

# Learning While Doing: Linking Knowledge to Policy in the Development of Community Policing and Violence Prevention in the United States

by Mark H. Moore

---

## Introduction

Crime prevention – particularly when it takes the form of intervening early in the lives of potential offenders, or defusing criminogenic situations, or mobilizing informal social control networks to deter offenders – is a relatively new field. (Reiss & Roth, 1993) Indeed, the field's contours have not yet been logically surveyed, let alone fully explored through documented operational experience. Inevitably, then, we remain uncertain as to how much we can rely on crime prevention measures to relieve us of the sad burden of responding to (un-prevented) crime.

Despite the uncertainty, wide enthusiasm for expanded crime prevention seems to prevail. Everyone from the Attorney General to local police chiefs are talking about the wisdom of preventing rather than reacting to crime. The movement towards "community policing" is motivated (at least partly) by the desire to prevent rather than react to crime. (Sparrow, Moore, Kennedy, 1993) And the public health community's initiatives to reduce "intentional injuries" is animated by the goal of preventing rather than reacting to violence. (Moore et al., 1994)

Of course, the current enthusiasm for crime prevention probably owes as much to frustrations with existing crime control efforts as to the demonstrated efficacy of the new approaches. A decade of arresting drug offenders and building prisons with little reduction in drug abuse or crime to show for it has left many discouraged about traditional criminal justice approaches. (Reiss & Roth, 1993) So, it is only against the backdrop of disappointment with the success of current approaches that the (largely) theoretical potential of crime prevention looks promising.

The enthusiasm for crime prevention presents scientists in the field with an all too familiar problem: a world in which citizens and policymakers seize on a new set of untested ideas and rush pell-mell to im-

present them. In such moments, real hazards to society are created. Mistakes can be made that waste public resources and threaten citizens with injury and loss. Almost as bad, a promising field may become prematurely discredited if a few ill conceived early initiatives fail.

Keenly aware of these difficulties, social scientists deplore the faddish quality of policy development in democratic societies. They yearn for a more orderly process – one that could link policy development much more closely to the knowledge needed to guide it. Indeed, whether they know it or not, many social scientists are deeply committed to what Charles Lindblom has called “*the vision...of a scientifically guided society*”; one that “*puts science, including social science, at center stage.*” (Lindblom, 1993; p.213,214.)

It is not hard to understand why social scientists would be committed to this vision. They are deeply committed to rationalism – to the pursuit of knowledge, the virtues of explicitness, and the deliberate fitting of means to ends. Moreover, because they are so careful in establishing their scientific truths, they naturally assume that policy makers should be at least as careful in developing their truths. Indeed, with so much riding on public policy decisions, social scientists tend to think that policy-makers should be even more careful in the development of the case for policy action. Anything less would be intellectually irresponsible.

What is somewhat harder to understand (given social scientists’ commitments to learning from real empirical experience) is that they continue to hold these views despite substantial evidence indicating that the process rarely works as they wish it did, and despite arguments that there might be better, more useful ways to think about the relationship between knowledge and policy. There has long been convincing evidence indicating that social science knowledge is rarely used in public policy decisions in the ways that social scientists imagine it should be. (Lynn, 1978). There is also philosophical work arguing that social science methods have relatively little to say about how the bridge ought to be built from observations about how things are, and what things cause what to occur to complex, value laden judgments about whether and how society should intervene to deal with some problem. (Moore, 1983) And there is also evidence indicating that when important social problems are solved or ameliorated the active ingredient is far more likely to be a massive social mobilization than the use of any particular technology made available to the society through formal social science inquiry. (Lindblom, 1993, pp. 1–14)

This suggests that there is something wrong with the way that social scientists are now thinking about the proper relationship between knowledge and policy. Let me hasten to say that I don’t think that social scientists are wrong to want knowledge to guide policy. Indeed, it would be irresponsible *not* to use thought, evidence and experience to guide policy makers when they commit substantial public resources to a particular goal. Instead, I think their mistake lies in having too narrow a view of what constitutes knowledge valuable enough to use in confronting public problems, too rigid an idea about where and how

useful knowledge accumulates in the society, and too unrealistic a view of how knowledge might best be diffused and deployed in aid of both immediate action, and continued learning.

My aim in this paper is to expand our images of how society might try to link the development of knowledge to the development of policy in search of both more realistic and better ideas about how these relationships might be ordered. I begin by setting out and criticizing an admittedly extreme view – one in which the development of policy is completely beholden to the development of the knowledge on which the policy could be based.

To widen our conceptions of possible connections between knowledge and policy, I then sketch some alternative images of how society develops and uses knowledge in confronting other social problems; specifically, the problem of agricultural development, the treatment of cancer, and the establishment of civil rights. These different systems will be presented as different choices about how to structure the relationship between knowledge and action on the following dimensions: 1) whether action waits on or occurs in advance of the accumulation of validated findings; 2) whether “experts” or “lay” actors are authorized to act; and 3) the overall organization of the effort to capture the learning that comes from field experience.

I will then use these different sketches to do analytic work for us by using them to help form preliminary judgments about how the relationships between research and policy should be structured in two important initiatives now occurring within the United States: the efforts to expand “community policing” and to “prevent youth violence.” I conclude with some observations about how social scientists might better deploy themselves to be of greater use to society in helping it confront problems.

## The Social Research and Development Model

Let's begin with a model of policy development in which knowledge is given pride of place – one in which policy cannot proceed without checking in with science. In this model, formal scientific inquiry helps establish the size and character of problems nominated for social action; identifies the important causes of the problem; supports efforts to devise plausibly effective interventions; designs the experiments that test the efficacy of the interventions; and helps to disseminate the findings and diffuse the important innovations. This model, which I will call the “Social R and D Model” is certainly a caricature of social scientists' aspirations for a knowledge-guided society. But like many caricatures, it might be more accurate than is comfortable, and quite helpful in focusing attention on some of the more restrictive assumptions we make while practicing social science in the messy world of democratic policy-making.

## *The Nomination of Public Problems*

The "Social R and D Model" begins with the nomination of some condition in society as a "problem"; that is, something that society should pay attention to and seek to ameliorate. Now, there is no small mystery about how particular features of society emerge as conditions deserving social attention and action. (Blumer, 1971; Kingdon, 1984.) Much of that process seems "irrational" in the sense that it is not necessarily guided by disciplined judgments about which problems are larger than others, or more susceptible to solutions, or more fundamental to the future well-being of society. To the extent that one wants public action to be guided by science, then, the process of nominating problems for public action should retain a role for it.

And so it often does. Sometimes social science findings produce key facts about the size of a problem or the effectiveness of public action that push a problem onto the public agenda. For example, the social science evidence indicating that the basic operational methods police departments use to deal with crime and violence have little impact on either crime or fear helped to put the question of how cities ought best be policed on the public agenda. (Kelling & Moore, 1988; Sparrow, Moore & Kennedy, 1990) Other times, social science doesn't find a problem, but is asked to test the popular conception of the problem. For example, the work of epidemiologists helped to show that the public perception that violence was a major problem in the society was accurate: violence in the United States was reaching historically unprecedented levels. (Mercy & O'Carroll, 1988) The same epidemiological work also helped to show that the toll of violence fell quite unevenly across the society: it was a greater threat to young people than to old, and a primary cause of death for young, African-American men. (O'Carroll, 1988)

### *Identifying Causes*

Once a problem has been appropriately sized up by social science methods, the next step is to conduct basic research into the causes; thus, once Mercy and O'Carroll show us how big the youth violence problem is, it seems important to locate the causes. The natural assumption is that one cannot logically proceed to design policies without first understanding its causes. That assumption is so natural that most social scientists simply take it for granted. Yet, it is worth pausing a moment and considering whether it is true.

A little reflection suggests that knowing the causes of a problem does not by itself guarantee that one can devise an effective intervention. After all, one might discover that the cause of a problem is beyond the reach of any conceivable policy intervention. Even if an important cause of the problem is within reach of a particular policy intervention, one must still answer important questions about how much the policy intervention would cost, whether it is politically authorizable and administratively feasible, and what unintended side effects might result from its use. (Moore, 1983)

Even more startling is the realization that one might be able to act on a problem effectively *even if one doesn't fully understand its causes!* After all, there are many things in the world of medicine and engineering that we know "work" to produce desirable results, but whose mechanisms of action remain unknown. We know, for example, that lithium seems to reduce some of the symptoms of depression, and aspirin reduces inflammation. In neither case, however, do we know why the effects occur. Similarly, engineers know that "banana fuselages" work well for airplanes, but the physics of exactly why they work remains obscure. In short, biology and physics did not have to be complete to begin making some progress in healing people or designing bridges and airplanes. Applied sciences often develop somewhat independently of basic sciences, and there is no reason to suppose that this would be any less true in the social sciences.

(I don't want to open here the complex question of whether society should emphasize basic or applied research. I take it for granted that both are important. It is worth emphasizing, however, that the good news about applied research (which focuses on the effectiveness of interventions) is that it does tell us directly what we need to know for making policy. We don't have to expand on basic science results or draw "implications" from them; we know directly that an intervention does or does not work.)

### *Devising Policy Interventions*

Assuming that one has identified the problem and its causes, the task becomes to design a plausibly effective intervention. Again, social scientists often assume that there is something automatic and rigorous about the logic that connects knowledge of causes with ideas about effective interventions. That is what gives them an important role in the policy design process. And, insofar as knowledge of a cause identifies a target variable for policy interventions to reach, this is true. But the problem for social scientists in assuming the role of policy designer is that it is rarely true that there is only one way to reach a target variable, and there are often important practical and normative questions to be considered that go beyond the question of the anticipated effectiveness of a policy in achieving a particular result.

For example, one might establish through painstaking basic research that severe child abuse and neglect dramatically increase the chance that an individual will engage in violence as an adult. (Widom, 1989) That finding provides an important additional reason to be concerned about reducing the incidence of child abuse and neglect. It does not, however, tell us whether such a goal could best be achieved by providing preventive services to all families, or expanding the network of people in official positions who are mandated to report instances of abuse and neglect, or by increasing society's reliance on foster care placements. (Besharov, 1990)

Devising plausibly effective interventions often depends on imagination and creativity as well as established knowledge about the causes of problems, or the efficacy of already established interven-

tions. (Moore, 1983) At this stage of public problem-solving, some knowledge of what existing political and administrative institutions are capable of is also required, since the politics of an issue will often help an analyst discover what important values are at stake in the policy domain in which he is working, and the bureaucratic capabilities of the agencies working in the area will not only suggest some possible actions, but also indicate the important constraints on administratively feasible actions. (Allison & Moore, 1978)

Finally what is needed, however, is some capacity to estimate the likely effects of imagined interventions. The estimates are helped most directly if particular programs have been tried and evaluated. (Weiss, 1992) The results of those early program evaluations can be plugged right in. In the more usual case, however, only a few of the logically possible interventions have been tried and evaluated, and then quite imperfectly. Thus, one ends up with a sparse matrix of programs with estimated effects, and even the spaces that are filled in are filled in with rough estimates (most properly represented as probability distributions) rather than as certain results.

To go beyond this experimental base, analysts then resort to many other devices for reducing the uncertainty around the estimated effects of the different interventions. Indeed, this is the point where policy analysis earns its pay by taking relatively small amounts of information and parlaying that into useful estimates of what is likely to occur. (Stokey & Zeckhauser, 1978) Models are constructed, and simulations are performed – all to help the analysts guess what is likely to occur as a result of a particular policy intervention in the absence of documented operational experience.

In addition to these analytic techniques, sometimes “expert” opinion is harnessed through methods such as Delphi techniques. (Linstone & Turoff, 1975) Note that there are often two somewhat different kinds of experts who are asked to help make estimates about plausibly important interventions. Some are “academic” experts who have thought about the problems and kept up with the academic and social science literature on a subject. Others are “clinical” experts who have been responsible for dealing with the problem, and have accumulated a great deal of operational experience in trying to deal with it.

Interestingly, fields seem to differ from one another in terms of how much overlap exists between the academic experts and the clinical experts, and in the relative status of the two groups. In medicine and foreign policy, for example, there is substantial overlap between the two groups, and the academic experts are often considered the same as the clinical experts. In crime, however, the fields diverge much more widely. The academic experts in criminology are rarely considered the clinical experts in responding to crime. Moreover, it is unclear which group of experts has the greater influence in society when choices are to be made about how best to deal with the social problem of crime. Sometimes it seems as though the academic experts are quite influential; other times the clinical practitioners.

The uncertainty about what will work would be truly crippling to social science’s efforts to guide policy interventions if one had to be

*certain* that one had found the *best possible* intervention. If, on the other hand, one recognizes that the task at this stage of the policy development process is simply to find some plausibly effective interventions that would be worth experimentation, the task gets far simpler. (Simon, 1976; pp. 240-244) And that is really the standard set by the "Social R and D Model" for this stage of policy development.

### *Experimenting with Promising Interventions*

Once society, advised by its clinical and academic experts, has settled on several plausibly effective interventions, the task becomes to learn whether, and how well, the interventions actually work. The favored device, of course, is well designed experiments. Of course, there is much that can be said about the best way to design and execute policy experiments. (Campbell & Stanley, 1966) Suffice it to say here that I hereby incorporate by reference all the useful instruction that social science has given about this matter, and to note that this instruction includes the importance of the random assignment of subjects to treatments; careful measurement of outcome (dependent) and process (independent) variables; and checking widely for unintended outcomes. In the best of all worlds, the experimental versions of the programs would be constructed in ways that would allow quantitative estimates of both costs and benefits.

### *Disseminating the Results*

Once experiments have revealed which particular interventions are effective, the next step prescribed by the "Social R and D Model" is to disseminate the results. Thus, program models are developed; pamphlets describing them are sent around; advice is given about the process of implementation. In the most aggressive efforts to disseminate successful programs, the sponsor (often the federal government) may provide grant money to be used to implement the newly proven programs.

If there is still interest in checking whether the program operates, money may also be provided for additional field evaluations. To the extent that the programs have been thoroughly checked out in the experimental phase, however, the pressure for continued evaluation may have slackened. Thus, the program shifts from an experimental program to a widely implemented operational program, and society enjoys the benefit of the carefully accumulated knowledge.

## Evaluating the Social Research and Development Model

As set out above, the social research and development model has some obvious strengths. The most obvious is that it is so clearly a "rational" process. Each step is designed to develop the knowledge that lays the

basis for the next step. Action never gets far beyond the knowledge that can reliably guide it. No big commitments are made until one has developed confident knowledge that the interventions will work, and will do so with limited side effects. In these respects, it seems morally responsible as well as rational and efficient.

It also has the virtue of giving social scientists key roles in the process: they are the arbiters of whether something is a problem; they play a key role in devising and selecting candidate policies to be tested; they control the pace at which commitments are made by saying when the knowledge base is adequate. Given these strengths, it is not hard to understand why social scientists would be attached to this model as an ideal way for society to proceed in addressing new, unsolved problems. A harder question is whether there are any problems with this way of proceeding.

### *Lack of Realism*

The most obvious criticism, of course, is that the model lacks realism; nothing ever happens quite this way. (Lynn, 1978; Lindblom, 1990) Driven by the short attention spans of the public, the rhythms of electoral politics, and the needs of the media for news, society will simply not wait for the slow process laid out in the social research and development process to run its course. As described, the social research and development process would require three to five years of elapsed time. To many, that simply seems too long to begin acting on urgent public problems.

The model also seems to give too much control to scientists and other experts. Too few others are invited to participate in the identification of problems and the formulation of solutions. Moreover, it is only the solutions passed by social scientists or other experts that are supported. This is inconsistent with the station of social scientists in democratic societies. In democracies, many more people feel authorized and sufficiently knowledgeable to act responsibly.

To complain that the model is not realistic is not the same as saying that it is not ideal, however. Indeed, if lack of realism were the only criticism that could be levelled against the social research and development model, social scientists could reasonably argue that the correct response would be to work harder to make society adopt this method of making progress rather than rely on some other substantively inferior process whose only virtue was realism.

A more radical and penetrating critique of the social research and development model is that this model is not only unrealistic, but that it fails to identify the best possible way for a society to deal with problems whose answers are not yet well known. (Heifetz and Sandler, 1988) At first glance, this seems unlikely since the "Social R and D Model" seems to be so responsible, and to make such effective use of the most powerful techniques we have for building and deploying knowledge. How could it possibly be wrong? Four possibilities come to mind.



## *Too Slow to Exploit "Windows of Opportunity"*

*First*, the "Social R and D Model" might, in fact, sometimes be too slow to be effective in dealing with a social problem. Sometimes speed is important in dealing with social problems. Sometimes there *are* "windows of opportunity" that must be seized regardless of the state of society's current knowledge. Otherwise, the chance to act on a problem will disappear.

"Windows of opportunity" can be produced in at least two different ways. The most common idea is that it is the ebb and flow of politics – the collective will to act on a problem – that creates the windows of opportunity. In this idea, there are particular moments when society is willing to address certain problems. If that time is missed, it will not come again for many years. (Kingdon, 1984)

Rationalists tend to deplore this quality of democratic governance. To them, it seems obvious that if a problem is worth addressing in 1994, it ought also to be worth addressing in 1996, or for that matter in 1992. It is frustrating to them that society's will to address problems is so mercurial, and so loosely connected to actual conditions in the world.

If, however, one accepts this as a feature of democratic governance – that only so many issues can come onto the agenda, and that there are particular times when an issue can be addressed – then a rationalist should learn quickly to adapt to this reality. After all, the will to act is a valuable resource in solving problems. True, the will to act will be worth more if it is guided by a reliable technology for accomplishing its intended purposes. But will alone, or will combined with a rough, widely decentralized experimental approach can often accomplish a great deal even when it does not have the best technology available. Mass energy can sometimes overcome problems even when the best technologies are not available.

Thus, political "windows of opportunity" might reasonably be viewed as moments when substantial new resources are available for dealing with a problem, and the availability of those resources might well change the emphasis one should give to ensuring cost-efficiency. One would rationally choose to irrigate fields differently if rain was expected to be plentiful; and one might rationally choose to de-emphasize cost effectiveness in a world in which resources will, for a time, be plentiful.

"Windows of opportunity" can sometimes occur as features of substantive problems as well as of politics, however. Drug problems, for example, seem to come upon the society as "epidemics". There is a period in which they are just starting; a period in which they grow rapidly; and a period in which some self-correcting mechanisms seem to come into play. (Musto, 1986) These features of the problem mean that there are some moments where actions designed to frustrate the spread of the epidemic are more valuable than at other times; and where actions to deal with the casualties of those caught up in the epidemic are more important than others. (Moore, 1990) Insofar as time itself is important in shaping what policy actions are most needed, substan-

ive windows of opportunity will be created, and the pace at which society develops policy responses will have to march in accord with those requirements. The leisure to develop knowledge before we act will be denied us.

### *Too Narrow a Search for Solutions*

*Second*, the "Social R and D Model" may focus its search for find effective solutions far too narrowly and discard too many plausibly good ideas. Of course, to those who favor this approach, the idea that the social research and development model narrows society's focus on a small number of plausibly effective interventions is one of its important strengths, not a weakness. Instead of using a scattershot, "let a thousand flowers bloom" approach, one uses the discipline of thought, evidence, and expertise to identify a small number of interventions that are particularly likely to succeed. In short, one searches for effective interventions in the places where they are most likely to be found.

Whether society's interests are well served by a relatively narrow search guided by expert judgment, or by a far wider search guided by what Lindblom calls "lay investigation" depends a great deal on how superior the experts' judgments are. (Lindblom, 1990; p.216) In general, the more ignorant society as a whole is, the better served it will be by broader searches. Often, experts have prematurely narrowed their search only to have the solution emerge someplace wholly unexpected. Moreover, one doesn't need to be romantic to imagine that frequently those who have the most direct experience of a problem will have ideas about how to deal with it that are both different and sometimes plausibly more effective than experts who have studied it with their particular disciplinary biases. So, there may be some circumstances when expert opinion (harmfully) limits rather than (helpfully) focuses society's search for effective solutions.

### *Too Generalized and Hegemonic a Solution*

*Third*, the "Social R and D Model" seeks general solutions that will work reliably everywhere rather than more general concepts that can be adapted to particular local circumstances. Again, to many, this feature of the social research and development model seems a virtue rather than a problem. What research should seek is propositions that are true in general and technologies that work everywhere all the time. Indeed, in the social research and development model, one cannot be sure that one has really developed a successful intervention until one can show that its effects are general and robust – that it works across a great many different circumstances.

Interventions that are general and robust *are* more valuable than interventions that can produce effects only in a limited range of circumstances. All other things being equal, one would prefer such reliable interventions. The difficulty, however, is that other things are not

always equal. For one thing, it takes time to demonstrate the generality of a solution, and, as suggested above, in some circumstances, waiting imposes a substantial price on the ultimate effectiveness of action.

A second problem with general solutions is that unique local circumstances may render the general solution less effective than some variant of the general solution. This could be the result of different resource endowments across local areas; or of different attitudes towards some particular side effects of the general intervention; or simply something about the local area that made the general intervention less effective than it would be on average.

Third, general solutions sometimes discourage local enthusiasm for adopting the innovation. It is often asserted that society could gain efficiencies by not having to constantly "re-invent the wheel", or that the pace of desirable change could be quickened if one could show that many localities were now adopting a particular new program. But some studies of the diffusion of innovation reveal that adoption of new programs and technologies is often aided (particularly in the early take-off stage) by encouraging localities to develop their own variants of a general or abstract model of the proposed program. (Rogers, 1983; Behn, 1993) Apparently, local people like being able to differentiate themselves by adapting innovations to their particular requirements rather than slavishly following a model laid out for them. The additional increment of motivation that comes from being able to invent, adapt, and control one's own methods is often worth a great deal in influencing the probability of adoption. That fact may outweigh the apparent technical benefits of sticking to the tried - and - tested approach.

### Summary

Each of these criticisms, taken on its own, can be challenged by supporters of the "Social R and D Model". Yet, taken all together, the criticisms add up to an overall indictment of this classic rational model that seems instructive. There is something too unrealistic, too slow, too limited, and too hegemonic in this process. It treats knowledge as more precious than the will to act on problems. It treats expert knowledge as far more qualified than "lay inquiry" (even when the task is *conceiving* rather than *testing* plausibly effective and acceptable interventions). And it treats general truths as more important than local adaptations.

By reversing each of these orientations, one can glimpse an alternative model of social problem-solving; one that Lindblom calls "the self-guiding society". In contrast to the "scientifically guided society", the self-guiding society "brings lay probing of ordinary people and functionaries to center stage, though with a powerful supporting role played by science and social science adapted to the lay role in probing volitions." (Lindblom, 1990, p. 214) In Lindblom's view, the "self guiding society" is distinguished by (among others) the following characteristics:

- 1) It "centers....on lay investigation or probing, a wider variety of inquiries than those of social scientists", and "pictures its wide inquiries as much less conclusive than those of the scientific model" (Lindblom, 1990; p. 216)
- 2) It "rejects social science as an alternative to ordinary inquiry and sees it instead as an aid, refiner, extender, and sometime tester of it, always a supplement, never broadly embarked on a program to displace or replace it" (Lindblom, 1990; p.216)
- 3) It assumes that some problems can not be solved by the development of appropriate techniques, but instead only "as an outcome of a diffuse social process in which at least politically active citizens examine their relevant volitions" (Lindblom, 1990; p. 217)
- 4) It views as "naive" the claim that there is one best solution to a problem, and instead entertains many plausible solutions whose virtues lie not in scientifically established evidence that they are, in fact, the best possible solution, but instead in the demonstration that they have been "well-probed", and do not block the continued search for better solutions; (Lindblom, 1990; p. 218)
- 5) It aims not for solutions, but for "a step toward amelioration, a step very likely containing a significant element of failure but leaving the situation open for another, now better informed step"; (Lindblom, 1990; p. 219)
- 6) It is not "cerebral"; it recognizes that the "acknowledged impossibility of anyone's ever achieving a full grasp of the relevant complexities of society compels action in ignorance" and "counts on strategies like trial and error, in which the trail serves not merely as an action to attempt a solution but provides feedback information to illuminate subsequent attempts. (Lindblom, 1990; p. 219)

In sum, in this model society acts on problems not by first learning and then acting, but instead by *simultaneously learning and acting*. Arguably, this is a superior way for society to proceed in identifying and dealing with important social problems. Indeed, it reminds one of Peters and Waterman's finding that the most successful companies they studied seemed to follow the principle of "ready, fire, aim" rather than the more conventional principle of "ready, aim, fire". (Peters and Waterman, 1982; p. 155) They thought this principle was important because it gave companies a "bias toward action", and that bias was considered important not only because it gave companies the advantage of speed in adapting to environmental pressures, but also because it avoided some of the waste associated with excessive efforts to plan, control, and co-ordinate.

One could also observe, however, that there are some important advantages in "aiming" after one has "fired" – the advantages are that one has some real operational experience to use in helping one aim. One doesn't have to rely on guess work. As Lindblom puts it, "In [the model of the self-guiding society], citizens, functionaries, social scientists and other experts do what they have learned and then learn what they have done." (Lindblom, 1990; p.219)

# Alternative Models

The critique of the "social research and development model" and Lindblom's vision of a "self-guiding society" help to loosen one's commitment to the more conventional commitment to the virtues of a "scientifically guided society". A cautious person, however, might want some more specific and concrete images of processes that approximated Lindblom's self-guiding society. Or, if not that, at least some images of different kinds of relationships between knowledge and policy than those suggested by the "Social R and D Model."

I have encountered three different models drawn from different public spheres that might help us envision different ways of accumulating useful knowledge about how to prevent crime: the Agricultural Extension Service; the use of "medical protocols" in teaching hospitals; and the way in which the United States Department of Justice aided the civil rights movement. My knowledge of each of these alternatives is admittedly sketchy. But since I am using them only to help stimulate thought about different ways of linking knowledge to policy (rather than using them as evidence to claim that they work better), the sketchiness may not be too great a handicap.

## *Agricultural Extension Service*

The United States Agricultural Extension Service began in the mid-nineteenth century as a method of helping citizens succeed as they "went West" to seek their fortunes. It has since evolved into a large, sophisticated system linking the development of knowledge about agricultural production to the farmers who use the knowledge. (Meister, 1994)

The system essentially stands on three institutional pillars. One is the system of land-grant colleges established through federal legislation in 1862 and 1890. These institutions were established to conduct applied research in agriculture and mining, and to teach students in these techniques. The aim was both to increase knowledge, and to increase the number of people who had access to that knowledge.

The second is the Agricultural Experimentation Station. These were established in 1887 to "*conduct researches, investigations, and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agricultural industry ...including...such investigations as have for their purpose the development and improvement of the rural home and rural life.*" (Berry, 1977, p.145)

The third, and in many ways most important and innovative pillar, of the Agricultural Extension Service was the network of County Agents. This system evolved over a long period of time in response to farmers' criticisms that the Agriculture Department was promoting "book farming". The farmers did not find the written pamphlets that emerged from the land grant colleges and the agricultural experimentation station useful or convincing. They wanted more powerful hands-

on demonstrations that the new techniques worked, and assistance in making them succeed.

A variety of forms arose to meet these needs. In the late 1880's the farmers themselves had organized "farmers institutes" in which professors and farmers could get together in the winter months to discuss methods for improving agricultural yields. In 1889, the Agricultural Experiment Stations began to sponsor this fledgling movement, and by 1911 nearly one million farmers participated in these activities. (Rasmussen, 1989, p.29) They also relied on the publication of "Farmers Bulletins" and "moveable schools" as devices for diffusing knowledge among farmers.

The extension service got its greatest boost, however, from the boll weevil. To combat this threat to the nation's cotton industry, the Agricultural Extension service was charged with developing and carrying out a "*plan to encourage farmers to change their growing patterns so that the cotton would mature before the boll weevil had a chance to attack.*" (Meister, p.9) The man charged with this task developed the philosophy that was to remain the hallmark of the agricultural extension service, "*What a man hears, he may doubt; what he sees, he may possibly doubt; but what he does, he cannot doubt.*" (Rasmussen 1989, p.35)

Although these different components of the system developed somewhat separately, they were eventually linked in a fairly integrated whole. The land grant colleges did the basic research, and taught the next generation of researchers and farmers. The experiment stations tested the seeds and techniques in conditions that, while not entirely realistic, did allow for the rigorous testing of the new ideas. The network of county agents brought the technology to the farmers.

It is important that the description I have just given makes the system sound like a centralized system designed to push technologies developed by science into the hands of practicing farmers rather than a decentralized, "demand-pull" system in which the farmers questions and concerns set the agenda for the scientists. That has been, in fact, the system's dominant tradition. More recently, however, the system has begun to shift its focus. The county agents learned that they could not push technology on the farmers; they had to wait until the farmers were ready to try something new. Even more importantly, they learned that the farmers had both problems and ideas for solutions that were not being thought about or tested in the universities and experimental stations. Gradually, then, the county agents began to serve as advocates for the interests and concerns of farmers, and the farmers, instead of becoming the passive recipients of information from on high, began to become the issue and idea generators for the scientists in the universities and experiment stations. In short, the system is now beginning to operate more like a decentralized, "demand-pull" system than a centralized, "technology-push" system. (Meister, 1994)

Several features of this system are important to notice for purposes of imagining effective ways to link knowledge and action in crime prevention. *First*, the system is very large. Whole universities and laboratories and networks of outreach workers were created to support

agricultural innovation. In contrast, in the realm of crime prevention, there are only a few researchers operating in academic departments, no experimental stations to speak of, and virtually no network of outreach workers.

*Second*, the system is focused not only on producing knowledge, but also on producing people who could hold and expand the knowledge. The graduates of the land grant colleges were supposed to be farmers as well as researchers; and to do their farming in an intellectually curious way. In effect, the system was designed to produce "reflective practitioners" as well as scientific experts. (Schon, 1983)

*Third*, the system stretches from the academy, through the experimental stations, to the farmers in the field with thick, strong connections made across these institutions. The ivory tower can smell the manure in the fields; the professors are tied to farmers.

*Fourth*, although the system began as a way of developing and disseminating knowledge from experts to lay people, it gradually evolved into a system where the lay people could begin using the experts for their own purposes. This came, no doubt, from the fact that the farmers had been trained to become reflective, and the powerful links between the field, the experimental stations, and the universities was so close that the dialogue would inevitably have to run in both directions.

### *Medical Protocols*

The second model that might prove instructive is the way that America's medical care system seems to be learning about cancer treatment. My exposure to this system came through my mother's treatment for leukemia in a Chicago teaching hospital. Naturally, as a client, I was concerned that my mother receive the best possible treatment for her illness, and concerned that she not become an experimental guinea pig unless that was in her interest. As a researcher, however, I also understood that society would need a certain number of experimental subjects if it was ever going to learn about how cancer could be treated most effectively. This seemed to set up an intolerable tension between my determination to ensure that my mother not become an experimental subject, and the nation's interest in experimenting with how best to treat cancer.

What I encountered, however, was an ingenious system that significantly lessened the conflict between these goals. The system consisted of a set of federally established, experimental protocols for the treatment of my mother's particular kind of cancer. I assume that the protocols were developed by cancer experts who thought they were among the most promising forms of treatment then available. Significantly, however, there were several possible protocols. As important, none of the protocols were imposed on local physicians. Instead, they were offered as ideas that local physicians might want to consider. The system acknowledged that local physicians had the clear moral duty to treat their patients as they thought best; further, that the physicians were in the best position to make the judgements about what

treatment would be best. What the system did ask, however, was that if the physician did decide to treat the patient in accord with one of the particular protocols, that the physician report the progress and results of that intervention.

In contrast to the "Social R and D Model", this system has several features worth remarking. *First*, it reminds us that there are many realms involving life and death in which uncertainty exists and is handled in an experimental way. We often act as though the problems in the public sector are so important and so demanding that it would be impossible for anyone to admit to ignorance and act experimentally on the basis of imperfect information. Yet, in the case of medical care, society routinely accepts the idea that life and death decisions can be made on the basis of imperfect information. What we demand in these cases is not perfect knowledge, but the conscientious use of what knowledge exists, and an effort to develop the informed consent of those who will be the subject of what inevitably must be experiments. Perhaps these should be our ethical standards when we (inevitably) experiment with policies as well as medical treatment.

*Second*, it resolves the apparent tension between the desire to use centrally available expert knowledge on one hand, and to allow local initiative and adaptation on the other in an interesting way. Essentially, it preserves the advantages of both approaches. The national experts are convened to identify the promising protocols, and those are broadly disseminated. Thus, society gets much of the benefit of a centrally directed technology push system linking knowledge to policy. At the same time, the pre-eminence of local professionals is acknowledged, along with their ability to make local adaptations. Thus, nothing that is in the minds of local people is discouraged. Some of those might even become the future national protocols if none of the existing ones pan out. So, the advantages of local initiative, adaptation, and imagination is preserved as well. The analogy would be one in which experts in community policing or crime prevention got together to identify some promising ideas, and disseminated these ideas to many local areas, but then not only allowed but encouraged local areas to do what they thought was promising.

*Third*, it essentially democratizes the activity of problem-solving by recognizing the status and expertise of local practitioners as well as national elites. This is implicit in its acceptance of the rights and responsibilities of physicians to find the best treatment for their individual patients, and its reluctance to impose the medical protocols on the system. The analogy would be to recognize the expertise of police chiefs in inventing locally appropriate forms of "community policing", and local community activists in finding locally valuable ways to "prevent crime".

*Fourth*, it allows society both to act quickly and comprehensively, and to learn quickly while it is acting. It allows society to act by acknowledging the right and the obligation of local practitioners to do what they think is best for their patients. At the same time, it sets up a system that allows the actual experience that local practitioners have to accumulate at a national level. The analogy, again, would be to



provide money to localities that experimented with nationally suggested protocols to document their experience and its results so that the information would be available to others.

### *Civil Rights*

A third model of how to link policy development to knowledge development is given by the United States Department of Justice's efforts to expand civil rights the late 1960's. My knowledge of exactly how this was done is even sketchier than the others. I nonetheless include the example for three reasons. First, it comes from the experience of the United States Department of Justice – the organization that is likely to be involved in any effort to link knowledge and policy development in the domain of crime prevention. Second, in some ways the areas are comparable in the sense that there is widespread public enthusiasm, but little knowledge about how to proceed, and significant values at stake in the way that society chooses to act. Third, the way that the Department of Justice acted in this domain is about as far from the model of social research and development as one can imagine, and thus serves as a provocative contrast.

Essentially, what the Department of Justice did to advance the cause of civil rights in the late 1960's was to send a relatively small group of dedicated lawyers to small towns and cities across the country. Their assignment was to find *any* individual or group in motion on this issue, figure out what they needed to succeed, and then get whatever help was required from Washington. There was no effort to figure out whether "freedom rides" or "customer boycotts" or "voter registration drives" or "law suits" were the most effective ways to break down patterns of discrimination. There was no temptation to wait until the Department of Justice could be sure that demonstrations could be undertaken safely. There were no formal experiments or program evaluations of the different initiatives that were launched. All that existed was citizens and officials acting as they saw fit in the local circumstances they encountered, for the purposes that seemed important, using whatever their (unsystematically recorded) experience offered as guidance.

This case, too, offers some interesting points of contrast to the social research and development model. Indeed, in many ways it seems like it's antithesis. It treats the will to act (what Lindblom calls "volitions") as the most important resource to be husbanded, and the most powerful guide to action, and the knowledge about how best to act as relatively less important. (Lindblom, 1990; p.21-22) The implicit assumption seems to be that if society wants to act on a problem, ignorance about how best to act is not a particularly crippling condition. That ignorance will gradually be overcome with the experience that is generated by the will to act, and some (informal) reflection on the consequences of that action.

One might say, of course, that the case of civil rights differs from the domains of "community policing" and "crime prevention" since civil rights is about attitudes and the other domains are more con-

cerned about effective action. Yet, reflection suggests that changing attitudes (among citizens and practitioners) is an important part of re-making police departments and re-focusing public attention on crime prevention as well as civil rights. Indeed, community policing depends crucially on citizens accepting more responsibility for controlling crime, and on police officers understanding that their job includes reassuring and making contact with citizens as well as apprehending offenders. Shifting our focus to "crime prevention" involves learning to treat events and conditions that are not yet urgent as nonetheless quite important. So, it is not true that successful social action can occur in the domains of community policing and crime prevention without changing attitudes. It follows, then, that the techniques of mobilizing and networking that were used so successfully to create a civil rights *movement* might also be important in developing a *movement* toward community policing and violence prevention, and that the *movement* might be more important than the development of particular technologies.

## Points of Comparison Among the Models

Reflection on how these examples challenge the social research and development model identifies several important points of comparison. These points of comparison parallel the differences Lindblom sees between "scientifically guided" and "self-guided" societies. (Lindblom, 1990; pp. 213-230)

### *How Much Action in Advance of Knowledge?*

Perhaps the most important part of comparison concerns the question of how much social action is recommended before knowledge is developed that allows one to predict the consequences with precision and confidence. At one end of the continuum, the social research and development recommends withholding action until more is known — partly to conserve resources, partly to avoid the moral responsibility of errors of commission. At the other end of the continuum, the civil rights model treats the commitment to action as far more important than knowledge, and therefore recommends much more action in advance of knowledge. The example of the agricultural extension service lies closer to the social research and development model than to the civil rights example, particularly in its early phases when it was conceived as a system for developing and disseminating knowledge about superior agricultural techniques.

The example of the medical protocols is harder to position on this dimension. On one hand, insofar as one conceives of the practice of medicine as being broadly underwritten by extensive science and professional training, the example of the medical protocols seems close to the social research and development and agricultural extension

model. On the other hand, to the extent that it leaves the initiative to local physicians to develop a particular treatment regime for individually distinct patients under conditions of great uncertainty, it seems closer to the civil rights example.

How reckless society should be in taking action in advance of knowledge seems to depend on several factors. One is simply how urgent the problem is: the more urgent, the more appropriate recklessness seems. A second factor would focus on how valuable knowledge is relative to effort in dealing with the problem: i.e. how quickly a problem will yield to effort alone, or how fast solutions are likely to be found, or how much variability will actually exist in the quality of alternative solutions. The more valuable effort alone is, the faster one expects solutions to be solved as one works at the problem, and the less difference exists among alternative solutions, the more reasonable it is to let action get out in front of knowledge. The more valuable knowledge is compared with effort, the more useful it is to wait for knowledge to develop. Such observations seem reasonable and logical. The difficulty, however, is that it is not at all clear how society would make such judgments. They would inevitably be guesses.

In all likelihood, the decision about how reckless to be will depend, then, on a different kind of judgment; an ethical standard that explicitly or implicitly weights errors of commission more or less heavily than errors of omission. Indeed, what usually holds society back from taking action in the absence of knowledge is concern that it might make matters worse, and that the agents who are asked to act for society will be harshly criticized for such irresponsibility. In short, there is heavy burden of responsibility placed on people who make errors of commission. (Moore & Sparrow, 1990; pp. 46-56.) In contrast, there is much less responsibility placed on people who, by failing to act, make errors of omission. The reason is that such people can always claim that their restraint was an exercise in responsibility. They could not be sure that action would make the situation better. It would be wrong to risk the public welfare with a reckless adventure. Such claims will not absolve them from criticism, but I think the criticism is often less than if they made (equally grave) errors of commission. The net result, then, is that society gets more of the social research and development approach (and more errors of omission), and less of the civil rights approach (and fewer errors of commission).

### *Who is Authorized to Act?*

The second crucial point of comparison among the models is who within the society is recognized as expert in identifying the problem and nominating solutions, and who is authorized to act on nominated social problems? The "Social R and D Model" seeks to limit the agents who are recognized as expert and to restrain action to experiments with recommended programs. At the other extreme, the civil rights model broadly democratizes the authorization to act. Any citizen who has experienced or witnessed discrimination is considered sufficiently

expert, and is authorized to act on their best judgment about how to end it.

Again, the agricultural extension system and the example of the medical protocols are in the middle, though in this case the medical protocol system may be closer to the "Social R and D Model" than the civil rights example. In both these systems, ordinary practitioners (farmers and physicians respectively) are viewed as expert and authorized to act. Moreover, they acquire this status in society's eyes partly because of their training, but also because of their practical experience, and because they are, in the end, the ones who face the problem and who must solve it.

Again, society's decision about how widely to recognize expertise, and how broadly to delegate the moral authority to act on a problem could depend on several factors. Urgency may matter a great deal. The more important it is to move quickly, the more appropriate it is to widely acknowledge expertise and to authorize action. The more people thinking and acting on the problem, the faster the solution will probably come (though the greater the quantity of wasted effort).

Society might also have to consider how much confidence it has in its academic and clinical experts. The more the solution of the problem seems to depend on specific technical knowledge, and the greater the advances that academic or clinical experts seem to have made in developing the appropriate technical knowledge, the wiser it seems to ensure that society's problem-solving efforts are guided by established experts. The more distant the experts seem from the solution of a problem, the wiser it seems to democratize the problem-solving effort.

Finally, in deciding how broadly to democratize problem-solving, society should consider how much variety is likely to turn out to be valuable in meeting special circumstances, and how much a strong feeling of legitimacy and ownership may count in helping society solve a particular problem. The more varied the circumstances and appropriate responses, and the greater the value of legitimating problem-solving efforts in the eyes of those who support, operate, or experience the problem-solving efforts, the wider the problem-solving effort should be.

### *How Best to Organize Learning from Experience?*

A third point of comparison among the models concerns the arrangements that are made to learn from experience. The "Social R and D Model", because it is so anxious about acting without knowledge, tries to milk the maximum amount of useful learning from the smallest amount of experience. That is why it advises society to undertake a search of possible interventions to find the relatively small number that are worth trying out, and why the trying out is done under tight experimental conditions. This method seems to maximize the chance that we will find an intervention that we can be confident will work, and to do so with the least wasted motion.

The civil rights example, on the other hand, is so careless about the development of knowledge that it makes no particular provisions

to learn from the large amount and wide range of experience it will tend to generate. Essentially, there are no efforts made to document the interventions that are made, to observe or measure the results in either the short or long run, or to figure out whether the observed changes can properly be attributed to the particular intervention that was made. All the things that make experiments such efficient devices for extracting general knowledge from experience are ignored in this model, with the result that the stock of scientific knowledge does not accumulate at all, and the stock of practitioner knowledge grows uncertainly.

Again, the agricultural extension service and the example of the medical protocols are somewhere in the middle. In the agricultural extension model, real experiments are done in university laboratories and field experiment stations. Through these experiments, the field as a whole learns about seeds, and fertilizers, and soils, and their interactions over time. Yet that knowledge remains "book knowledge" that only becomes applied as agents persuade farmers to try new methods in their own fields. That part of social action remains largely undocumented. Or more precisely, it is probably shared in the same way that civil rights organizers shared their knowledge about what could be done to reduce the burden of racial discrimination.

The example of medical protocols has found an ingenious way of capturing experience initiated by decentralized actors, and through that device, speeding up the rate at which society can learn from its own experience. It does so by establishing a system that calls for documentation and measurement of that experience. It is worth noting, however, that it also does so only by giving up some of the structure of controlled experimentation. Specifically, random assignment of patients to treatments is rejected in favor of letting doctors choose treatments for them. This inevitably allows some selection bias to creep in when one compares the results of any given treatment to any other treatment. Thus, one cannot produce a precise estimate of the magnitude of any treatment's effect on a randomly chosen individual with the relevant disease. This is an important loss. But it is important to remember what was gained as well as what was lost: the recognition of the right of physicians to treat their own patients, and their voluntary commitment to recording what their experience has been. It is quite possible that the volume of that recorded experience will eventually produce a better answer to how to treat cancer, and produce the answer sooner, than a much smaller number of more carefully controlled experiments.

Again, it is hard to know when society is best helped by a strategy of learning which relies on a small number of well designed experiments on the one hand, and when it is best helped by a larger number of initiatives that give up some of the controls associated with experimentation in favor of more accurately documenting and measuring what happens when a wide number of interventions are tried. Obviously, both are desirable and both will occur. I can't help but think, however, that there is a great deal to be gained from simply documenting and measuring operational experience. That provides less con-

effects that interest us, but it gives us much more evidence about a wider variety of efforts to use in making "adequately probed" guesses about plausibly effective interventions. (Lindblom, 1990; p. 216)

## Applications to Community Policing and Violence Prevention

What would these different models and observations suggest about how society could best learn about the potential of crime prevention efforts? Let me try to answer that question by describing two initiatives now under way in the United States to "probe" the potential of crime prevention methods, and offering some judgments about how those initiatives might best be supported. One is a movement that seeks to re-orient police departments to a strategy of "community problem-solving". The second is an initiative joining criminal justice agencies with medical and public health agencies in efforts to prevent youth violence. Both cases provide excellent vehicles for an analysis of how knowledge might best contribute to policy-making because both are occurring with precious little knowledge of what specific interventions work.

It is worth noting at the outset, however, something that Charles Lindblom would be quick to point out: it is not clear who the "we" is that seeks to offer guidance to these broad social movements, nor what leverage that "we" could hope to exert on these complex events. For whatever reasons, these movements are now afoot in the United States. They will develop largely on their own momentum. If forced to describe the position from which "we" might try to influence the development of those movements, I would say I am speaking from the position of someone who is regarded as an academic expert on these matters, and is occasionally consulted both by the federal government about their plans to encourage these movements with funding, professional development efforts, and the documentation of program models of various kinds, and by local agencies who would either like to act on their own, or would like to position themselves to take some of the money and fame that comes from being involved in important federal initiatives. I am enlisting the aid of this group to help me think about how "we" might think about the proper strategic goals for linking the development of knowledge with the development of policy in these movements.

### *Guiding the Movement Towards Community Policing*

The movement toward community policing is interesting to our purposes for several reasons. First, since the shift to community policing is partially justified by the claim that it will be more effective in preventing crime, it is part of the subject matter of this volume. Second, the movement is gathering momentum that is getting ahead of avail-

able knowledge about whether community policing would work more effectively than other strategies of policing, what important side effects might be, and how it can be implemented. So, there is lots of room to explore the possible relationships between the development of knowledge and the development of policy.

The movement for community policing has developed from three basic sources: first, concern among both citizens and police professionals that the police are less effective in controlling crime and reducing fear than is desirable; second, a similar but more pointed concern, punctuated by specific social science findings, that the key operational techniques on which the police are relying most heavily seem ineffective in reducing crime or enhancing security; and third, a dawning recognition among police executives and leaders that they are losing "market share" to the private security business. (Sparrow, Moore, Kennedy, 1993) These facts have caused many police executives, mayors, city managers, and police experts to search for more effective ways to police America's cities.

That search has led them not to any particular program, but instead to a broad philosophy that has come to be called "community policing", or "problem-solving policing". (Sparrow, Moore, Kennedy, 1993; Trojanowicz & Bucqueroux, 1990; Goldstein, 1990) The ideas that lie behind community and problem-solving policing are both simple and general: that the police cannot succeed in controlling crime or stilling fears unless they develop close working relationships with citizens and other government agencies; that in order to develop close working relationships with citizens they must respond to what concerns and frightens citizens as well as what victimizes them; that this means they must be concerned with disorder offenses such as vandalism, public drunkenness, and visible drug markets as well as with murder, rape, robbery and assault; that the operational objective of minimizing response times has, paradoxically, cut them off from close connections with the citizens that they police, and focused their attention on incidents rather than the problems that lie behind the incidents; that to restore close working relationships and operational effectiveness across the broader front of problems that the police take as their own, they must get out of their cars and meet citizens through something other than phone interactions, and must initiate pro-active problem-solving efforts rather than simply reacting to the incidents to which they are called; that community policing should not simply be an operational program restricted to one unit of the police department, but should instead become a philosophy that guides the overall operations of the entire department; and so on.

Importantly, there is a coherent logic that connects these various points, and thus gives the ideas the status of a new paradigm of policing rather than simply a programmatic idea. (Moore & Trojanowicz, 1988; Moore & Stephens, 1991.) Moreover, there are reasons to believe each of the connected propositions based in some combination of logic, empirical evidence, and anecdote. (Moore, 1992) But it is also true that no community has yet really experimented with community policing as an overall strategy of policing. At best, particular

programs and operations have been mounted that have community policing like characteristics; and some departments have experimented with some new administrative arrangements and systems that would be essential if community policing became the overall strategy of policing in a city; and these have been documented and evaluated. (Moore, 1992) But society as a whole does not yet know for sure whether community policing is a better or worse way to police a city than the current strategy which relies on rapid response to calls for service.

Despite this uncertainty, many chiefs and departments are moving in the direction of community policing, testing its feasibility, learning different ways to implement it, discovering something about its operational utility and administrative requirements. (Moore, Spelman, Young, 1992) Moreover, if the crime bill now being debated in the United States Congress passes, it will, in all likelihood, contain provisions that will appropriate nearly ten billion dollars over the next five years to put "cops on the beat". Thus, the stage is set to learn while doing - if only we could be smart enough to figure out how to do that.

Much of the debate now occurring at the federal level, and between the federal level and its professional and local constituents, closely parallels the discussions above about whether we should follow the model of a "scientifically guided society", or a "self-guiding society". Based on my experience in these discussions so far, it seems fairly clear to me that the movement to strengthen policing will end up closer to the image of a "self-guiding" than to a scientifically guided" movement. The reason is partly that the professional and local constituents will, in the end, prove strong enough to demand that the federal government spread its largess more quickly and more widely than would be required by the "Social R and D Model". But it is also significant that regardless of what the federal government does, a great deal of unguided experimentation will take place across the nation's thousands of police departments. Those institutions have been in motion before the federal government got into the game, and will stay in motion independently of federal influence.

A more important question seems to me, however, whether the movement will end up closer to the "Agricultural Extension Model", the "Medical Protocol Model", or the "Civil Rights Model". I am also interested in which of these would be the best. I admit that, as someone who has thought long and hard about policing, cares deeply about the development of the institution, and would like to see its status upgraded and its scientific underpinnings widened and deepened, I am mightily attracted to the "Agricultural Extension Model". I would love to see the universities that now teach many police officers and executives develop into the equivalent of land grant colleges. I would love to see some police departments become the functional equivalent of field experiment stations. I would love to help the existing wider infrastructure of police consultants, police trainers, and police auditors evolve into something like the system of county agents. And I would particularly love trying to ensure that this whole apparatus got stood on its head and became responsive to what practitioners in the field were thinking about and trying rather than forcing a particular



technology down their throats. Yet, I think this model is a long shot – even to try as a pilot program, much less to launch as a national program. It is simply too big, too expensive, and too national to be accepted as the right approach to developing the field of policing.

The “Medical Protocol Model” is a much closer fit to current thinking and circumstances. There is now an important effort going on to help define what community policing is by identifying different kinds of operational programs and different kinds of administrative systems that would be characteristic of a community policing department. In the design of the federal program, those concrete images of community policing are being suggested and advantaged in the competition for federal funding as a gentle inducement for local practitioners to try. There are also plans being made to focus limited evaluation resources on the particular departments and initiatives that seem to have the best chance of producing some particularly valuable experience that the field can chew over in the future. It is even possible that this effort to focus on a few departments could lay the basis for a small network of experimental field stations within which experiments particularly germane to community policing could be conducted. But this is as close to a knowledge-guided set of developments as we are likely to be able to produce at the federal level.

What “threatens”, of course, is something like the “Civil Rights Model” in which any local effort made to reform policing is deemed worthy of federal support, and no provisions are made to document or learn from the experience. I say “threatens” because I do not think that there is so much urgency about improving the quality of policing that speed is essential; nor do I think that the improvements in policing will come easily with effort. I think there is an important role for both academic and practitioner experts to play in charting the course toward improved policing.

Yet, in all candor, I must admit that I may hold those views because I am one of the experts in this area. In truth, it may be that society will make more progress in figuring out how best to police its cities through a much looser approach that approximates the “Civil Rights Model”. There may well be enough energy, good will, and common sense among the nation’s police departments to ensure a period of rapid improvement if only many different initiatives are supported.

Only three things prevent me from believing this: 1) policing has long been in the grip of a particular paradigm that is remarkably enduring; 2) paradigm can soak up lots of resources without making important changes; and 3) many previous efforts to reform police departments have left them remarkably unchanged. Given these observations, I think it would be wise to err on the side of using the leverage of federal money to pressure change and learning rather than doing anything to support initiatives in the field. There is simply too much unfilled need within conventional ideas to be confident that new resources will go to support useful innovation and learning unless they are consciously directed there.

In sum, in developing the field of community policing, I would be inclined to recommend that federal funding be used as a lever to en-

courage innovations along the frontiers of community policing, and to develop a system for capturing that experience. Much of the federal money will have to be given away somewhat indiscriminately as a response to political pressures. But the federal government should fight to hold onto the right to establish something like the "Medical Protocol Model" to: 1) identify a small number of particularly important operational or administrative innovations to try out; and 2) a plan to focus evaluation resources on those particular innovations. It would probably also be valuable for the federal government to try to establish a network of police departments that could operate as the field experiment stations do in the agricultural extension service – a place where real experiments can be run to test important innovations in conditions that are close to actual field conditions. Finally, some effort should also be made to ensure that the networks of consultants and training programs get filled with high quality material, and become places where the practitioners in the field can present their concerns and ideas to be discussed and tested rather than places where they are simply instructed in the right way to do things.

### *Guiding the Movement to Prevent Violence*

The second movement now occurring within the United States relevant to the subject of crime prevention is the emergence of a combined public health and criminal justice effort focused on preventing violence, and particularly youth violence. This movement has been given an enormous boost by the entry of the public health community into the field. (Moore, Prothrow-Stith, Guyer, Spivak, 1994) They entered the field because they discovered that violence was a major factor influencing the mortality and morbidity of some portion of the American population. (Mercy & Carroll, 1988) Specifically, they learned that "intentional injuries" were a major cause of death among young people, and for that reason, made a major contribution to the number of "quality years of life" lost in the United States each year. (National Committee on Injury Prevention and Control, 1989) They also thought that their analytic techniques, and their experience with a wide variety of primary and secondary prevention efforts would add to society's efforts to deal with this important problem.

So far, like the concept of community policing, the concept of violence prevention seems to have struck a responsive chord. To many, and particularly to minority groups and women, it seems valuable to reach beyond the criminal justice system's focus on violence among strangers, and on deterring and incapacitating offenders, to find a more preventive response to the violence that is now plaguing the society. They are pointing to the violence that happens within families as an important problem to solve both in its own right, and as a condition that increases the chance that young people will grow up accustomed to and relying on violence to settle their disputes. Moreover, instead of assuming that violence occurs because the offender willed it to happen, they search for "risk factors" that make it more likely that someone will engage in violence and attack those. Instead of waiting for

violence to occur and incapacitating the offender, they search for interventions that will prevent violence not only to reduce the number of victims, but also to reduce the number of perpetrators. They focus on intervening early in the development of youth who seem destined for violence, finding means to reduce youth reliance on violence for settling disputes, and reducing the availability of criminogenic commodities such as guns, drugs and alcohol that seem to occasion violence.

Again, there is a coherence to these views that is compelling – particularly against the backdrop of rising levels of violence, increasing concern about the violence that occurs among intimates, and frustrations with the reactive stance of the criminal justice system. Moreover, each of the ideas has some plausible theory, or evidence, or compelling anecdotes to make them credible. Still, as in the case of community policing, there is not a great deal of convincing evidence to show that either the general approach, or the particular programs can have much impact on the overall levels of violence. Thus, there is a chance to learn while doing.

It seems likely that the violence prevention initiative, like the community policing initiative, will burst the boundaries of the “Social R and D Model”. There is simply too much energy behind these ideas to keep them in check. It too, might consider the “Agriculture Extension Model” – relying on schools of public health as the equivalents of the land grant universities, designated centers of excellence or state public health departments as the equivalent of the field experiment stations, and networks of public health researchers and practitioners as the equivalent of county agents. (Felson, forthcoming) But as in the case of community policing, the scale of the agricultural extension model might be too great to make it a compelling model.

Again, I am attracted primarily to the “Medical Protocol Model” as an image of how knowledge should be linked to policy. In this field, I like the idea of using nationally established protocols as a device for nudging the field in particular directions without blunting its initiative or over-regulating its search for solutions. I also like the emphasis that the “Medical Protocol Model” gives to accumulating information quickly about what seems to work and what doesn’t. Indeed, the “Medical Protocol Model” may be particularly appropriate in this field because the practitioners are particularly good at collecting data about problems, and documenting and analyzing their own interventions. In fact, one might say that some public health schools have already been operating as the equivalent of the land grant colleges and produced practitioners who are substantively knowledgeable, methodologically skilled, and habitually reflective about their practice. So this is an asset which the field can draw on.

It is partly for this reason, as well as the relative immaturity of the field, that I would be less “threatened” if this field were to drift closer to the “Civil Rights Model”. I think youth violence is a more urgent problem than improving the quality of policing. Moreover, because the field of violence prevention is new and developing, almost anything that happens within it is an innovation and an experiment from

which society can learn. There is less risk here than in community policing that resources committed to learning about violence prevention will fall down a hole of well established but ineffective practices. Finally, it seems relatively easy to trust the practitioners as experimenters and explorers, for they seem resourceful and well trained in techniques of data collection, policy analysis and design, and program evaluation. Thus, a more indiscriminating support may be justified in this domain than in the field of community policing.

## Conclusion

It is hard for societies to gain the courage to act on what seem like intractable social problems. (Heifetz, 1994) It is even harder for governments and those who lead them to do this, for society punishes public leaders quite harshly for errors of commission. To gain the courage, and ward off the chance of mistakes, government leaders have often turned to science to help them act with confidence and precision. (Price, 1965) On occasion, that has proved valuable to government, and it has nearly always proved beneficial to science. Whether society has been well served by this reliance on science, however, and whether government continues to be well served by imagining that it should be guided by science is less obvious. Paradoxically, reliance on science can sometimes make society and government less effective than it otherwise would be. Yet it also seems wrong and irresponsible to cast science aside.

Perhaps the answer lies in the direction that Lindblom suggests: the development of relationships and interactions in which science aids but does not dominate society's search for better answers. Among the promising new ideas would be ones in which scientists worked with practitioners to identify the important issues and plausible solutions; where national experts nominated solutions, and arranged for information to be collected on important pieces of operational experience but did not try to limit local searches for solutions; and where we all recognized that often the will to act was a more precious resource in solving social problems than precise or confident knowledge about how to act successfully. After all, experience will teach its lessons through both formal and informal experiments, and it is only through experience that any of us can become experts.

Indeed, it is interesting, I think, that the words "experience", "experiment", and "expert" all share a common Indo-European root—the root word "per". (Watkins, 1985; p.50) This word also forms the root of the words "peril" and "pirate". It means "danger", and when combined with the word "ex" means "from" or "out of" danger". The suggestion, then, is that "expertise" can only be built by the special kind of "experience" that is associated with "experimentation"; and further, that this requires facing some kind of danger. The obvious question is what kind of danger? The answer, I think, is the danger of committing oneself to an enterprise that one cannot be sure will succeed.

1

Yet it is precisely that kind of experimentation which produces expertise.

In the end, uncertainty about what will work cannot be banished without some way of accumulating actual operational experience with particular interventions. And the alternatives to the established "Social R and D Model" all allow more and different kinds of operational experience to accumulate faster than the "Social R and D Model" would. Thus, the challenge to society is to learn to aim well after firing as well as before.

## References

- Allison, G.T. & Moore, M. H. (1978). *Implementation Analysis. Public Policy* (Spring, 1978).
- Behn, R. et al. (1993). *Research on Innovations in State and Local Government: the 1992 Conferences*. Durham, N.C.: the Governor's Center at Duke University.
- Berry, W. (1977). *The Unsettling of America: Culture and Agriculture*. New York: Avon.
- Besharov, D. (1990). *Family Violence: Research and Public Policy Issues*. Washington, D.C.: American Enterprise Institute.
- Blumer, H. (1971). Social Problems as Collective Behavior. *Social Problems* 18:3.
- Campbell, D. & Stanley, J. (1966). *Experimental and Quasi-Experimental Designs for Research*. Chicago, Ill.: Rand McNally.
- Felson, M. (Forthcoming). A Crime Prevention Extension Service. In *Crime Prevention Studies, Vol. 3* ed. by R.V. Clarke. Monsey, N.Y.: Criminal Justice Press.
- Goldstein, H. (1990). *Problem-Oriented Policing*. New York: McGraw Hill.
- Heifetz, R.A. (1994). *Leadership Without Easy Answers*. Cambridge, Mass: Harvard University Press.
- Heifetz, R.A. & Sandler, R.M. (1988). Political Leadership: Managing the Public's Problem Solving. In *The Power of Public Ideas* ed. by R.B. Reich. Cambridge, Mass.: Ballinger.
- Kingdon, J. (1984). *Agendas, Alternatives and Public Policies*. Boston, Mass.: Little Brown.
- Lindblom, C.E. (1990). *Inquiry and Change: The Troubled Attempt to Understand and Shape Society*. New Haven, Conn.: Yale University Press.
- Linstone, H.H. & Turoff, M. eds. (1975). *The Delphi Method: Techniques and Applications*. Reading, Mass.: Addison-Wesley.

- Lynn, L. E.** (1978). *Knowledge and Policy: The Uncertain Connection*. Washington, D.C.: National Academy of Sciences.
- Meister, B.** (1994). The Agriculture Extension Service: A Model for Innovation Dissemination (Unpublished Mimeo).
- Mercy, J.A. & O'Carroll, P.W.** (1988). New Directions in Violence Prediction: The Public Health Arena. In *Violence and Victims*, Vol. 3. no. 4. New York: Springer-Verlag.
- Moore, M.H.** (1983). Social Science and Policy Analysis: Some Fundamental Differences. In *Ethics, the Social Sciences, and Policy Analysis* ed. by D. Callahan & B. Jennings. New York: Plenum.
- Moore, M.H.** (1988). What Sort of Ideas Become Public Ideas? In *The Power of Public Ideas* ed. by R.B. Reich. Cambridge, Mass: Ballinger.
- Moore, M.H.** (1990). Drugs: Getting a Fix on the Problem and the Solution. *Yale Law and Policy Review* Vol. 8, No. 1.
- Moore, M.H. & Sparrow, M.K.** (1990). *Ethics in Government: The Moral Challenge of Public Leadership*. Englewood Cliffs, N.J.: Prentice Hall.
- Moore, M.H. & Stephens, D.W.** (1991). *Beyond Command and Control: The Strategic Management of Police Departments*. Washington, D.C.: Police Executive Research Forum.
- Moore, M.H.** (1992). Community and Problem-Solving Policing. In *Modern Policing* ed. by M. Tonry & N. Morris. Chicago, Ill.: University of Chicago Press.
- Moore, M.H., Prothrow-Stith, D., Guyer, B. & Spivak, H.** (1994). Violence and Intentional Injuries: Criminal Justice and Public Health Perspectives on an Urgent National Problem. In *Understanding and Preventing Violence: Vol. 4, Consequences and Control* ed. by A.J. Reiss jr. & J.A. Roth. Washington, D.C.: NAS Press.
- Moore, M.H.; Spelman, W. & Young, R.** (1992). Innovations in Policing: A Test of Three Different Methodologies for Identifying Important Innovations in a Substantive Field (Unpublished Mimeo.) 1992)
- Moore, M. H. & Trojanowicz, R.C.** (1988). Corporate Strategies for Policing. *Perspectives on Policing: No. 6*. Washington, D.C.: National Institute of Justice.
- Musto, D.** (1986). Lessons of the First Cocaine Epidemic. *Wall Street Journal* (11 June, 1986)
- National Committee for Injury Prevention and Control,** (1989). *Injury Prevention: Meeting the Challenge*. New York: Oxford University Press.
- O'Carroll, P. W.** (1988). *Homicides Among Black Males 15-24 Years of Age, 1970-1984*. Atlanta, Ga.: Center for Disease Control.
- Peters, T.J. & Waterman, R.H. jr.** (1982). *In Search of Excellence: Lessons from America's Best Run Companies*. New York: Harper and Row.

- Price, D.K.** (1965). *The Scientific Estate*. Cambridge, Mass.: Harvard University Press.
- Rasmussen, W. D.** (1989). *Taking the University to the People: Seventy Five Years of Cooperative Extension*. Ames, Iowa: Iowa University Press.
- Reiss, A.J. & Roth, J.A.** (1993). *Understanding and Preventing Violence*. Washington, D.C.: National Academy Press.
- Rogers, E.M.** (1983). *The Diffusion of Innovations*. New York: Free Press.
- Schon, D.** (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.
- Simon, H.** (1976). *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organization* 3rd Edition. New York: Free Press.
- Stokey, E. & Zeckhauser, R.** (1978). *A Primer for Policy Analysis*. New York: Norton.
- Sparrow, M. K., Moore, M.H. & Kennedy, D.M.** (1990). *Beyond 911: A New Era for Policing*. New York: Basic Books.
- Trojanowicz, R.C. & Bucqueroux, B.** (1990). *Community Policing: A Contemporary Perspective*. Cincinnati, Ohio: Anderson.
- Watkins, C. ed.** (1985). *The American Heritage Dictionary of Indo-European Roots*. Boston, Mass.: Houghton-Mifflin.
- Weiss, C.H.** (1992). *Organization for Policy Analysis: Helping Governments Think*. Newbury Park, Ca.: Sage.
- Widom, C. Spatz.** The Cycle of Violence. *Science* 224:160-166.