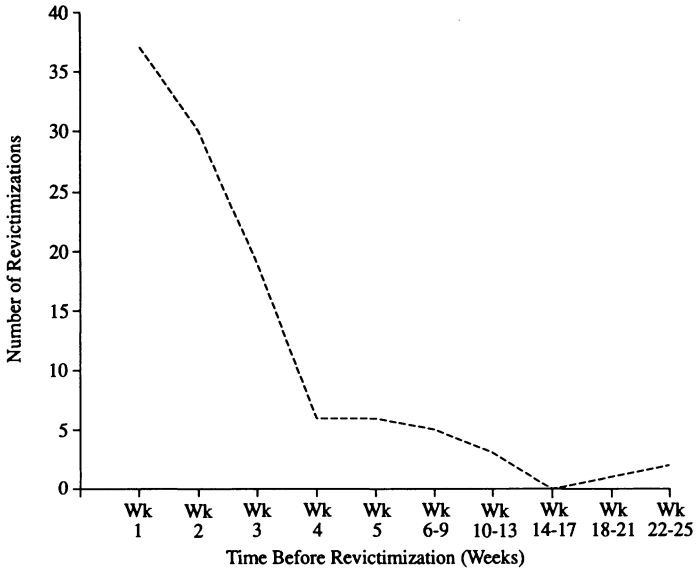


FIG. 4.—Time-course of racial attacks (six months' data, September 1990–February 1991). Source: Sampson and Phillips (1992).

terns to that of residential and school burglary. Families that are racially attacked are much more likely to be revictimized forthwith.

3. *Domestic Violence.* That domestic violence is likely to be a frequently repeated crime is well established. Smith (1988) provides a comprehensive review of the literature to that date, and more recently, Morley and Mullender (1994, p. 5) state that attacks by the same assailant are almost always repeated. In 1980, results of an American family violence survey showed that serious domestic assaults “took place at an annual rate of 38 per 1,000 married women. This is sixteen times the National Crime Survey rate of 2.3 per 1,000 . . . moreover, it was typically not an isolated instance; the mean number of beatings per year for such couples was 8, and the median was 2.4.” Further research showed at least equivalent prevalence and incidence for those cohabiting, divorced, or separated (Strauss 1983). Sherman (1992a) presents a wealth of data on the topic and shows the increasing likelihood of repeat calls to the police once calls have been made. The Sherman analysis is much more extensive than the analysis presented here, and although the emphasis is slightly different, it provides strongly confirmatory evidence.

The data presented below were generated in the initial phase of a Home Office–funded crime prevention project (see Farrell, Buck, and Pease 1993; Lloyd, Farrell, and Pease 1994). The results are based on analysis of 1,261 calls to police over the two-year period 1989–91, from an area of approximately 1,500 households. One hundred and sixty-two calls to domestic disputes were analyzed. These are relatively small figures for analysis. However, based on the concurrence of the findings with those of the previous three sections and that of Sherman (1992a), it is not unreasonable to suggest that they might be viewed with a high degree of confidence.

Figure 5 shows the steep time-course of revictimization for domestic violence. Based on the evidence of the other three studies, it seems unlikely that this is an artifact of either reporting or recording of incidents. In this study the analysis of the incident logs was taken further to generate a specific revictimization predictor. The findings were summarized thus: “There exists a ‘heightened risk period’ for repeat domestic victimizations—when a woman has called the police she is more likely to call them again and within a short period of time. A household with one call to the police for a ‘domestic’ incident has a probability of 0.8 of another within one year. The typical period between incidents is much less than a year. After a first incident, 35 per cent of house-

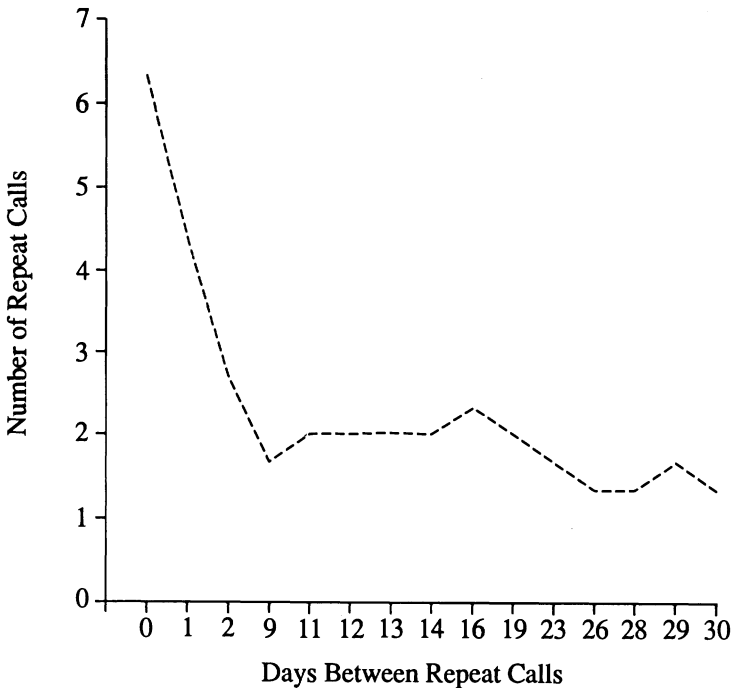


FIG. 5.—Time-course of domestic violence (calls to police, February 1989–March 1991). Source: Lloyd, Farrell, and Pease (1994).

holds suffer a second incident within five weeks of the first. After a second incident, 45 per cent of households suffer a third incident within five weeks of the second” (Farrell, Clarke, and Pease 1993).

Based on the revictimization predictor a package of measures were developed to try to prevent violent domestic revictimization, some of which are touched on again later.

4. *Business Crime.* Tilley (1993a) presents the revictimization time-course for business crime. The study was part of the Home Office evaluation of the United Kingdom Safer Cities Programme. In a similar manner to the previous four time-course studies, Tilley showed that repeat business crime was more likely to be soon after victimization. Tilley’s study was methodologically innovative in that it overcame the problem of the time-window of revictimization to some extent through constructing a one-year study out of two year’s data. After a burglary, victimization at each property was studied for the whole of the following year. This differs from a standard one-year time-bound study

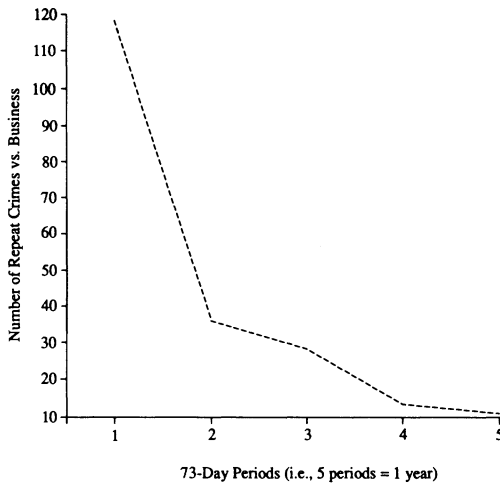


FIG. 6.—Time-course of business crime (repeat crimes within seventy-three-day periods). Source: Tilley (1993a).

where a property that was burglarized late in the year would only have available a short period in which revictimization could take place until the end of the study period. Figure 6 shows the time-course of commercial burglary revictimization for the rates generated by Tilley (1993a).

D. Future Developments of the Revictimization Time-Course

The time-course of revictimization will differ in its specifics by type of crime and other factors. The general pattern however seems to be consistent: that revictimization is most likely in the short period following victimization, and that risk remains artificially high for the longer period over which it decays. The time-course picture will also be complicated by the factor of crime prevalence. It does not seem unreasonable to suppose that an area with high crime prevalence and incidence will have a shorter average time until revictimization than a low-crime area—though again this will vary by crime type and local circumstance. Again, this presents a possibility for future research. How does the time-course of revictimization change as prevalence and incidence change between areas?

That the revictimization time-course was not found from victim survey analysis is not a criticism of victim surveys. Victim surveys have enabled many, great, and varied advances in knowledge about crime, but they are more revelatory in some areas than in others. Many of

the findings of victim surveys have been used to develop limited insight gained from other data sources, and recognition of limitations of victim surveys can directly lead to progress through prompting new veins of research elsewhere.

E. Policy Implications of the Revictimization Time-Course

In Section I, the criteria outlined for efficient crime prevention were a reliable victimization predictor and a practical, cost-effective means of preventing crime. With respect to the first, the time-course is a refinement of the revictimization predictor. However, the time-course analysis also has major implications for achieving the cost-effectiveness element of criterion two. This breaks into two parts: the need for a quick response to victimization, and the need for a response that can be transient.

1. *Quick Response.* Prevention resources should be mobilized immediately following victimization in order to maximize prevention. From the time-course analysis, for maximum prevention effect, they must be in place within twenty-four hours. After victimization there exists a "heightened risk period" for revictimization. The risk declines with time as the time-course smooths out at a low level of revictimization, and so a late response is less efficient. This may present logistical difficulties that, from the perspective of supporting victims as well as preventing crime, warrant effort to be overcome.

2. *Transient Response.* If the risk of revictimization declines rapidly with time, then, given that crime prevention resources are finite, maximum efficiency would be achieved through reallocating the resources according to differential risk. If the crime prevention resource is, for example, a portable alarm, then it can be placed in one location immediately following victimization. When the risk of revictimization declines, the resource could then be relocated to a different "high-risk" location that has just been victimized. The implication of the time-course for the efficient allocation of limited crime prevention resources is therefore that temporary prevention measures moved rapidly into place will achieve maximum preventive efficiency. Returns on investment in crime prevention resources will be greatest where this occurs, since the return in terms of crimes prevented will be both high (due to the predictor) and constant over time (due to reallocation).

V. Cautions concerning Revictimization Prevention

There will never exist a perfect means of crime prevention. There are probably some "least worst" crime prevention options, though even

those may be few and far between. The limitations of an approach must be acknowledged before problem solving and progress can take place. The subjects of crime displacement, deflection, "dispersion of benefit," and "free-rider effects" are more general crime prevention topics, not specific to revictimization, and are discussed in the Clarke, and Pease and Ekblom essays in this volume. (Also see Barr and Pease 1990; Miethe 1991; and Clarke 1992.)

A. *Victim Blame*

It has been suggested that victim-focused prevention based on past experience in some way blames the victim (see Meier and Miethe 1993). It is most likely that this criticism has evolved due to a few well-publicized cases in which judges have blamed rape victims of "provoking" rape through their particular comportment or attire. This is a criticism that is out of context when applied to the prevention of revictimization and can be likened to opposition to building crossings at accident "hotspots" because it would be blaming the pedestrians for being knocked down. The opposite is true, and from both economic and public safety motives, crossings are placed at the points where most pedestrians cross, providing greatest opportunity for accidents, or where conditions are such that a particular road is dangerous. Crossings do not prevent all pedestrian accidents, but they do lessen the incidence of the most predictable accidents at known accident locations and hazardous situations.

B. *One Free Go! Everyone a Winner!*

A revictimization prevention policy, by definition, is designed to move preventive strategies into place after a crime has taken place. This has led some to criticize the policy on the grounds that the criminals get "one free go" at every target, and therefore cannot lose. Unfortunately, this is a sad but true indictment of the success of criminology to date in terms of efficient crime prevention. However, there are at least two reasons why it is not an argument against a revictimization prevention policy. The primary reason is that revictimization policy does not have to be undertaken in isolation from other crime prevention strategies; they are neither mutually exclusive competitors nor substitutes. Second, using the "one free go" argument as an argument against a revictimization policy is similar to suggesting that a policy to prevent repeat offending should be dropped because it allows offenders a "free" first offense. The argument would be ignoring the consistent finding that

reoffending and recidivism constitute a large part of all offending and, thus, that preventing revictimization may prevent a large part of all victimization.

C. Devising Preventive Strategies

The degree to which repeat victimization can be prevented will depend on the effectiveness of the preventive measures introduced. Situational prevention will fail if the “target hardening” of properties consists only of sticky tape around the front door. However, this would not constitute failure of the perspective, merely its specific application. This problem is what Ekblom (1988) identifies as the stage of “devising preventive strategies” in a crime prevention schema: the stage in the preventive process after data collection, data analysis, and interpretation. Chronologically, preventive strategy failure lies between theory failure and implementation failure, though it might not be recognized as such until the evaluation stage. In the context of revictimization, it might therefore be argued that a different perspective is of little advantage and of no practical benefit if it can only rely on “tried and tested” preventive measures. However, as suggested by the Kirkholt project and will become more evident when more recent practical applications are discussed, this is not necessarily the case. As was suggested in the introduction to the essay, the advantage of preventing revictimization is more efficient and practical allocation of those limited “tried and tested” resources. Additionally, as suggested by the discussion of the temporal and spatial focus of repeat victimization, the specific conditions that the analysis generates may be conducive to the development of both new preventive methods and innovative applications of existing methods. While the success of revictimization prevention in practice is never guaranteed, preventive strategy failure does not encroach on the recognition of the extent of revictimization or its potential for prevention under different circumstances.

D. The Problem of Low Crime Prevalence: Situations with Apparently Little or No Revictimization

At the bottom of the revictimization curve, where there is little revictimization, the approach outlined here will be less applicable. This will include areas that have low crime rates and crimes that are typically of low prevalence. However, this is a sweeping generalization that may not hold up to closer examination. Areas with apparently “general” low crime prevalence may still have high rates of revictimiza-

tion under some circumstances. A specific example would be domestic violence, which cuts across social class and a variety of identifiable criminogenic factors (Smith 1988). The extent to which individual types of crime (though in reality there is often a grey area between "types") that are typically of low prevalence may interact in cross-crime revictimization does not preclude them from this approach. This is also true of crimes that, while of low prevalence, may, due to their specific circumstances, make them likely to be repeated. The obvious case would be crimes where the victim-offender relationship makes it likely that it will be repeated: neighbor disputes that result in assault or vandalism, for example. Robbery, a crime reputedly of general low prevalence, may be likely to result in revictimization; for example, where the same school bully extracts money from the same victim in the school yard each lunchtime.

E. False Positives and "Just Deserts"

Criticisms of predictive sentencing have largely concerned overprediction (false positives) and desert. In particular, two arguments against criminological prediction have been put forward. They have rarely, if ever, been discussed in relation to victims of crime.

1. *False Positives.* Following Blumstein et al. (1986), Sherman writes, "One major difficulty with using epidemiological data for policy purposes is the risk of false positives, or incorrect predictions of future criminality. . . . When the prediction is the basis for sentencing people to longer prison terms, the problem of false positives obviously becomes serious; even five or one percent may be unacceptable" (1992b, p. 4).

As it has been used almost wholly to date, this is the criticism that has most seriously dogged the advocates of criminological prediction. The problem as it is formulated is the moral dilemma of incarceration based on prediction, that some people would not have offended had they been sentenced to shorter terms or released earlier. However, to the extent that false positives will occur with any predictions (prediction without error being certainty), they can be argued to be at their least problematic in the case of preventing revictimization. A false positive is simply a misallocation of resources with no moral or other impediment. Any misallocation of resources might be reduced through future research to refine the predictability of revictimization according to different criteria, as the previous section suggested. Assuming that there will be false positives (though it may be difficult to determine

which cases are false positives and which are true preventions when a crime does not take place), then a revictimization prevention policy may even have benefits in terms of alleviating the fear of crime that is at a peak for some time after a victimization (see, e.g., Corbett and Maguire 1988). As has been suggested, albeit in slightly different forms elsewhere, the best form of victim support may be crime prevention, particularly so when revictimization is the alternative (see Farrell and Pease 1994).

What this brief discussion suggests may be a fundamental development for predictive criminology. Despite the heated moral and philosophical debate around the use of prediction in the context of sentencing, parole, and selective incapacitation policies, they have flourished. When these philosophical objections need not arise at all, as may be the case for the revictimization predictor, the incentive to refine the predictor and promote its practical use may receive support from all sides.

2. *Just Deserts.* The desert philosophy argues that criminal justice policy should not be based on predicted possibilities of what might happen but should be based on analysis of what has happened. An offender, the argument ran, should be sentenced on offenses that have been committed rather than on ones that might be committed in the future. This argument could be transferred to the allocation of crime prevention resources. By a process of “desert,” crime prevention resources would be allocated on the basis of past experiences of victimization. The concept of desert can be viewed as one of the principal justifications for crime prevention activity. Virtually no one “deserves” to be victimized. A person deserves even less to be revictimized. Even behind a Rawlsian veil of ignorance, who would receive allocation of limited crime prevention resources? Should everyone receive a small and equal share when most will go unused and the limited coverage caused by the strain on resources renders it in most cases ineffective? Alternatively, should resources go to the person who has suffered victimization and is most likely to be victimized again?

VI. Methodological Issues in the Study of Repeat Victimization⁷

This section tackles a variety of methodological issues specific to repeat victimization. It does not cover more general methodological issues.

⁷ The section title adapts that of Skogan (1986a).

Although they are based only on experience to date and will not be exhaustive, they are important considerations for both researchers and practitioners who investigate revictimization and evaluate attempts at its prevention. In particular, they highlight the importance of not underestimating the extent of revictimization.

A. Recorded Crime Data

The underreporting of crime to the police is compounded in the case of repeat victimization. Much crime goes unrecorded since it is unreported. Successive British Crime Surveys have also established that some crime is reported to the police but remains unrecorded. Taking both reasons together, much crime fails to appear in police data banks. This tends to the understatement of the extent of repeat victimization. For example, a household suffers a burglary. A burglary has roughly a 70 percent (or 0.7) chance of featuring as a recorded burglary in police statistics. The household suffers a second burglary. That too has roughly a 70 percent chance of featuring in police statistics. This means that the chance that they have both been recorded is 0.49 or 49 percent (that is, 0.7×0.7). Of households that have been burglarized twice, 49 percent will appear twice in police records. Nine percent (0.3×0.3) will appear never to have been burglarized, and 42 percent ($[0.7 \times 0.3] + [0.3 \times 0.7]$) will appear to have been burglarized once. This means that 3 percent of people suffering three burglaries will have no burglaries recorded. Nineteen percent (6.3 percent + 6.3 percent + 6.3 percent) will have one burglary recorded. Forty-four percent (14.7 percent + 14.7 percent + 14.7 percent) will have two burglaries recorded. Only 34 percent will have all three burglaries recorded. This analysis is somewhat artificial in regarding each incident as independent. In reality, people who report their first burglary may be more likely than average to report their second and third. Thus the analysis may exaggerate the degree of underestimation of repeat victimization, but it does not invent it. The truth may lie somewhere between small underestimation and underestimation of the extent described here and will vary by type of crime.

B. Police Incident Log Data

Incident logs are records of calls for police service, usually from the public. They are recorded for operational purposes but have been used as a source of data by many researchers (e.g., Sherman, Gartin, and Buerger 1989; Sampson 1991). The first of these used incident logs in

the analysis of crime “hot spots” and describes counting and analysis problems similar to those discussed here.

The first important point with respect to incident logs is that in some instances they may give a more accurate indicator of the extent of repeat victimization than recorded crimes. This may be particularly true for crimes like domestic violence. Most domestic violence does not get recorded as a criminal offense. However, incident logs give one, albeit imperfect, indicator of the ongoing nature of domestic violence when repeat calls to the same addresses are analyzed. Obviously this is not perfect since it has been suggested that a woman has, on average, experienced violence thirty-five times before calling the police (cited in Horley 1988, p. 2). Despite this imperfection, incident logs display distinct patterns of repeat calls. Incident logs were the initial source of data used by Farrell, Buck, and Pease (1993) to analyze the extent and time-course of domestic violence. For that study, the incident log data were transferred on disk from the police mainframe computer to a personal computer for analysis using SPSS-PC, a standard data analysis package. The major drawback for the analysis of repeat calls to a household was that addresses are not necessarily recorded in the same format each time by police dispatchers—a fact that is not overly important for police use but was fundamental to this research. Computers do not recognize the same address if it is spelled differently in any way (some computer software packages may have a “like” facility for similar spellings, but not for data analysis, and in this instance it may lead to additional counting problems). For an example of the problem, these six fictional address records are all calls to the same address, but a computer recognizes them all as separate addresses: (1) 119 Turton Road; (2) 119, Turton Rd BL8 ; (3) 119 Turton Rd. ; (4) 119, Turton Rd. ; (5) 119, Turton Road; and (6) 119 TURTON ROAD.

There are many more variations that can occur, and even the difference of a comma, a space, an abbreviation, a spelling, or a difference between upper- and lowercase, may be enough for the computer to read them as separate addresses. In the Merseyside project (Farrell, Buck, and Pease 1993), calls were sorted (SORT command in SPSS) by address, and then discrepancies were edited where they obviously referred to the same address. These were resorted, and further editing conducted. Several iterations of the sorting and editing procedure were necessary. This was found to be a lengthy but necessary process. It reduces the falsely high number of “single-incident calls” and brings

the number of “repeat calls” closer to the actual number. When results are aggregated, this procedure can make a huge difference to the findings.

A further point to note with respect to incident logs is that some events are not located to an address. An episode that may be a repeat call to an address may just be recorded as a call to the street name. These “unlocated” calls will increase the apparent number of single incidents at the expense of their true status as repeat occurrences.

C. Crime Survey Data

The pathbreaking paper by Genn (1988) has already been discussed, but a brief recap of the methodological issues she raises is warranted. Genn notes that many analyses of the British Crime Survey place an “artificial upper limit” on the number of criminal incidents that a person could report to the survey as a series. A series of incidents was usually given an artificial upper limit of five, regardless of whether this was one of five or fifty incidents. A limit was also placed on the number of series of incidents that could be reported. Each series of incidents was recorded on a questionnaire called a “victim form.” However, any one respondent could only complete up to four victim forms. This is not limited to the BCS. I worked on a survey that placed an artificial limitation of six victim forms on a respondent, as well as failed to account for several other of the aspects considered here (see Sampson and Farrell 1990).

A further problem of crime survey data is the absence of accurate date and time of repeated incidents of crime. This makes it difficult to determine the length of time between victimizations.

The presentation of these limitations is not meant to belittle the enormous contribution that crime surveys have made to criminological research and knowledge. The British Crime Survey has dispelled many myths about crime, shed light on others, and opened up many new areas to research. It will make an important continuing contribution to British criminological research. Some recent analyses of British Crime Survey data have attempted to overcome the problem of the artificial limit placed on data through the use of victim forms by using the “filter” or screening questions that record the initial responses to questions about the amount of crime. While these are themselves not without problems, they may go some way toward indicating the extent of repeat victimization.

D. The "Time-Window" in the Study of the Time-Course

A study of crime in an area for a one-week period will show virtually no repeat victimization. This is because crimes observed as "single-incident" crimes during the observed week may be repeats of crime the week before or may be precursors of crimes in the subsequent week. Even if there are only six days between one incident and the next, only those in which the prior crime took place on the first day of the study would have the repeat recorded as such.

Repeat victimization is therefore undercounted, and single-incident crimes are overcounted. The extent of the problem of the "time-window" of the research is proportional to the length of the period of observation. A study with a long reporting or recording period—perhaps several years of crime with dates and times of occurrence—will have virtually excluded this problem. A study with a very short time period has this problem acutely. In the study of schools burglary and property crime covered in Section IV, a simple weighting formula was used to account for the underestimate. Alternatively, as mentioned, Tilley (1993a) imaginatively constructed a one-year time-course study from two years of crime data.

E. Attempted Crime

In victim surveys, the inclusion or exclusion of attempted crime may have important effects on the findings with respect to repeat victimization. This is not presented here as a statement of fact but as a hypothesis and an area that needs further study. Is an attempted crime more or less likely to be repeated than a completed crime? It has not, to the writer's knowledge, been the object of any repeat victimization research. Rates of repeat victimization for attempted crimes may vary greatly by type of crime. For example, a frustrated burglary attempt may be deflected to a different target. Conversely, attempted rapes and murders may be excellent predictors of completed rapes and murders. This may be particularly so when victim and offender are known to each other. While very few rapes are reported, the volume has increased in recent years. It might be the subject of empirical study. Given the necessary background research, it could be one uncharted area in which a preventive approach might develop.

F. "Eligibility" for Revictimization

By definition, in order for revictimization to take place it is necessary for the target or victim to exist and be "eligible" for revictimization.

The extent to which this does not take place needs to be considered in calculating the rate of repeat victimization. Repeated murder victimization is impossible. Webb and Laycock (1992) show that the proportion of cars that are stolen and not recovered in the United Kingdom has increased over two decades, so that this is now the fate that befalls about one-third of cars taken. This spectacularly reduces the maximum repeat victimization that can occur. The extent of repeat victimization must be assessed in relation to the vehicles remaining eligible for repeat victimization. Cars that are badly damaged as a result of crime may be "written off" or otherwise off the road for a prolonged period. During this time they are not eligible for repeat victimization. Cars that move between areas or are sold on to a different owner (which could be more likely after victimization) might not have repeated victimizations traced to them even if they were repeatedly victimized. A similar pattern of the systematic overrepresentation of single-incident victimizations and the undercounting of repeat victimization would be the outcome if eligibility factors are not considered. While here it largely takes the form of a hypothesis of methodological considerations, it could form a further interesting prospect for future research during the development of a car crime prevention program.

One of the few attributes held in common by all routinely available sources of data about crime is their tendency to understate the level of repeat victimization. Some police areas may not realize that they have a problem of this kind. While some areas and some crime types may truly be characterized as involving low levels of repeat victimization, evidence to this effect has yet to emerge. When they do, these will be of particular interest. The first possibility to be eliminated when such a prospect is being considered is whether the intrinsic tendency to understate repeats accounts for their nonappearance. For prevention programs, consideration of methodological issues is important in order that the correct baseline of revictimization is initially established and in order that changes in this level can be properly evaluated.

VII. Preventing Revictimization: Domestic Violence and Burglary

This section details two projects that have introduced innovative techniques into crime prevention through an approach developed around the prevention of revictimization. While it is by no means the only factor (particularly so in the case of preventing domestic violence), a factor common to the projects is the use of quick response alarms

located at victimized targets during the period they are perceived as “high risk.”

A. The Merseyside Domestic Violence Prevention Project

A Home Office–funded crime-prevention project, the immediate progenitor of which was the Kirkholt Burglary Prevention Project, the emphasis was on the prevention of repeated domestic assault by all locally appropriate means. Some of the findings of the initial research phase of the project were detailed in the section on the time-course of revictimization. The study showed that domestic violence was very concentrated: a large proportion of all calls to the police came from a small proportion of all households that repeatedly made calls. This concurred with the findings of all previous research. However, it also showed that a repeat call was likely to occur within a short period after a call. A package of prevention measures was introduced based on the probability that revictimization was likely and likely within a short time, based on the preference for a specifically tailored package of measures. This package of measures included the recognition that domestic violence was often a long-term process to which short-term prevention would not necessarily bring a halt and that preventive measures must be encased in a package of social support for the survivors of domestic violence. The package included two main aspects. The first consisted of portable alarm technology, and the second a computerized database of all calls for police service recorded as “domestic” incidents, recorded by household. The alarms were connected, via a telephone line or a cellular phone, directly to the local police station. They used technology that was already used for elderly people in sheltered housing. The location of the alarm and the history of problems and violence at the address were automatically recalled onto a computer screen in the police control room. This information was then relayed to officers sent to the scene. The alarms received a priority response. They were offered to victims (primarily women) based on certain criteria: the issuance of a court injunction, a recommendation by a police officer who had attended a domestic dispute, a referral from another agency (through a local interagency domestic violence forum), or a recommendation based on a history of violence at an address detected through the computerized database. Information about a history of violence at an address was relayed from the database to officers attending a call regardless of whether the address had an alarm. Addresses where an alarm had been placed but had been returned would also be placed in

the database so that officers would know it was a location where there had previously been an alarm. Alarms were initially loaned for a period of thirty days, subject to recommendation for an extension (which was found often to be the case, as might be expected). A further main aspect of the prevention package was a Domestic Violence Prevention Worker who was employed to give support and information to women who received the alarms. This aspect of the package was crucial since an alarm would not necessarily solve many of the underlying problems of domestic violence; it produces a “breathing space” in which the victim can work, with the support of the domestic violence prevention worker, to achieve a situation where she would feel both safe and confident without the alarm. This is the reason why this section has been introduced prior to further discussion of the alarms for crime prevention: in the context of domestic violence, the alarms cannot be used in isolation. The package of measures also included “aide-memoires” for police officers about their powers to intervene at domestic incidents and information cards for victims (about local services available) that officers could distribute. Some of the initial results of the project are discussed in Lloyd, Farrell, and Pease (1994). Since undertaking that work, it came to light that a similar package of measures has been developed in a city in Canada, called DVERS (Domestic Violence Emergency Response Team), though with a different emphasis and infrastructure. The potential of the loaned alarms may still be further developed. Farrell, Clarke, and Pease (1993) suggest that they could be used to enforce court injunctions and family protection orders that have hitherto been largely unenforceable. Farrell, Jones, and Pease (1993) describe how alarms could be lent for witness and juror protection where necessary, a development that emerged due to demand as a by-product of the Merseyside project.

B. The South Yorkshire Burglary Prevention Project

South Yorkshire police developed the use of the portable alarm technology in a different crime prevention context (Fieldsend, Jones, and Pease 1992). Alarms were loaned to victimized properties immediately following victimization. These remained in place for a period of two months to give cover during the period when revictimization was most likely. While it is a refinement of the practices of the Kirkholt project, the technology used is the primary improvement. The service provided to the customer—the victim—is improved, due to the more effective and informed police response. The savings were also for the police

who can use the same crime prevention resources at different locations. Aspects of the portable intruder alarms for crime prevention are discussed below.

C. Portable Intruder Alarms and Efficient Crime Prevention

The use of portable intruder alarms for crime prevention has advantages over permanent alarms. The problems of "conventional" (i.e., permanent) intruder alarms are twofold. The first is the high rate of false activations. It has been estimated that over 95 percent of intruder alarm activations are false (see Pease and Litton 1984, p. 190). A second problem that compounds the first is the proliferation of permanent alarms across household and commercial properties. False alarms are a drain of police resources. With the proliferation of alarms, this becomes a great drain on police resources. As a direct result of the problem, police in Britain removed all monitoring of alarms from the police station. In many force policies it is explicit that alarm monitoring is not undertaken by the police (with the exception of the very limited use of Home Office alarms loaned by Crime Prevention Officers). Security firms were obliged to set up centralized monitoring units for their alarms. This introduced an aspect of screening for false calls and reduced the labor required by the police to monitor calls. With the portable intruder alarms, the problems of proliferation and false activations are both overcome to some extent. The number of alarms issued is far lower, and the number of false alarms will be much less. This is not an irrational claim to make: alarms are loaned, based on the revictimization predictor, to "high-risk" recipients. A genuine activation is much more likely during the loan period than one from a permanent alarm where allocation is not determined by probability of victimization. The alarms will not proliferate because they are issued on a temporary basis by an agency that reclaims them. Even if they did receive wider usage, one personal computer, such as the one in use on Merseyside, can monitor several thousand alarms at any one time.

VIII. Dynamic Crime Prevention: The Offender Detection Predictor

Viewed from only a slightly different perspective, the revictimization predictor is an offender detection predictor. By definition, it is a predictor of the time and place of a future offense, where an offender or offenders can be found and may be apprehended. Moreover, it could be that a predictive "hit" would be more likely to be the detection of

a frequent offender who has returned to repeat the crime. As a frequent offender detector, the predictor may also be a serious offender predictor. The potential is of placement of a minimum of preventive resources, efficiently allocated, to apprehend the most frequent and predictable offenders. If silent alarms were loaned to burglarized properties for the postburglary heightened-risk period, then all that remains is to harvest the offenders when they return. If one offender is responsible for several burglaries in an area, then based on the addition of revictimization probabilities, it may only be a matter of time until detection. Obviously this is a simplification, and the result may just be a crime prevented rather than an apprehension. If prevention resources were rapidly moved into place following each victimization, then the estimated time period before offender detection would be short. If the offender were to realize that alarms are being rapidly fitted and is deflected or displaced to a different target, almost by definition the choice of targets will involve increased risk. If it is not the same offenders who commit the revictimization of a particular target, this is not a problem.

A. Activity-sensitive Offender Monitoring Units

The revictimization/offender detection predictor holds the potential to become an antioffender policing strategy, a form of aggressive or proactive crime prevention, and for a variety of types of crime. This could be for domestic violence, residential and commercial burglary, and car crimes. Domestic violence and burglary have already been discussed.

1. *Dynamic Crime Prevention and Car Crime.* Unpublished results from the British Crime Survey suggest that car crime is even more concentrated in terms of rates of revictimization than personal and other property crime. As a means of prevention Sherman (1992b, p. 38) writes of the introduction of "Lo-Jack" car tracking devices that trace cars and have increased both car recoveries and offender detection in Massachusetts. The innovative combination suggested by the revictimization predictor would run thus: a pool of car tracking devices would be rotated between vehicles perceived to be at high risk (i.e., in the time just after victimization). This would be a more efficient allocation of alarms that are expensive when used on an individual basis. Even if there were not enough alarms for all cars to be tracked after victimization (or premises to be alarmed, etc.), as Sherman notes with respect to offenders and the possibilities for crackdowns, "by

keeping them guessing, we may have better luck at keeping them honest" (1990, p. 44).

2. *Implementation.* The use of the revictimization predictor as a tool for dynamic crime prevention would have to be correctly implemented. It would need a coordinated policy: a rapidly mobilized response to victimization; prevention resources in place within twenty-four hours (ideally); and an informed, priority response to alarm activations. This would have to include a consistent policy for alarm withdrawal and reallocation when risk of revictimization declines for a particular target. As with domestic violence alarms, alarms can be reallocated to a particular target for a further period based on specified recommendation criteria (e.g., after further victimization or an attempted break-in that did not result in actual theft).

Officers deployed to the scene of an activation, for example, of a burglar alarm or car locator, would be informed by radio that it was a silent signal and that they might catch an offender unaware. The control room monitoring a widespread set of silent alarms on loan to locations at high risk of revictimization would in effect constitute a cheap and highly effective "offender monitoring unit." It would only be called into action when criminal activity takes place. Historically, the monitoring of frequent offenders is tedious and labor intensive (i.e., expensive), typically a round-the-clock vigil involving several officers for one offender. The results of such a strategy are by no means guaranteed. Sherman writes of the Washington, D.C., Repeat Offender Project (ROP), involving seventy officers, that "it began with the goal of focusing constant surveillance on stranger robbers, but couldn't identify enough of them to stay busy," and continues, "the [repeat robbers] they did identify had the unfortunate habit of going home at night and staying there for 12 to 16 hours, which made surveillance extremely expensive and very boring. ROP officers wound up making more 'serendipitous' arrests while watching their targets than actual arrests of the targets" (Sherman 1992*b*, p. 15).

Based on a constant supply of repeat offenses as predicted by the revictimization/offender detection predictor, a whole police division of frequent offenders could be monitored in the course of the everyday activities of a single control room. A computer would monitor the long hours of inactivity for all the loaned alarms in a force area, and it would not be bored or inattentive when called on to respond. In the Washington Repeat Offender Project, there was a consistent input of labor (twenty-four hour, day after day) regardless of the extent of

criminal activity. The monitoring mechanism (i.e., the officers involved) cost the same amount in labor for the long periods of inactivity as for the periods of activity. Based on the revictimization predictor and the loan of silent alarms, human resources would only need to be allocated to sites of known potential offender activity when an alarm is activated. The expected outcomes of this for crime prevention would be doubly efficient per unit of labor expended: the prevention of revictimization and the increased likelihood of apprehension of frequent offenders.

B. Combined Crime Prevention and Offender Detection

Offender detection and apprehension is one form of crime prevention. However, other than implicitly, it does not traditionally overlap with a concern for the victim. Criminal careers research suggests that the returns to apprehending one offender would often be greater than one single crime prevented. To be realistic, it is likely that not all genuine activations will result in apprehension even if a crime is prevented. Perhaps the most effective practice would be both a crime prevention and an offender detection combination, not least to increase chances of implementation. Implementation of crime prevention initiatives is by no means easy (see Laycock, in this volume). In policing, as in all walks of life, the extent to which something is implemented and overseen will depend on self-interest. Policing is traditionally assessed on arrest rates, not on rates of crime prevention. This is because the first is a practical measure while the latter is more elusive for everyday monitoring purposes. If offender detection and the prevention of revictimization could be combined, the rewards will be greater for all concerned. The victim will receive a superior crime prevention service if there is an element of a potential tangible return to those who put it into place. The potential detection and apprehension of an offender will produce a more efficient crime prevention service than the potential securing of a future nonevent. The symbiotic relationship that could develop between preventing revictimization and offender detection (symbiotic because the “attractive” aspect—offender detection—could not take place without the crime prevention aspect) could be a potentially fruitful form of dynamic crime prevention. To be optimistic about the future, a productive Crime Prevention team based around the detection and prevention of revictimization could be an enviable posting.

IX. Conclusion

Revictimization prevention is beginning to catch on in the United Kingdom. In early 1993 all Chief Constables of Police and Force Crime Prevention Officers in England and Wales received a paper on the subject appended to a Home Office circular. One police area ordered nearly a thousand copies of a subsequent Home Office paper that was launched at a national conference on the subject. It is being considered as a national performance indicator for United Kingdom police work (Tilley 1994). This makes sense since most changes in crime rates are largely independent of the work of the police. Hence the level of crime per se is not a measure of police performance. Where policing is a response to victimization, it might be preferable to look for any crime prevention effect in the level of repeat victimization (Farrell and Buckley 1993). The rider to this would be the need to tackle the methodological issues in determining the extent of revictimization and in evaluating its prevention.

While this essay has endeavored to be sanguine, caution may need to be exercised in a variety of forms. There is no off-the-shelf prevention package, and each needs to be tailored to specific crimes and local circumstance. While preventing revictimization may suggest conditions conducive to the development of more efficient crime prevention, the demarcation of a sound preventive mechanism (Pawson and Tilley 1992) is a prerequisite to its achievement. The putative replications of the Kirkholt burglary project suggest that merely recognizing revictimization may not always be enough (Tilley 1993*b*).

Opinion may, as with any developments, remain divided on the potential of the revictimization predictor for general crime prevention strategy. This is not a problem. It will be determined almost solely by the extent to which the preventive strategies are devised. The revictimization predictor may in addition produce circumstances conducive to the development of new and innovative strategies, and, at worst, more efficient allocation of existing resources. The loan of alarms under certain circumstances may be one step toward efficient crime prevention. Specific examples have been illustrated, including domestic violence, residential and commercial burglary, and car crime. It should be stressed that in the case of domestic violence, alarms were not used in isolation but as part of a package of measures. Other possibilities for alarm loans will include racial attacks, and, moving away from revictimization predictors, alarms may have a variety of other potential uses, including, for example, witness and juror protection programs (Farrell, Jones, and Pease 1993).

As a means of focusing limited crime prevention resources where they are needed, "heightened risk" can be determined by a variety of methods. The extent of revictimization is an empirical fact. In time it will become a criminological commonplace.

APPENDIX

The tables show results for the 1982, 1984, and 1988 British Crime Surveys used to generate figure 1, the regression equations, and related information.

TABLE A1
1982 British Crime Survey: Area Decile Counts
and Rates for Property Crime

Decile	Incidents	Victims	Respondents	IR	PR	CR
1	15	15	827	1.81	1.81	1.00
2	60	55	1,027	5.84	5.35	1.09
3	114	92	976	11.68	9.43	1.24
4	168	125	1,100	15.27	11.36	1.34
5	236	164	1,076	21.93	15.24	1.44
6	301	179	1,041	28.91	17.20	1.68
7	392	224	1,193	32.86	18.78	1.75
8	560	274	1,239	45.20	22.11	2.04
9	816	324	1,398	58.37	23.18	2.52
10	1,226	311	1,028	119.26	30.25	3.94
Total	3,888	1,763	10,905			

NOTE.—IR = incidence rate. PR = prevalence rate. CR = concentration rate.

TABLE A2
1984 British Crime Survey: Area Decile Counts
and Rates for Property Crime

Decile	Incidents	Victims	Respondents	IR	PR	CR
1	33	32	1,052	3.14	3.04	1.03
2	88	74	981	8.97	7.54	1.19
3	145	121	1,090	13.30	11.10	1.20
4	192	142	1,109	17.31	12.80	1.35
5	229	158	1,150	19.91	13.74	1.45
6	288	186	1,163	24.76	15.99	1.55
7	371	206	1,149	32.29	17.93	1.80
8	497	220	1,092	45.51	20.15	2.26
9	674	309	1,086	62.06	28.45	2.18
10	1,302	322	1,157	112.53	27.83	4.02
Total	3,819	1,770	11,029			

NOTE.—IR = incidence rate. PR = prevalence rate. CR = concentration rate.

TABLE A3
1988 British Crime Survey: Area Decile Counts
and Rates for Property Crime

Decile	Incidents	Victims	Respondents	IR	PR	CR
1	31	29	1,031	3.01	2.81	1.07
2	89	75	1,032	8.62	7.27	1.19
3	141	116	1,174	12.01	9.88	1.22
4	201	147	1,129	17.80	13.02	1.37
5	258	173	1,040	24.81	16.63	1.49
6	334	207	1,177	28.37	17.59	1.61
7	436	258	1,174	37.14	21.98	1.69
8	587	302	1,239	47.38	24.37	1.95
9	745	309	1,263	58.99	24.47	2.41
10	1,900	414	1,482	128.21	27.94	4.59
Total	4,722	2,030	11,741			

NOTE.—IR = incidence rate. PR = prevalence rate. CR = concentration rate.

TABLE A4
1982 British Crime Survey: Area Decile Counts
and Rates for Personal Crime

Decile	Incidents	Victims	Respondents	IR	PR	CR
1	0	0	840	.00	.00	...
2	6	6	936	.64	.64	1.00
3	37	37	969	3.82	3.82	1.00
4	67	60	1,094	6.12	5.48	1.12
5	105	89	1,135	9.25	7.84	1.18
6	135	89	1,196	11.29	7.44	1.52
7	189	122	1,256	15.05	9.71	1.55
8	272	138	1,172	23.21	11.77	1.97
9	439	166	1,351	32.49	12.29	2.64
10	1,145	161	956	119.77	16.84	7.11
Total	2,395	868	10,905			

NOTE.—IR = incidence rate. PR = prevalence rate. CR = concentration rate.

TABLE A5
1984 British Crime Survey: Area Decile Counts
and Rates for Personal Crime

Decile	Incidents	Victims	Respondents	IR	PR	CR
1	0	0	1,073	.00	.00	...
2	14	14	1,082	1.29	1.29	1.00
3	33	33	1,102	2.99	2.99	1.00
4	60	51	1,052	5.70	4.84	1.18
5	86	70	1,116	7.71	6.27	1.23
6	113	86	1,149	9.83	7.84	1.25
7	155	102	1,118	13.86	9.12	1.52
8	203	113	1,105	18.37	10.23	1.80
9	321	136	1,107	29.00	12.29	2.36
10	1,130	181	1,125	100.44	16.09	6.24
Total	2,115	786	11,029			

NOTE.—IR = incidence rate. PR = prevalence rate. CR = concentration rate.

TABLE A6
1988 British Crime Survey: Area Decile Counts
and Rates for Personal Crime

Decile	Incidents	Victims	Respondents	IR	PR	CR
1	5	5	1,046	.48	.48	1.00
2	30	30	1,093	2.74	2.74	1.00
3	54	50	1,092	4.94	4.58	1.08
4	86	66	1,126	7.64	5.86	1.30
5	117	84	1,040	11.25	8.08	1.39
6	170	99	1,208	14.07	8.20	1.72
7	238	142	1,153	20.64	12.32	1.68
8	337	150	1,276	26.41	11.76	2.25
9	506	172	1,290	39.22	13.33	2.94
10	1,290	217	1,417	91.04	15.31	5.95
Total	2,832	1,015	11,741			

NOTE.—IR = incidence rate. PR = prevalence rate. CR = concentration rate.

TABLE A7
 Regression Equations for Area Crime
 Revictimization Curves for 1982, 1984,
 and 1988 British Crime Survey:
 Personal and Property Crimes

Crime and Year	ln IR
Property:	
1982	.918212 + .135513PR
1984	1.183834 + .121597PR
1988	1.062117 + .126298PR
Personal:	
1982	-.09133 + .294031PR
1984	.19720 + .271399PR
1988	-.16572 + .301056PR

NOTE.—IR = incidence rate; PR = prevalence rate.

TABLE A8
 Supplementary Information to Regression Equations of Table A7

Crime and Year	Standard Error of the Intercept	R ²	df	Standard Error of X Coefficient
Property:				
1982	.267	.956	8	.010
1984	.263	.941	8	.010
1988	.224	.961	8	.009
Personal:				
1982	.303	.969	7*	.022
1984	.170	.984	7*	.129
1988	.474	.915	8	.032

* There are only seven degrees of freedom (df) because nine rather than ten area deciles were used in analysis where decile 1 had no crime reported (see tables A4 and A5).

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