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In this selection, Lawrence Sherman provides an excellent review of the policies that have resulted from the very early stages of classical theories, through the early positivist era, and into modern times. Sherman's primary point is that experimental research is highly important in determining the policies that should be used with offenders and potential offenders. Although many important factors can never be experimentally manipulated—bad parents, poor schooling, negative peer influences—there are, as Sherman asserts, numerous types of variables that can be experimentally manipulated by criminological researchers. The resulting findings can help guide policy makers in pushing forward more efficient and effective policies regarding the prevention of and reaction to various forms of criminal offending. There is no better scholar to present such an argument and support for it; Sherman is perhaps the best-known scholar who has applied the experimental method to criminological research, given his experience with studies regarding domestic violence and other criminal offenses.

While reading this entry, readers are encouraged to consider the following:

- The “pioneers” and studies that led the way in showing a way to experimentally examine the effectiveness of various approaches to reducing crime
- Other variables or aspects of crime that can be examined via experimental forms of research
- The vast number of variables that are important causes of crime or delinquency but could never be experimentally manipulated for logistic or ethical reasons
- The conclusion and policy implications stated by Joan McCord in the final words of her address to the American Society of Criminology in 2003

The Use and Usefulness of Criminology, 1751–2005

Enlightened Justice and Its Failures

Lawrence W. Sherman

Criminology was born in a crime wave, raised on a crusade against torture and execution, and then hibernated for two centuries of speculation. Awakened by the rising crime rates of the latter twentieth century, most of its scholars chose to pursue analysis over experiment. The twenty-first century now offers more policy-relevant science than ever, even if basic science still

occupies center stage. Its prospects for integrating basic and “clinical” science are growing, with more scholars using multiple tools rather than pursuing single-method work. Criminology contributes only a few drops of science in an ocean of decision making, but the number of drops is growing steadily. As experimental criminology provides more comprehensive evidence about responses

SOURCE: Lawrence Sherman, “The Use and Usefulness of Criminology, 1751–2005,” *ANNALS of the American Academy of Political and Social Science* 600, no. 1 (2005): 115–35. The selection here is taken from A. Walsh and C. Hemmens, *Introduction to Criminology: A Text/Reader* (Thousand Oaks, CA: SAGE, 2008), 24–32. Copyright © 2008 SAGE Publications, Inc. Reprinted by permission of SAGE Publications, Inc.

to crime, the prospects for better basic science—and better policy—will improve accordingly.

Enlightenment, Criminology, and Justice

The entire history of social science has been shaped by key choices scholars made in that transformative era, choices that are still made today. For criminology more than most disciplines, those Enlightenment choices have had enormous consequences for the use and usefulness of its social science. The most important of these consequences is that justice still remains largely un-Enlightened by empirical evidence about the effects of its actions on public safety and public trust.

Historians may despair at defining a coherent intellectual or philosophical content in the Age of Enlightenment, but one idea seems paramount: “that we understand nature and man best through the use of our natural faculties” (May 1776, xiv) by systematic empirical methods, rather than through ideology, abstract reasoning, common sense, or claims of divine principles made by competing religious authorities. Kant, in contrast, stressed the receiving end of empirical science in his definition of Enlightenment: the time when human beings regained the courage to “use one’s own mind without another’s guidance” (Gay 1969, 384).

Rather than becoming *experimental* in method, social science became primarily *analytic*. This distinction between experimental manipulation of some aspect of social behavior versus detached (if systematic) observation of behavioral patterns is crucial to all social science (even though not all questions for social science offer a realistic potential for experiment). The decision to cast social science primarily in the role of critic, rather than of inventor, has had lasting consequences for the enterprise, especially for the credibility of its conclusions. There may be nothing so practical as a good theory, but it is hard to visibly—or convincingly—demonstrate the benefits of social analysis for the reduction of human misery. The absence of “show-and-tell” benefits of analytic social science blurred its boundaries with ideology, philosophy, and even emotion. This problem has plagued analytic social science ever since, with the possible exception of times (like the Progressive Era and the 1960s) when the social order itself was in crisis. As sociologist E. Digby Baltzell (1979) suggested

about cities and other social institutions, “as the twig is bent, so grows the tree.” Social science may have been forged in the same kind of salon discussions as natural science, but without some kind of empirical reports from factories, clinics, or farm fields. Social science has thus famously “smelled too much of the lamp” of the library (Gay 1969). Even when analytic social science has been most often used, it is rarely praised as useful.

That is not to say that theories (with or without evidence) have lacked influence in criminology, or in any social science. The theory of deterrent effects of sanctions was widely used to reduce the severity of punishment long before the theory could be tested with any evidence. The theories of “anomie” and “differential association” were used to plan the 1960s “War on Poverty” without any clear evidence that opportunity structures could be changed. Psychological theories of personality transformation were used to develop rehabilitation programs in prisons long before any of them were subject to empirical evaluation. Similarly, evidence (without theory) of a high concentration of crime among a small proportion of criminal offenders was used to justify more severe punishment for repeat offenders, also without empirical testing of those policies.

The criminologists’ general preference for analysis over experiment has not been universal in social science. Enlightenment political science was, in an important—if revolutionary—sense, experimental, developing and testing new forms of government soon after they were suggested in print. The Federalist Papers, for example, led directly to the “experiment” of the Bill of Rights.

Perhaps the clearest exception to the dominance of analytic social science was within criminology itself in its very first work during the Enlightenment. The fact that criminologists do not remember it this way says more about its subsequent dominance by analytic methods than about the true history of the field. Criminology was born twice in the eighteenth century, first (and forgotten) as an experimental science and then (remembered) as an analytic one. And though experimental criminology in the Enlightenment had an enormous impact on institutions of justice, it was analytic criminology that was preserved by law professors and twentieth-century scholars as the foundation of the field.

The history of criminology thus provides an experimental test of this hypothesis about analytic versus experimental social science: *that social science has been most useful, if not most used, when it has been most*

experimental, with visibly demonstrable benefits (or harm avoidance) from new inventions. The evidence for this claim in eighteenth-century criminology is echoed by the facts of criminology in the twentieth century. In both centuries, the fraternal twins of analysis and experiment pursued different pathways through life, while communicating closely with each other. One twin was critical, the other imaginative; one systematically observational, the other actively experimental; one detached with its integrity intact, the other engaged with its integrity under threat. Both twins needed each other to advance their mutual field of inquiry. But it has been experiments in every age that made criminology most useful, as measured by unbiased estimates of the effects of various responses to crime.

The greatest disappointment across these centuries has been the limited usefulness of experimental criminology in achieving “geometric precision” (Beccaria 1764/1964) in the pursuit of “Enlightened Justice,” defined as “the administration of sanctions under criminal law guided by (1) inviolate principles protecting human rights of suspects and convicts while seeking (2) consequences reducing human misery, through means known from (3) unbiased empirical evidence of what works best” (Sherman 2005). While some progress has been made, most justice remains unencumbered by empirical evidence on its effects. To understand why this disappointment persists amid great success, we must begin with the Enlightenment itself.

Inventing Criminology: Fielding, Beccaria, and Bentham

The standard account of the origin of criminology locates it as a branch of moral philosophy: part of an aristocratic crusade against torture, the death penalty, and arbitrary punishment, fought with reason, rhetoric, and analysis. This account is true but incomplete. Criminology’s forgotten beginnings preceded Cesare Beccaria’s famous 1764 essay in the form of Henry Fielding’s 1753 experiments with justice in London. Inventing the modern institutions of a salaried police force and prosecutors, of crime reporting, crime records, employee background investigations, liquor licensing, and social welfare policies as crime prevention

strategies, Fielding provided the viable preventive alternatives to the cruel excesses of retribution that Beccaria denounced—before Beccaria ever published a word.

The standard account hails a treatise on “the science of justice” (Gay 1969, 440) that was based on Beccaria’s occasional visits to courts and prisons, followed by many discussions in a salon. The present alternative account cites a far less famous treatise based on more than a thousand days of Fielding conducting trials and sentencing convicts in the world’s (then) largest city, supplemented by his on-site inspections of tenements, gin joints, brothels, and public hangings. The standard account thus chooses a criminology of analytic detachment over a criminology of clinical engagement.

The standard account in twentieth-century criminology textbooks traced the origin of the field to this “classical school” of criminal law and criminology, with Cesare Beccaria’s (1738–1794) treatise *On Crimes and Punishments* (1764) as the first treatise in scientific criminology. (Beccaria is also given credit [incorrectly], even by Enlightenment scholars, for first proposing that utility be measured by “the greatest happiness divided among the greatest number”—which Frances Hutcheson, a mentor to Adam Smith, had published in Glasgow in 1725 before Beccaria was born [Buchan 2003, 68–71]). Beccaria, and later Bentham, contributed the central claims of the deterrence hypothesis on which almost all systems of criminal law now rely: that punishment is more likely to prevent future crime to the extent that it is certain, swift, and proportionate to the offense (Beccaria) or more costly than the benefit derived from the offense (Bentham).

Fielding

This standard account of Beccaria as the *first* criminologist is, on the evidence, simply wrong. Criminology did not begin in a Milanese salon among the group of aristocrats who helped Beccaria formulate and publish his epigrams but more than a decade earlier in a London magistrate’s courtroom full of gin-soaked robbery defendants. The first social scientist of crime to publish in the English—and perhaps any—language was Henry Fielding, Esq. (1707–1754). Fielding was appointed by the government as magistrate at the Bow Street Court in London. His years on that bench, supplemented by his visits to the homes of London labor and London poor,

provided him with ample qualitative data for his 1751 treatise titled *An Enquiry Into the Causes of the Late Increase of Robbers*.

Fielding's treatise is a remarkable analysis of what would today be called the "environmental criminology" of robbery. Focused on the reasons for a crime wave and the policy alternatives to hanging as the only means of combating crime, Fielding singles out the wave of "that poison called gin" that hit mid-century London like crack hit New York in the 1980s. He theorizes that a drastic price increase (or tax) would make gin too expensive for most people to consume, thereby reducing violent crime. He also proposes more regulation of gambling, based on his interviews with arrested robbers who said they had to rob to pay their gambling debts. Observing the large numbers of poor and homeless people committing crime, he suggests a wider "safety net" of free housing and food. His emphasis is clearly on prevention without punishment as the best policy approach to crime reduction.

Fielding then goes on to document the failures of punishment in three ways. First, the system of compulsory "voluntary policing" by each citizen imposed after the Norman Conquest had become useless: "what is the business of every man is the business of no man." Second, the contemporary system of requiring crime victims to prosecute their own cases (or hire a lawyer at their own expense) was failing to bring many identified offenders to justice. Third, witnesses were intimidated and often unwilling to provide evidence needed for conviction. All this leads him to hint at, but not spell out, a modern system of "socialized" justice in which the state, rather than crime victims, pays for police to investigate and catch criminals, prosecutors to bring evidence to court, and even support for witnesses and crime victims.

His chance to present his new "invention" to the government came two years after he published his treatise on robbery. In August 1753, five different robbery-murders were committed in London in one week. An impatient cabinet secretary summoned Fielding twice from his sickbed and asked him to propose a plan for stopping the murders. In four days, Fielding submitted a "grant proposal" for an experiment in policing that would cost £600 (about £70,000 or \$140,000 in current value). The purpose of the money was to retain, on salary, the band of detectives Fielding worked with, and to pay a reward to

informants who would provide evidence against the murderers.

Within two weeks, the robberies stopped, and for two months not one murder or robbery was reported in Westminster (Fielding 1755/1964, 191–193). Fielding managed to obtain a "no-cost extension" to the grant, which kept the detectives on salary for several years. After Henry's death, his brother John obtained new funding, so that the small team of "Bow Street Runners" stayed in operation until the foundation of the much larger—and uniformed—Metropolitan Police in 1829.

The birth of the Bow Street Runners was a turning point in the English paradigm of justice. The crime wave accompanying the penny-a-quart gin epidemic of the mid-eighteenth century had demonstrated the failure of relying solely on the *severity* of punishment, so excessive that many juries refused to convict people who were clearly guilty of offenses punishable by death—such as shoplifting. As Bentham would later write, there was good reason to think that the *certainly* of punishment was too low for crime to be deterrable. As Fielding said in his treatise on robbery, "The utmost severity to offenders [will not] be justifiable unless we take every possible method of preventing the offence." Fielding was not the only inventor to propose the idea of a salaried police force to patrol and arrest criminals, but he was the first to conduct an *experiment* testing that invention. While Fielding's police experiment would take decades to be judged successful (seventy-six years for the "Bobbies" to be founded at Scotland Yard in 1829), the role of experimental evidence proved central to changing the paradigm of practice.

Beccaria

In sharp contrast, Beccaria had no clinical practice with offenders, nor was he ever asked to stop a crime wave. Instead, he took aim at a wave of torture and execution that characterized European justice. Arguing the same ideology of prevention as Fielding (whose treatise he did not cite), Beccaria urged abolition of torture, the death penalty, and secret trials. Within two centuries, almost all Europe had adopted his proposals. While many other causes of that result can be cited, there is clear evidence of Beccaria's 1764 treatise creating a "tipping point" of public opinion on justice.

What Beccaria did not do, however, was to supply a shred of scientific evidence in support of his theories of the deterrent effects of non-capital penalties proportionate to the severity of the offense. Nor did he state his theories in a clearly falsifiable way, as Fielding had done. In his method, Beccaria varies little from law professors or judges (then and now) who argue a blend of opinion and factual assumptions they find reasonable, deeming it enlightened truth *ipse dixit* ("because I say so myself"). What he lacked by the light of systematic analysis of data, he made up for by eloquence and "stickiness" of his aphorisms. Criminology by slogan may be more readily communicated than criminology by experiment in terms of fame. But it is worth noting that the founding of the British police appears much more directly linked to Fielding's experiments than the steady abolition of the death penalty was linked to Beccaria's book.

Bentham

Beccaria the moral-empirical theorist stands in sharp contrast to his fellow Utilitarian Jeremy Bentham, who devoted twelve years of his life (and some £10,000) to an invention in prison administration. Working from a book he wrote on a "Panopticon" design for punishment by incarceration (rather than hanging), Bentham successfully lobbied for a 1794 law authorizing such a prison to be built. He was later promised a contract to build and manage such a prison, but landed interests opposed his use of the site he had selected. We can classify Bentham as an experimentalist on the grounds that he invested much of his life in "trying" as well as thinking. Even though he did not build the prison he designed, similar prisons (for better or worse) were built in the United States and elsewhere. Prison design may justifiably be classified as a form of invention and experimental criminology, as distinct from the analytic social science approach Bentham used in his writings—thereby making him as "integrated" as Fielding in terms of theory and practice. The demise of Bentham's plans during the Napoleonic Wars marked the end of an era in criminology, just as the Enlightenment itself went into retreat after the French Revolution and the rise of Napoleon. By 1815, experimentalism in criminology was in hibernation, along with most of criminology itself, not to stir until the 1920s or spring fully to life until the 1960s.

Two Torpid Centuries— With Exceptions

Analytic criminology continued to develop slowly even while experimental criminology slumbered deeply, but neither had any demonstrable utility to the societies that fostered them. One major development was the idea of involuntary causes of crime "determined" by either social (Quetelet 1835/2004) or biological (Lombroso 1876/1918) factors that called into question the legal doctrines of criminal responsibility. The empirical evidence for these claims, however, was weak (and in Lombroso's case, wrong), leaving the theoretical approach to criminology largely unused until President Johnson's War on Poverty in the 1960s.

Cambridge-Somerville

The first fully randomized controlled trial in American criminology appears to have been the Cambridge-Somerville experiment, launched in Massachusetts in the 1930s by Dr. Richard Clark Cabot. This project offered high-risk young males "friendly guidance and social support, healthful activities after school, tutoring when necessary, and medical assistance as needed" (McCord 2001). It also included a long-term "big brother" mentoring relationship that was abruptly terminated in most cases during World War II. While the long-term effects of the program would not be known until the 1970s, the critical importance of the experimental design was recognized at the outset. It was for that reason that the outcomes test could reach its startling conclusion: "The results showed that as compared with members of the control group, those who had been in the treatment program were more likely to have been convicted for crimes indexed by the Federal Bureau of Investigation as serious street crimes; they had died an average of five years younger; and they were more likely to have received a medical diagnosis as alcoholic, schizophrenic, or manic-depressive" (McCord 2001, 188). In short, the boys offered the program would have been far better off if they had been "deprived" of the program services in the randomly assigned control group.

No study in the history of criminology has ever demonstrated such clear, unintended, criminogenic effects of a program intended to prevent crime. To this day, it is "exhibit A" in discussions with legislators,

students, and others skeptical of the value of evaluating government programs of any sort, let alone crime prevention programs. Its early reports in the 1950s also set the stage for a renaissance in experimental criminology, independently of the growth of analytic criminology.

Renaissance: 1950–1982

Amidst growing concern about juvenile delinquency, the Eisenhower administration provided the first federal funding for research on delinquency prevention. Many of the studies funded in that era, with both federal and non-federal support, adopted experimental designs. What follows is merely a highlighting of the renaissance of experimental criminology in the long twilight of the FDR coalition prior to the advent of the Reagan revolution.

Martinson and Wilson

While experimental evidence was on the rise in policing, it was on the decline in corrections. The comprehensive review of rehabilitation strategies undertaken by Lipton, Martinson, and Wilks (1975) initially focused on the internal validity of the research designs in rehabilitation experiments within prisons. Concluding that these designs were too weak to offer unbiased estimates of treatment effects, the authors essentially said “we don’t know” what works to rehabilitate criminals. In a series of less scientific and more popular publications, the summary of the study was transformed into saying that there is no evidence that criminals can be rehabilitated. Even the title “What Works” was widely repeated in 1975 by word of mouth as “nothing works.”

The Martinson review soon became the basis for a major change in correctional policies. While the per capita rates of incarceration had been dropping throughout the 1960s and early 1970s, the trend was rapidly reversed after 1975 (Ruth and Reitz 2003). Coinciding with the publication of Wilson’s (1975) first edition of *Thinking About Crime*, the Martinson review arguably helped fuel a sea change from treating criminals as victims of society to treating society as the victim of criminals. That, in turn, may have helped to feed a three-decade increase in prisoners (Laub 2004) to more than 2.2 million, the highest incarceration rate in the world.

Warp Speed: 1982–2005

Stewart

In September 1982, a former Oakland Police captain named James K. Stewart was appointed director of the National Institute of Justice (NIJ). Formerly a White House Fellow who had attended a National Academy of Sciences discussion of the work of NIJ, Stewart had been convinced by James Q. Wilson and others that NIJ needed to invest more of its budget in experimental criminology. He acted immediately by canceling existing plans to award many research grants for analytic criminology, transferring the funds to support experimental work. This work included experiments in policing, probation, drug market disruption, drunk-driving sentences, investigative practices, and shoplifting arrests.

Schools

The 1980s also witnessed the expansion of experimental criminology into the many school-based prevention programs. Extensive experimental and quasi-experimental evidence on their effects—good and bad—has now been published. In one test, for example, a popular peer guidance group that was found effective as an alternative to incarceration was found to increase crime in a high school setting. Gottfredson (1987) found that high-risk students who were not grouped with other high-risk students in high school group discussions did better than those who were.

Drug Courts

The advent of (diversion from prosecution to medically supervised treatments administered by) “drug courts” during the rapid increase in experimental criminology has led to a large and growing volume of tests of drug court effects on recidivism. Perhaps no other innovation in criminal justice has had so many controlled field tests conducted by so many different independent researchers. The compilations of these findings into meta-analyses will shed increasing light on the questions of when, and how, to divert drug-abusing offenders from prison.

Boot Camps

Much the same can be said about boot camps. The major difference is that boot camp evaluations started off as

primarily quasi-experimental in their designs (with matched comparisons or worse), but increasing numbers of fully randomized tests have been conducted in recent years (Mitchell, MacKenzie, and Perez 2005). Many states persist in using boot camps for thousands of offenders, despite fairly consistent evidence that they are no more effective than regular correctional programs.

Child Raising

Criminology has also claimed a major experiment in child raising as one of its own. Beginning at the start of the "warp speed" era, the program of nurse home visits to at-risk first mothers designed by Dr. David Olds and his colleagues (1986) has now been found to have long-term crime prevention effects. Both mothers and children show these effects, which may be linked to lower levels of child abuse or better anger management practices in child raising.

Criminology: Analytic, Useful, and Used

This recitation of a selected list of experiments in criminology must be labeled with a consumer warning: *the vast majority of published criminology remains analytic and nonexperimental*. While criminology was attracting funding and students during the period of rising crime of the 1960s to 1990s, criminologists put most of their efforts into the basic science of crime patterns and theories of criminality. Studies of the natural life course of crime among cohorts of males became the central focus of the field, as measured by citation patterns (Wolfgang, Figlio, and Thornberry 1978). Despite standing concerns that criminology would be "captured" by governments to become a tool for developing repressive policies, the evidence suggests that the greatest (or largest) generation of criminologists in history captured the field away from policymakers.

The renaissance in experimental criminology therefore addressed very intense debates over many key issues in crime and justice, providing the first unbiased empirical guidance available to inform those debates. That much made criminology increasingly useful, at least potentially. Usefulness alone, of course, does not guarantee that the information will be *used*. Police agencies today do make extensive use of the research on concentrating patrols in

crime hot spots, yet they have few repeat offender units, despite two successful tests of the "invention." Correctional agencies make increasing use of the "what works" literature in the United States and United Kingdom, yet prison populations are still fed by people returned to prison on the unevaluated policy of incarcerating "technical" violators of the conditions of their release (who have not committed new crimes). Good evidence alone is not enough to change policy in any context. Yet absent good evidence, there is a far greater danger that bad policies will win out. Analytic criminology—well or badly done—poses fewer risks for society than badly done experimental criminology. It is not clear that another descriptive test of differential association theory will have any effect on policy making, unless it is embedded in a program evaluation. But misleading or biased evidence from poor-quality research designs—or even unreplicated experiments—may well cause the adoption of policies that ultimately prove harmful.

This danger is, in turn, reduced by the lack of influence criminology usually has on policy making or operational decisions. That, in turn, is linked to the absence of clear conclusions about the vast majority of criminal justice policies and decisions. Until experimental criminology can develop a more comprehensive basis of evidence for guiding operations, practitioners are unlikely to develop the habit of checking the literature before making a decision. The possibility of improving the quality of both primary evidence and systematic reviews offers hope for a future in which criminology itself may entail less risk of causing harm.

This is by no means a suggestion that analytic criminology be abandoned; the strength of experimental criminology may depend heavily on the continued advancement of basic (analytic) criminology. Yet the full partnership between the two has yet to be realized. Analytic social science still dominates field experiments by 100 to 1 or better in criminology, just as in any other field of research on human behavior. Future success of the field may depend upon a growing public image based on experimental results, just as advances in treatment attract funding for basic science in medicine.

Conclusion

Theoretical criminology will hold center stage for many years to come. But as Farrington (2000) has argued, the advancement of theory may depend on better

experimental evidence. And that, in turn, may depend on a revival in the federal funding that has recently dropped to its lowest level in four decades. Such a revival may well depend on exciting public interest in the practical value of research, as perhaps only experiments can do.

"Show and tell" is hard to do while it is happening. Yet it is not impossible. Whether anyone ever sees a crime prevention program delivered, it is at least possible to embed an experimental design into every long-term analytic study of crime in the life course. As Joan McCord (2003) said in her final words to the American Society of Criminology, the era of purely observational criminology should come to an end. Given what we now know about the basic life-course patterns, McCord suggested, "all longitudinal studies should now have experiments embedded within them."

Doing what McCord proposed would become an experiment *in* social science as well as *of* social science. That experiment is already under way, in a larger sense. Criminology is rapidly becoming more multi-method, as well as multi-level and multi-theoretical. Criminology may soon resemble medicine more than economics, with analysts closely integrated with clinical researchers to develop basic science as well as treatment. The integration of diverse forms and levels of knowledge in "consilience" with each other, rather than a hegemony of any one approach, is within our grasp. It awaits only a generation of broadly educated criminologists prepared to do many things, or at least prepared to work in collaboration with other people who bring diverse talents to science.

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