

The true mystery of the world is the visible, not the invisible.

—Oscar Wilde¹

Life is an offensive, directed against the repetitious mechanism of the Universe.

—Alfred North Whitehead²

I am interested in those things that repeat and repeat and repeat in the lives of the millions.

—Thornton Wilder³

Reality must take precedence over public relations, for nature cannot be fooled.

—Richard P. Feynman⁴

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Crime and Life

Crime is a lively process. Offenders, victims, guardians against crime are active before, during, and after crimes occur. This chapter explains how crime fits the larger definition of life and draws upon naturalists to help us understand its liveliness. For example, Charles Darwin (1809–1882) watched hundreds of plants over 24-hour periods; he then wrote an entire book about their motions.⁵

This book is about crime in motion, its living processes.⁶ Life has seven special requirements: *organization, adaptation, metabolism, movement, growth, reproduction, and irritability.*⁷ This book examines how crime meets

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Exhibit 1.1 Crime and the Seven Requirements of Life

<i>Life's Seven Requirements</i>	<i>Crime Examples</i>
Organization	Lone offender fences stolen goods. Two youths rob a store. An illicit drug organization
Adaptation	Drug sellers find a new spot. Victims are more careful now.
Metabolism	Burglary follows daily work cycles. Vandalism follows school cycles.
Movement	Offenders travel to crime site. Victims travel to crime site. Co-offenders go to hangout.
Growth	A high-crime decade develops. Crime rates fall.
Reproduction	New youths enter crime-prone ages. Offenders find new accomplices.
Irritability	Offenders react to adversity. Opportunity tempts new offenders.

these requirements, in the context of its larger environment (see Exhibit 1.1). This chapter introduces the seven concepts, with some initial examples of them.

That environment changes in ways that impinge greatly on crime. In the 19th century, manufacturers discovered combination locks that make safes more difficult to break into. Then a man named George Bliss, who liked to break into banks, got tired of struggling with these locks. He studied how the new locks worked and constructed a wire device called "the Little Joker." It required him to break into each bank twice. During his first break-in, he would insert the Joker into the lock and leave it. The bankers did not know that his simple device was recording the numbers scratched most often. In his second burglary, he could see the combination etched into the wire, and open the safe quickly.⁸ In time, safe companies learned what to do to stop this, and safecracking virtually died out. You can easily see that crime and its prevention are dynamic aspects of a living world.

This is an interesting example, but our task is to put many examples together in order to understand how crime works in a larger world. That is a challenge to me as a theorist and to you as a student of crime. In wrestling with the facts of crime in the real world, I try to take Einstein's suggestion for good science: "Things should be made as simple as possible, but not any simpler."⁹

To apply that advice, we study how crime varies, but we also seek regularities to make sense of it all.

Organization and Living Crime

Like the rest of life, crime can be organized in many forms—primitive and elaborate, informal and formal, short term and long, small scale and large, single layer and multilevel. Fortunately, some crime experts are very attuned to organizational variety. Professor Peter Reuter of the University of Maryland has shown that illegal gambling and drugs display diverse forms of organization.¹⁰ For example, "numbers rackets" are rather dispersed illegal gambling operations, with central control largely impractical. On the other hand, dispersed illegal gambling operations often depend on centralized "banks" to fund their payouts to customers.

Professor David Friedrich of the University of Scranton has shown us a great organizational variety, too, in white-collar crimes.¹¹ Some such crimes involve only one or two persons, while others develop elaborate conspiracies, even involving entire corporations. What *seem* to be the most "organized" criminal activities are usually not that fancy at all. Many drug sales networks are really *sequences* of simple illegal events, involving different persons rather than a simultaneous organization. As we shall see, crime is organized in the naturalist's sense of that word, not necessarily the televised version. In later chapters, this book explains many of crime's organizational forms in the context of larger ecology.

Adaptation and Living Crime

Human genes have produced a rather flexible species, able to live in heat and cold, dark and light, mountain and valley. People from Africa can live in Alaska and vice versa, without appreciable genetic shift. To make these adaptations, humans are able to use a vast array of tools and techniques, including coats, heaters, air conditioners, lighting, and shades. The flexible human species can adapt between legality and illegality, and among the

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various forms of illegal action. Parts of this book deal with adaptation in its many forms. I consider how people exploit new crime opportunities with changing technology—such as the emergence of Internet fraud. I also examine how people adapt to reduced crime opportunities—sometimes by following the law more often.

Not only offenders but also potential victims adapt to a changing environment. People manufacture automobiles with better locks and other theft-thwarting features. Urban parks are rebuilt for security, and public transit systems are designed to keep people from jumping turnstiles, painting graffiti, or mugging customers. Many forms of situational crime prevention have removed crime opportunities, without adding arrests or criminal justice costs.

Although new crime forms emerge, older forms sometimes adjust to new circumstances. For example, shoplifters can learn to avoid the sweep of surveillance cameras or find new targets as old ones become less suitable for theft. Credit-card fraudsters try to adjust when new procedures interfere with their efforts. Older crime forms might disappear. Safecracking faded as safes became formidable and easier crime targets emerged.¹² Drug markets can shift from heroin to cocaine, then back again in response to availability and fashion, as well as the morbidity and mortality of users. Once-popular drugs fade and new designer drugs emerge.¹³ Those preventing crime also learn to do a better job, as we shall see. Chapter 10 is entirely devoted to adaptation. Crime's variety convinces me more than anything else that we must study it as a living process.¹⁴

Crime Rhythms and Movement

Imagine a police cadet, age 22, studying at the police academy. He starts with an image of crime derived from television. Then the academy teaches him by the book, without going into crime's detailed realities. After graduating from the academy, the new officer goes to work, only to be surprised about crime's regular and irregular features.

Crime has a metabolism, a rhythm of life responding to other rhythms. The daily life of a city provides the targets for crime and removes them. The sleeping, waking, working, and eating patterns of offenders affect the metabolism of crime.¹⁵ You can see the metabolism of the city by going several stories up in a building, pulling up a chair, and watching people and vehicles over the course of an entire day, then into darkness.

The daily movement of activities away from residential areas makes burglary easier. And so the metabolism of the metropolis is essential for

understanding how crime thrives. We must study these rhythms of life if we wish to understand crime, for the energy of crime draws from the energy of life. Residential burglars depend on weekday flows of people away from home. Certain robbers rely on the motion of people near money machines. Offenders have their own metabolism, perhaps sleeping late to recover from a late night's partying. Residential burglars depend on the rhythmic shift of residents away from home in the morning, and they better watch out for their return later. Each community breathes both illegal and legal activity, with offenders, targets, and guardians all moving with respect to one another. Accordingly, street prostitutes select "strolls" that make it easier to pick up customers on their way home from work. Robbers heed the motions of their victims as well as the motions of others who might interfere with their crimes. For example, they notice people who stagger home, drunk and alone. A car thief responds to a vehicle moving into his range and to the owner's walking out of sight. Burglars save more difficult tasks for times when they have pickup trucks available to remove heavier items.

Movements include the offender's trip to crime, the victim's trip to be attacked personally, or the guardian's motion away from the site of the target. Accomplices move toward a common location from which they commence their joint offending. We must also consider the trip after crime, with burglars and thieves evading potential captors and going to unload the loot.

The motions of the living metropolis, city, town, village, and countryside greatly affect vulnerability to and security from every type of criminal activity. Crime is in motion—daily, hourly, and momentarily, on large scale and small. Exhibit 1.2 shows that the daytime share of crime varies greatly from one offense to another. While 62 percent of purse snatching and pocket picking occurs between 6:00 a.m. and 5:59 p.m., only 20 percent of motor vehicle theft takes place during those daytime hours. While unarmed assaults and robberies tend to occur during daytime, the armed versions of the same crimes tend to take place at night. (If you look ahead to Exhibit 1.4, you will see that crime events can shift greatly by a single hour of day and night.) Clearly crime has a metabolism that we must try to understand.

Growth and Crime

Mark Twain explained growth as basic:

What is the most rigorous law of our being? Growth. No smallest atom of our moral, mental, or physical structure can stand still a year. It grows—it must grow; nothing can prevent it.¹⁶

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Exhibit 1.2 Victimization Before 6:00 p.m., United States, 2002, Selected Offenses

<i>Crime Type</i>	<i>Percent Reported Incidents</i>	
	<i>6 a.m.–6 p.m. (Base N in 1000s)</i>	
Purse snatching, pocket picking	62.4	154
Assault by unarmed offenders	58.3	3,061
Robbery by unarmed offenders	51.3	189
Assault by armed offenders	43.1	815
Robbery by armed offenders	39.1	215
Rape, sexual assaults	35.0	248
Motor vehicle theft	20.3	989

SOURCE: National Crime Victim Survey, 2002, Tables 58 and 59. Available from Bureau of Justice Statistics, www.ojp.usdoj.gov/bjs/abstract/cvusst.htm.

NOTE: This table omits those crime types whose times are unknown or unavailable more than 10 percent of the time. Non-personal property crimes (e.g., burglary) are subject to more error; these victims often discover that an offense occurred some time afterward.

Young bodies grow into crime-prone ages, affecting not just individuals but the crime rates of large societies. Criminal participation of many types begins and peaks during teenage years, often extending at high rates into the 20s. However, many crimelike behaviors begin at earlier ages. Children steal candy from stores at ages too young to be treated criminally. They poke and shove one another at young ages; but teachers and parents can normally manage transgressions that small kids with puny muscles perpetrate within confined areas. Upon reaching puberty, their potential damage to person and property multiplies with size, muscularity, and increasing range of daily movement. Transgressors can no longer be dealt with entirely within family and school. Girls develop the capacity to get pregnant and boys to impregnate. Youths can now fight more seriously and break rules at a much more serious level. But the teenage years pass. Crime then decreases as people age, spending more evening hours at home, avoiding risks of offending and victimization alike. Of course, this is just the simple model of crime and age. Offenses on the job can increase with employment and changing levels of authority—counter to the usual expectation that aging reduces crime participation. Once more we see that crime is alive; hence its change is not a mechanical process.

Crime can also grow as offenders become more efficient for any one type of crime, learn to find more lucrative targets, or broaden to other types of

crime. Offenders multiply their damage through repeat offending against the same or similar targets. One criminal activity can also feed additional crime activities in the vicinity, such as the drug seller who provides an incentive for nearby burglary and theft.

A whole chapter of my prior book examines how one crime leads to another.¹⁷ Offenders bring in other offenders. Illegal markets encourage more and more crime. Victims commit crimes to offset their losses. Offenses lead to illegal retaliations. Illegal use of public settings feeds additional criminal activity. Public parks can be dominated by the tougher youths, driving out others. Courtyards of public housing projects become the scene for drug sales and turf battles. Malls might be privately owned, but their public access affects crime. Malls enable shoplifting and employee theft, easily becoming hangouts that help offenders find accomplices. Thus crime is part of a larger system.

Reproduction and Crime

Like all living processes, crime has an ability to produce more of itself. Crime reproduces sexually with a delay. Neonates are too young for crime; crime-prone ages take a decade or more to arrive. Moreover, the offending patterns of parents are not simply passed on to their children. Yet sexual reproduction must not be dismissed as we study changing crime rates.¹⁸ New babies augment the population, entering the crime rate's *denominator*, pushing crime rates down. As youths reach adolescence, they help increase the *numerator* of a crime rate.

Human reproduction occurs at uneven rates, producing birth cohorts of different sizes. For example, relatively more Americans were born in the baby boom years, 1947–1960, than in 1978–1987. Add 16 years, and you have a partial predictor of American burglary rates. Burglary was higher in 1975, when 19 percent of Americans were ages 15–24. But the burglary rate was lower in the year 2002, when only 14 percent belonged to that same age group.¹⁹ The baby boom birth cohort—into which I was born—wreaked more havoc. Later birth cohorts had to work much harder to do the same amount of damage.²⁰

To fully understand the impact of youths on crime, we must divide their possible roles as offenders, targets, and guardians against crime. Youths are likely offenders, but also tend to become targets of personal crime. Adolescence and young adulthood are prime ages for falling victim to assault, having an apartment broken into or a car stolen or vandalized, etc. From the onset of puberty through young adult years, people spend more

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time away from home, putting persons and property at greater risk. Arguably, the impact of youth on crime is age-squared, so a 5 percent increase in the number of youths might lead to a 25 percent increase in burglary. Moreover, youths probably interfere with crime less than parents.²¹ A youth population thus adds more offenders and targets, while subtracting people likely to prevent crime.

Population processes might have their greatest impact in getting people *out* of crime. Offenders are always getting older, and aging out of prime crime ages. In addition, many of the most active offenders get sick or injured, and some even die from their fast and dangerous lives. Crime rates cannot persist without new generations to augment and replace the old.

Without replenishment, the number of offenders will decline with time. Replenishment is not automatic.²² Not all youths reaching crime-prone ages will follow their predecessors into crime and delinquency at similar levels. Since most young offenders do not act alone, they need to find accomplices—normally youths of similar ages. Delinquent-prone youths best find one another if the community provides them adequate settings for doing so. In such settings, one can (1) find new recruits to crime, and (2) improve one's efficiency at crime by helping one another *immediately* to carry out criminal acts. Quickly recruiting accomplices is crime's fastest form of reproduction.²³

In these terms, crime has a breeding season. At specific times of year, current offenders become more active and find new recruits. The onset of the school term assembles youths at suitable ages for crime and generates certain offenses within school settings or in the vicinity (especially during the transition period at the end of the school day). Although crime quiets down after Christmas, it picks up again as spring breaks out—especially in climates that are more seasonal. Better weather and longer days not only provide more crime targets, but also enhance the social circumstances for finding accomplices. It is quite a challenge to learn the many avenues through which crime grows and reproduces.

I have gone through six of the seven requirements of life, applying them to crime. The least of the requirements, irritability, is especially interesting and important for understanding crime.

Crime Responds to Stimuli

If you take a stick and poke it in the face of an insect, it will respond to the irritations—proving to you that it is alive. Crime, too, demonstrates living responses. *Irritability* refers to how living beings, including offenders and their victims, quickly respond to external *stimuli*. A poorly supervised bank

stimulates a robber; a valuable garment entices a shoplifter; a vulnerable pedestrian activates a street tough.²⁴ Fortunately, crime prevention experts have learned to provide stimuli that *discourage* criminal acts. One of my main reasons for writing this book is to explain how that happens.

Responses to these stimuli are in stark contrast to *mechanical* cause and effect. Living things might respond in *varied* ways to the exact same challenge. I once looked out the window to discover a cat attacking a squirrel. The cat ran with greater speed but the squirrel was a master: feinting right, stopping suddenly, jumping left, arriving at a tree, then climbing beyond reach. The squirrel's repertoire for evading danger kept him alive. Another squirrel might have used that same repertoire in a different order, as might that very squirrel on the next occasion of danger. Even plants, with no brain to think about it, have evolved methods for adjusting and varying their responses. The larger tree grabs most of the sunlight, but the smaller plants find an opening. The first branch moves into the best position, but the next growth works its way around to its own sliver of light. To adapt to conditions, offenders and victims of crime must vary their responses, too. That is what we mean by improvisation. That is not to say that offenders are highly creative—merely that they sometimes try doing different things in different ways or places. Like the rest of life, crime mixes causation and evasion, structure and confusion, direction and zigzag.

Crime's Diverse Responses

Accordingly, crime responses are diverse, often creative, and seldom absolutely determined. Given more crime opportunities, some offenders would simply finish earlier, satisfied with their current level of illegal gain. Other offenders would respond by committing more crimes and having more parties. Exhibit 1.3 lists eight alternative responses to an aversive stimulus: tighter security at a department store. An offender might respond by giving up crime entirely, or for the time being, or finding another shady activity, or finding a new type of crime, or changing modus operandi, or finding new targets, or going back at a better time, or continuing the same offense at a lower rate.²⁵ The exhibit offers examples of both irritability and adaptation, demonstrating that we can and must study crime in terms of life's general creativity and diversity of choice.

Life can also tempt a nonoffender to give up innocence, even at a relatively advanced age. As H. L. Mencken sees it, "Temptation is an irresistible force at work on a movable body."²⁶

Or someone who has turned away from crime for some time might turn back to it, responding to a new stimulus. Our inability to predict all

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Exhibit 1.3 Different Offender Responses to the Same Adverse Stimulus

ADVERSE STIMULUS: A department store introduces new crime-control techniques to thwart shoplifters	
<i>Diverse Responses</i>	<i>Examples for a Single Offender</i>
1. Give up crime entirely.	Decide to live off a part-time job.
2. Give up crime for now.	Rely on other sources for a while.
3. Find a shady activity.	Become bouncer in a tough establishment.
4. Switch to new type of crime.	Stop shoplifting; start robbing convenience stores.
5. Change modus operandi for same offense.	Learn another way to stash the loot and walk out undetected.
6. Give up old targets in search of new one.	Stop stealing from Store A; shift to Store B.
7. Switch times.	Go back to the store when they are too busy to interfere with your crime.
8. Continue the same offense at a lower rate.	Select fewer and better times to steal.

criminal behavior in mechanical fashion reflects the basic difference between life sciences and abiotic sciences, such as physics or chemistry.²⁷ Alternative responses to crime stimuli are, after all, a part of life.

Crime's Sudden Bursts of Life

Seeds that have lain dormant for years can explode with luxuriance when conditions are perfect. So it is with crime. During the 1950s, crime rates were low in the United States. Certain developments were in process, but had not yet converged. Plastics, aluminum, and transistors were beginning to appear in valuable goods that were light in weight and easy to steal. But the crime wave did not yet emerge. Much of the population was dispersing into single-family suburban homes that were easy to burgle, but still crime rates remained relatively low. Several important conditions for a crime wave had not yet converged.

Some new changes made a crime wave possible, especially during the 1960s. Shopping centers (not yet enclosed malls) were spreading in suburbs, providing new opportunities for shoplifting, employee theft, and auto theft. The vast expansion of the female labor force left suburban houses empty during the day, making burglary easy. Working women were increasingly exposed to theft away from home, even to personal attack. With men and women away, teenagers were better able to evade supervision. Many more single-adult households formed, generating millions of new crime targets and reducing guardianship.

These trends coalesced in the late 1960s, when individuals in the post-World War II baby boom entered the teenage years. Vast numbers became teenagers, discovering a great array of new crime opportunities—also providing targets themselves. No one of these conditions alone could have produced the quadrupling of crime rates that followed. Like plants that lie dormant, then suddenly bloom abundantly, crime rates accelerated to an extent not seen before.

Crime can burst forth, not only for the community and larger society, but also in particular situations. I was once waiting in line in a perfectly respectable and popular restaurant when the two men ahead of me exploded into a fistfight. They were strangers to one another, waiting to be seated. One thought the other had taken his place. They had a conflict of interest, but perhaps additional irritations or aversive stimuli exacerbated their disagreement and led to a quick escalation.²⁸ Violence sometimes explodes, surprising those present, maybe even the instigator. Although the current book neglects the social psychology of crime situations, that's a very important topic for understanding crime's escalations and surprises.²⁹

Crime Lives but Has Boundaries

Life delivers surprises, but that does not mean it is without structure. Some local settings impair crime almost always. Other settings invite crime often. Other settings can go either way. Environments limit choices, punishing and rewarding decisions very unequally. An offender can suffer immediate disaster from burgling in the wrong place, abusing drugs at higher dosages, or living among dangerous people. An offender can also gain immediate benefit, but experience disaster later. Thus substance abuse brings quick pleasures with a price to pay in the future.

Crime conditions change, sometimes gradually, sometimes suddenly—like a candle flickers. Small-town police can modify local burglary by moving a single offender into detention, then out again. A new mall in a quiet town might enhance shoplifting and related drug abuse for the entire region. In the

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last decade, Wal-Mart and other huge retailers have transformed the business procedures of rural areas and towns in the United States and other nations. Before its arrival, local shops were small, and not as suitable for theft. After large stores arrived, it was easier to shoplift, with more merchandise watched by fewer sales personnel. Employee thefts are easier when stores have huge floors, docks, and storage areas. Thefts from parking areas include cars, car parts, and car contents. The very crime opportunities that were brought to the suburbs in the 1960s appeared in towns some years later. And so we see that crime is a mix of structure and surprise.

Offenders confuse us because they are alive. They make adjustments. To understand crime's regularities and surprises, think of the natural world as *narrowing the range* of likely or possible responses to any given stimulus. For example, improving the management of a parking lot serves to reduce theft from it, but might still allow room for some thefts at the edge of the lot.³⁰ The use of conductors in Britain's public transport interferes with thefts and vandalism, but also generates more attacks on conductors. The interplay of *constraints, choices, and outcomes* makes crime ecology a fascinating field.

Crime in Terms of "Stimulus and Response"

The liveliness of crime impels us to examine the very vocabulary we use to describe it. Some common social science terms are too confusing, including "independent versus dependent variable" and "free will versus determinism."³¹ Real offenders are neither entirely independent of nor dependent on their surrounding environment. However, the terms, "stimulus" and "response" remind us that stimuli demand attention; the environment imposes limitations, but living things do not respond mechanically. Stimulus and response are *not perfectly paired*. That allows some surprise in the world of crime. At the same time, choices are not infinite, so we can make predictions. Fortunately, situational crime prevention has greatly improved its ability to predict which settings and products invite crime and how to prevent it.

Clearly, offenders engage in a good deal of calculation—seeking to maximize their own benefit. At the same time, offenders can *miscalculate*, which is not the same as *noncalculation*. People misjudge their risks, when to commit a crime, or what they have to gain. They ignore eventual harm to their health or safety. Crime doesn't pay, and it does—depending on the periods examined and the span of rewards or punishments one considers.

In many ways, this book examines how crime stimuli are delivered to potential offenders. Really, the whole book considers the cues that life gives us, leading us toward or away from illegal action.

Consider for now a healthy young man and a healthy young woman who immigrate separately to a city where they do not know the local language and cannot speak to one another. But they can still communicate about some things. They can enjoy music without a common language, and can dance together in a primitive way. They can share rudimentary sports—such as kicking a soccer ball—without a common language. They can have sex with one another, or think about it, without verbalizing. One can commit a crime against the other without much talk.³² They can even commit a crime together with minimal verbal communication. Even people who hate one another can communicate, as can one person trying to escape another. My point is that diverse cues are emitted in the course of life, and that some of these cues impel people toward crime.

Crime Dynamics Aren't Easily Studied

Crime dynamics mix different processes together, making them hard to untangle. Crime, as a living activity, is self-altering. It unfolds and transforms its own habitats and niches, and these changes feed back on it. Not only does crime drive people away from certain places, but their abandonment makes things worse, still. Life mixes causes and effects, making crime difficult to study. For example, neighborhood deterioration feeds crime, but crime also drives people out of a neighborhood, enhancing deterioration. We can say that crime is self-altering, since it changes its own environment. To get a better handle on crime's self-altering processes, we have to work out the pieces of many puzzles.

To study crime we also need to study how good and bad phenomena mix. For example, a pleasant evening out with friends is a good experience, but that also provides offenders an opening to act against one's empty home or parked car, or against one of the celebrants going home late. Offenders sometimes find innocent victims, but they also attack the person or property of other offenders. As we shall see, the line between good and evil is not as clear as some people tell you.

As noted earlier, crime changes rapidly, even shifting over the months of adolescence, the school calendar, the days of the week, the hours of the day, and the minutes of an hour.

In the year 2000, some 406 robberies were reported to the police department in Albany, New York. Exhibit 1.4 shows tremendous variation by hour. For the entire year, only one robbery occurred during the period 7:00 to 7:59 a.m. In contrast, 35 robberies occurred from 8:00 to 8:59 p.m. The exhibit shows how the number of robberies rises slightly in the morning, takes a dip, then accelerates in early afternoon. It takes another dip during

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Exhibit 1.4 Robberies Reported to Police, Albany, New York, 2000,
by Hour of Day

<i>Hour Beginning</i>	<i>Number of Incidents</i>
5:00 a.m.	8
6:00	8
7:00	1
8:00	7
9:00	9
10:00	11
11:00	5
12:00	15
1:00 p.m.	16
2:00	16
3:00	22
4:00	18
5:00	9
6:00	18
7:00	20
8:00	35
9:00	31
10:00	14
11:00	28
12:00	22
1:00 a.m.	29
2:00	18
3:00	28
4:00	18

SOURCE: Table 1 of M. Felson and E. Poulsen, "Simple Indicators of Crime by Time of Day," *International Journal of Forecasting* 19 (2003): 595-601. Original data provided by Albany police department.

NOTE: Time spans are 5:00-5:59 a.m., 6:00-6:59 a.m., etc.

rush hour, then accelerates again with darkness. Crime reports for big-city police departments often show much larger differences than this, with crime reports over 100 times greater in prime hours than from 5:00 to 6:00 a.m. on a weekday.³³

Police activity also varies greatly by hour. In 2003, Utah State University police made some 114 arrests. Only one of these was between 6:00 a.m. and

7:59 a.m. Arrests did not pick up until noon. But the real peak was 24 arrests from midnight to 2:00 a.m.³⁴ We can conclude that crime and police activity vary dramatically in the course of an average day.

Crime variations are also highly evident for individuals. In the course of a single school year, a 13-year-old undergoes substantial new experiences. The new assembling of youths in September as school begins can only disrupt the pecking order. Last year's strongest boy has to prove it again or lose his berth.³⁵ The dramatic changes within the first month of school are neglected by most datasets and theories of crime. In some cases, the boy whose puberty had lagged begins to develop new muscles as autumn progresses; perhaps by November he will gain revenge for the bullying he suffered in September. These disruptions are also found when a new chicken is introduced to the barnyard, and has to fight the others to reestablish the pecking order.³⁶

Exhibit 1.5 illustrates the dramatic changes in age of burglary arrest in California, even without considering the shifts in adolescent experience over a year.³⁷ The peak age of burglary arrest is 17, which becomes the index year of 100. In comparison, ages 10–12 have only 15 arrests per 100 at the comparison age. The arrests accelerate through age 15, then decelerate after age 17. By age 24 there are only about one-fourth as many arrests as there were for age 17. After age 24 (not shown), arrests for burglary decline dramatically. On the other hand, arrests for drunk driving and public drunkenness decline much less with age.

Day by day and month by month, crime and delinquency fluctuate even more.³⁸ Youths tend to flounder and vacillate as they make their way through the prime crime ages. They quickly and dramatically change behaviors, including substance abuse and predatory crime participation.

The unevenness and surprise of crime might appear at any level. National robbery rates have been known to rise almost 10 percent in one year; if you compound that percent you will see why it is possible for national crime rates to quadruple in a single decade. Crime rates within particular localities fluctuate even more. In recent years, some cities have seen their crime rates decline 30 percent or more over a two-year period, but smaller locales might see even greater fluctuations than that.

Crime's Quickness Confuses Research and Theory

Crime's rapid changes can wreak havoc with those studying it. On the one hand, many crime theories focus on rather sluggish features of society. Social norms, poverty, and inequality shift at a glacial pace compared to the pace at which crime shifts. Broad business cycles can move rapidly, but they

Exhibit 1.5 Arrests for Burglary, California, 1998, by Age

(Age 17 indexed at 100)	
<i>Age</i>	<i>Arrests</i>
10–12	15
13–14	59
15	92
16	98
17	100
18	91
19	71
20	53
21	44
22	34
23	31
24	27

(Arrests for burglary decline dramatically beyond age 24—not shown.)

SOURCE: Calculated from Table 8 in Office of Attorney General, *Report on Arrests for Burglary in California, 1998* (Sacramento, CA: Criminal Justice Statistics Center, August 1999) (Report Series, Volume 1, no. 2).

NOTES:

1. Total burglary arrests at age 17 = 4,347.
2. To even up category widths, the age 10–12 arrests are divided by 3, and the age 13–14 arrests are divided by 2.

do not predict crime trends and cycles consistently. As you proceed through this book, you will find that crime ecology is sensitive to rapid changes in crime and community.

Crime as a living process eludes those empiricists who ignore changes in the course of a day, week, or month. Crime participants are real people with blood running through their veins. “Data smoothing” is the unfortunate tendency to average out crime statistics over periods that have little to do with real life. Teenagers do not organize themselves to fit long-term life trajectories, so I cannot understand the researchers who claim that they do. The pace of real life is much too fast for standard crime theory or summarized data. To explain crime and its changes over time, we must consider crime as a quick event responding to other quick events.³⁹ Crime is a volatile part of the fast changes in everyday life.

Nature Shrinks and Changes Form

Sometimes natural events disappear or shrink in surprising ways. Mark Twain explained, in *Life on the Mississippi*, how the great river broke through and cut off some of its own loops, making itself shorter by many miles. The lower section of the Mississippi River (from Cairo to New Orleans) was 1,215 miles long around 1700, but only 973 miles long in 1883.⁴⁰ Just as a river can shrink, so can crime. A cooler winter can keep more people safe at home. Prolonged drought can force people to migrate. Good weather can produce a bumper crop of opiates, whose increased purity sends drug abusers to a premature death. To keep track of crime's changing environment, we must keep our eyes open and be ready to adjust to new realities.

Crime Prevention Must Be Lively, Too

As we seek to prevent crime, we must understand it as a living activity. Sometimes offenders adjust to new circumstances. Other times entirely new offenders discover a crime opportunity, having nothing to do with the first group. Professor Ronald V. Clarke studied how people used slugs to cheat their way into the London Underground.⁴¹ Replacing the token machines led to a *two-thirds reduction in the crime*, then some people cheated the new token machines, too. This appeared to be a "displacement," and many people claimed no progress had really been made. Clarke took a closer look and found that different offenders were involved in cheating the new machines. He also found they stole less from the new machines than had been stolen from the old ones. Crime and its prevention, alike, reflect the diversity of a living system.

The Living *Study* of Crime

A few years ago, I received a letter from a professor nearing retirement who was asked to teach criminology again after a 40-year lapse. He found that the same issues were still being discussed as before, with little or no progress toward solutions!

In contrast, natural science professors can't get six months behind, or they might never catch up. The rapid growth of knowledge in the natural sciences occurs first because scientists emphasize detailed description of every structure and process they study. Consider Henry Gray (1825–1861), who wrote

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one of the greatest books in medical history.⁴² *Gray's Anatomy* is still in daily use by physicians. It includes 1,247 illustrations and provides a travelogue of the human body, inside and out.⁴³ Gray wrote in great detail with absolute clarity. For example,

The abdomen is the largest cavity in the body. It is of an oval shape, the extremities of the oval being directed upward and downward. The upper extremity is formed by the diaphragm, which extends as a dome over the abdomen, so that the cavity extends high into the bony thorax, reaching on the right side, in the mammary line, to the upper border of the fifth rib. On the left side it falls below this level by about 2.5 cm. The lower extremity is formed by the structures, which clothe the inner surface of the bony pelvis. . . . These muscles are sometimes termed the diaphragm of the pelvis. The cavity is wider above than below, and measures more in the vertical than in the transverse diameter.

Only a methodical and dedicated person could have written 13,000 entries like that. If you think it's easy, you ought to try it. But if you learn to describe crime and its circumstances in detail, you can make a very valuable contribution.

Science is more than description, however. Natural scientists have learned to make more rapid progress as a group because they have worked out their *collective* processes. In particular, they have learned *not* to argue about the most basic issues and methods. Their *basics* are part of a working consensus, and they reserve inquiry and argument to the *details*.

The key to their consensus is a *scientific paradigm*. This is what holds a scientific discipline together. It is founded on a rigid set of rules about fundamental issues and methods. A scientific paradigm has a monopoly. There cannot be multiple paradigms, since that defeats the whole purpose—finding consensus on the basics. A paradigm is a very practical set of rules and assumptions for doing research, for making decisions, and for pushing ahead.⁴⁴ That helps teach students one set of principles, without confusing them on every issue.

All decisions are imperfect, but nothing is worse than never making decisions at all. The natural sciences have devised means for making decisions and pushing forward. Of course, that might not satisfy a physicist. Nobel Laureate Richard P. Feynman insisted, “The exception proves that the rule is wrong. That is the principle of science. If there is an exception to any rule, and if it can be proved by observation, that rule is wrong.”⁴⁵

Naturalists are a bit more forgiving than physicists. If a man is born without complete vertebrae, they do not then categorize him with an octopus. But naturalists still have rules and try very hard to keep them.

A scientific paradigm is a brilliant invention, since it closes the books on some topics in order to open inquiry on others. Naturalists and ecologists have managed to gather and organize vast amounts of information about life. They cooperate amongst themselves as much as they can, confining their quarrels to the smaller issues. In this book, I will repeatedly borrow from their cooperative bag of tricks.

Is There a “Criminal Man”?

For two centuries, students of crime have tried to isolate “criminal man,” based on genes, psyches, personalities, or social group membership.⁴⁶ These efforts have been a scientific disappointment. Their greatest setback occurred while World War II was underway. Austin L. Porterfield, Professor at Texas Christian University, invented the self-report survey of crime and delinquency.⁴⁷ His 1943 article compared youths sent to the juvenile court with college students. It turns out college students had participated in a great deal of ordinary crime and delinquency, mostly without getting caught, and were willing to admit it.⁴⁸ Porterfield had demonstrated that crime is not just the province of the disadvantaged. (Nor did those more advantaged confine themselves to white-collar crime.)

In 1966, using better study methods, Martin Gold of the University of Michigan found even stronger evidence of the same point.⁴⁹ Youths of all backgrounds—not just members of special delinquent groups—reported committing delinquent acts at similar rates. Subsequent research has repeatedly confirmed that social, economic, and psychological variables are at best moderate predictors of criminal behavior. Worse still, the ability to predict who will commit crimes *has not improved* in several decades of research effort.

Criminologists in time gave up predicting ordinary crime, shifting their focus to a different type of prediction. They sought either to predict *violence* or to predict *very active offending*.⁵⁰ Their efforts led to no more than modest improvements in prediction, and surely did not solve the problem. Scholars also sought to predict the *shape of criminal careers* as an alternative rescue effort.⁵¹ For example, criminal careers of youths can be “predicted” somewhat by looking *backward* in time; but if you try to look *forward*, you will not do very well predicting what crimes young people *will* do in the future. Indeed, the crime participation patterns of youths are not very orderly, unless you take pains to smooth out each youth’s variations from month to month.

Some researchers have finally faced the fact that these ideas have failed. In 2003, Professors Robert Sampson (of Harvard University) and John Laub

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(of the University of Maryland) decided to jump ship. These leading experts publicly abandoned the search for a separate and distinct “criminal man.”⁵² From an otherwise polite and unaggressive article, these two sharp sentences are worth noting:

Substantively meaningful [offender] groups or types *do not, in fact, exist*.

We believe that statistical approaches for data reduction have *seduced* some criminologists by giving the *appearance* of distinct and predictable groupings (“super predator,” “life-course-persistent offender”) that are amenable to direct policy intervention. (Emphasis added.)

We are left with the problem that stable offenders and nonoffender groups have not been verified. That’s why this volume

- focuses not on offenders, but rather on criminal acts, directly; and
- treats individuals and their criminal acts as rapidly changing phenomena, even from hour to hour, day to day, and week to week.

Waiting a year or several years to reinterview teenagers is a big mistake. For youths are very much alive, undergoing rapid changes and facing surprising experiences. Yet surprises can have a structure. This book offers some ideas for studying crime as a living activity, whose underlying structure is found within a larger system of activities. A natural perspective helps to find that structure. This book seeks to develop that perspective, learning from ecologists and naturalists how it might be accomplished.

Overview

Like larger life, crime has seven special requirements: organization, adaptation, metabolism, movement, growth, reproduction, and irritability. Crime is not committed by dead men. Its vibrancy comes out every moment, impelling crime prevention to be nimble, and challenging scholars. We must make sure our theoretical ideas about crime can keep up with it. Naturalists help us avoid sluggish categories or concepts. They help us study the multiformity, unevenness, and liveliness of crime. Often offenders learn something new, and so should we.

Central Points, Chapter 1

1. Life has seven components: organization, adaptation, metabolism, movement, growth, reproduction, and irritability. All seven apply to crime.

2. Crimes adaptations and growth can be extreme, reflecting changes in the larger society, the local community, or the age of the population.
3. Crime responds quickly to stimuli. This is reflected in how offenders act and how communities shift, even by the hour.
4. Convergences of offenders, targets, and guardians tell us when crime can occur, or not.
5. Organization of criminal activity takes on many forms, often simple but occasionally complex.

Exercises

1. Consider your personal movements in the course of your weekday, and how your crime vulnerabilities shift as you move.
2. Describe the metabolism of your campus. How do you think it affects crime?
3. Describe a campus bar and how its activities shift by hour of day and by day of week. Apply these changes to crime risks.
4. Observe the steps and parking lot of a local secondary school for a half-hour before and a half-hour after school lets out. Can you see some students leaving early? Do you see some students lingering on?

Notes

1. Anglo-Irish playwright, author (1854–1900). Quoted in *The Columbia World of Quotations* (New York: Columbia University Press, 1996).
2. British philosopher and mathematician (1861–1947). See part 1, Chapter 5 of Alfred North Whitehead, *Adventures of Ideas* (New York: Macmillan, 1933).
3. American writer (1897–1975). Quoted in *Simpson's Contemporary Quotations* (New York: Houghton-Mifflin, 1988).
4. Nobel Prize winner in physics (1918–1988). Quoted in *Simpson's Contemporary Quotations* (New York: Houghton-Mifflin, 1988).
5. For example,

The cotyledons are in constant movement up and down during the whole day . . . [first rising] from 10.30 A.M. to about 3 P.M.; they then sank till 10 P.M., rising, however, greatly in the latter part of the night. [Note: Cotyledons are the “seed leaves” produced by a seed plant embryo, absorbing nutrients packaged in the seed, until the seedling is able to produce its first true leaves.] (p. 23)

From C. Darwin, *The Power of Movement in Plants* (London: John Murray, 1880). Available from the British Library, <http://pages.britishlibrary.net/charles.darwin3> (accessed September 3, 2005).

6. Crime is biotic in three senses. First, the population of criminal acts lives and grows beyond the life of any single incident. Second, a criminal act has a life before it finally ends.

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Third, a criminal act that appears deceased can flare up, leading to revenge, arrest, and reaction. Crime is not nearly as dead as the statistics that sometimes describe it.

7. This is a conventional list of life requirements, commonly found in biology texts, but there are variants. An interesting alternative list is presented by Professor Daniel E. Koshland, Jr., at the University of California, Berkeley, in an essay, “The Seven Pillars of Life,” *Science* 295, no. 5563 (March 2002): 2215–2216. He lists program, improvisation, compartmentalization, energy, regeneration, adaptability, and seclusion. Some of these terms echo the more common list. The most interesting exceptions are compartmentalization and seclusion, which could be applied to behavior settings, discussed in Chapter 6 of this book.

8. P. Ekblom, “Less Crime, by Design,” lecture at Royal Society of Arts, October 2000. Available from the European Designing Out Crime Association, http://www.e-doca.net/Resources/Lectures/Less%20Crime%20by%20Design.htm#thinking_thief (accessed September 3, 2005).

9. Widely attributed to Einstein. It was probably said in German and spread by word of mouth. For an extensive list of Einstein quotations and attributions, see the article on him at [angelfire.com](http://www.angelfire.com)—http://www.angelfire.com/realm/firelight63/Words_Einstein_Albert.htm (accessed September 3, 2005).

10. P. Reuter, *Disorganized Crime: The Economics of the Visible Hand* (Boston: MIT Press, 1983). Also see P. Reuter and J. Haga, *The Organization of High-Level Drug Markets* (Los Angeles: RAND, 1989).

11. D. O. Friedrichs, *Trusted Criminals: White Collar Crime in Contemporary Society*. (Belmont, CA: Wadsworth, 2004).

12. Richard P. Feynman was also a talented safecracker, but his Nobel Prize was for something else.

13. R. Curtis and T. Wendel, “Toward the Development of a Typology of Illegal Drug Markets,” in M. Natarajan and M. Hough, eds., *Illegal Drug Markets: From Research to Prevention Policy* (Monsey, NY: Criminal Justice Press, 2000) (Volume 11 in *Crime Prevention Studies* series).

14. The word “crime” is used in at least three different ways. Sometimes it refers to one incident; sometimes to many incidents as a class; and sometimes to the interdependencies among incidents. This book uses the word all three ways, depending on context. When I say crime is a living activity, I refer mainly to the last of the three usages. Perhaps as crime ecology matures we will find new rules to communicate with minimal confusion.

15. For students of nature, “metabolism” refers to the internal processes of a living body, while the external motions of those bodies are called “movements.” But students of urban ecology reverse these scales. The latter use “metabolism” for the larger community, while movements apply to individuals or smaller groups within it. I adapt the latter usage because it applies better to the problem at hand. The metabolism of the metropolis, for example, takes into account the daily flow of its population to and from work.

16. Mark Twain was the pseudonym of U.S. author Samuel Langhorne Clemens (1835–1910). Quoted in *The Columbia World of Quotations* (New York: Columbia University Press, 1996). Of course, Mark Twain took the sun and other nutrients for granted, but it is possible to kill growth by blocking nutrition.

17. Chapter 8 in M. Felson, *Crime and Everyday Life*, 3rd ed. (Thousand Oaks, CA: Sage, 2002).

18. Sexual reproduction long preceded the human presence on earth. It supersedes human role theory and human cultural variations. The word “gender” cannot replace the word “sex.” The second word applies to living things whose sex organs make contact, fertilizing eggs that grow into offspring. In many languages, inanimate objects have gender, e.g., *le table* and *la porte* in French. But a table and door cannot mate.

19. U.S. Census Bureau, “Table H-3. Population by Age: 1900–2002,” in *Uncle Sam’s Reference Shelf*, <http://www.census.gov/statab/www/minihs.html> (accessed September 3, 2005).

20. However, one can easily overstate the impact of age structure on crime. The property available to steal and the persons away from home tell us more.
21. Parents can sanction youths in ways they cannot sanction one another. This topic merits further exploration but is neglected in this book.
22. See M. Felson, 2003, "The Process of Co-offending," in M. J. Smith and D. B. Cornish, eds., *Theory for Practice in Situational Crime Prevention* (Monsey, NY: Criminal Justice Press, 2003) (Volume 16 in *Crime Prevention Studies* series).
23. This process is a form of asexual, nongenetic reproduction. I use the term "asexual reproduction" in a broad sense, given that crime produces more of itself.
24. "Irritability" has nothing to do with "feeling bad," or with "strain theory." Nor does it claim a *general* crime response. Rather, it considers *very specific* stimuli and responses.
25. For more on the crime displacement issue, see
- a. R. Hesseling, "Displacement: A Review of the Empirical Literature," in R. V. Clarke, *Crime Prevention Studies* (Monsey, NY: Criminal Justice Press, 1994) (Volume 3 in *Crime Prevention Studies* series).
 - b. R. Barr and K. Pease, "Crime Placement, Displacement, and Deflection," in M. Tonry and N. Morris, eds., *Crime and Justice: A Review of Research* (Chicago: University of Chicago Press, 1990) (Volume 12 in series).
 - c. R. Barr and K. Pease, "A Place for Every Crime and Every Crime in Its Place: An Alternative Perspective on Crime Displacement," in D. J. Evans, N. R. Fyfe, and D. T. Herbert, eds., *Crime, Policing and Place: Essays in Environmental Criminology* (London: Routledge, 1992).
 - d. R. Clarke and D. Weisburd, "Diffusion of Crime Control Benefits: Observations on the Reverse of Displacement," in R. V. Clarke, ed., *Crime Prevention Studies* (Monsey, NY: Criminal Justice Press, 1994) (Volume 2 in *Crime Prevention Studies* series).
 - e. D. Cornish and R. V. Clarke, "Situational Prevention, Displacement of Crime and Rational Choice Theory," in K. Heal and G. Laycock, eds., *Situational Crime Prevention: From Theory Into Practice* (London: Her Majesty's Stationery Office, 1986).
 - f. S. Town, "Crime Displacement: The Perception, Problems, Evidence, and Supporting Theory," in *Practical Skills Online Papers*, the Jill Dando Institute for Crime Science, <http://www.crimereduction.co.uk/skills10.htm> (accessed September 3, 2005).
26. Extraordinary U.S. journalist and essayist (1880–1956). Quoted in *A Mencken Chrestomathy* (New York: Knopf, 1949).
27. However, some aspects of the physical sciences also provide surprise. Consider the motion of subatomic particles, taken one at a time.
28. For a review of instrumental aspects of violence and other forms of aggression, see J. Tedeschi and R. Felson, *Violence, Aggression and Coercive Action* (Washington, DC: APA Books, 1994). Tedeschi and Felson allow that aversive stimuli can enhance aggressive responses.
29. See Tedeschi and Felson, *op. cit.*
30. On parking lot crime, see R. V. Clarke, "Thefts of and From Cars in Parking Facilities" (2002), Center for Problem-oriented Policing, <http://www.popcenter.org>. See also C. Corbett, *Car Crime* (Cullompton, Devon, UK: Willan, 2003).
31. Some scientists believe that living beings and living systems are inherently probabilistic. Others follow Einstein, who exclaimed, "God does not play dice with the universe." That implies that all of nature is deterministic, and science uses probability only as a stopgap—until it learns to explain more precisely. But Einstein was a physicist, not a life scientist. Planets follow their marching orders rather better than do squirrels, offenders, police, or crime victims. Even if an ultimate determinism exists, its complexity will force us to study probabilities. Accepting the flexibility of life will help us learn about crime as a living process. On the other hand, we must not let flexibility and probability take over, or science will lose all laws.

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32. In Montreal, a bilingual city, robbers have no trouble with the language barrier. The word “stick-em-up” is universal. See T. Gabor and others, *Armed Robbery: Cops, Robbers and Victims* (Springfield, IL: Charles C Thomas, 1987).

33. These variations would be even greater if we took shorter periods than an hour, or if we kept one day separate from another instead of averaging them together.

34. Utah State University Campus Police, *2003 Statistical Report*, <http://www.usu.edu/usupd/statistics/index-2003.cfm> (accessed September 7, 2005).

35. I infer this from statistics on assaults in September, but I admit that my evidence is indirect.

36. The pecking order question is taken up again in Chapter 22.

37. These are not the same youths followed over their different ages. Instead, this is based on age patterns observed during one time period. But real cohort studies find essentially the same thing. An exception is sometimes found for a subset of offenders who are very active over long periods of time and who have a substance abuse pattern. They drop off from crime participation later in their lives and their deceleration is slow.

38. This only stands to reason. But real research unfortunately examines longer periods.

39. It is all right to summarize data if you (1) try to stick close to daily life, and (2) admit to yourself and others that life spills out of the categories used to study it.

40. In kilometers, it declined from 1,955 to 1,566. The entire Mississippi River is from 2,300 to 2,350 miles long, depending on the government agency measuring it. That is over 3,700 kilometers, almost equivalent to a transcontinental trip (e.g., across the United States, Europe, or Australia).

41. R. V. Clarke, “Fare Evasion and Automatic Ticket Collection on the London Underground,” in *Crime Prevention Studies*, ed. R. V. Clarke (Monsey, NY: Criminal Justice Press, 1993) (Volume 2 in *Crime Prevention Studies* series). Available from the Center for Problem-oriented Policing, [http://www.popcenter.org/Library/CrimePrevention/Volume %202001/07clarke .pdf](http://www.popcenter.org/Library/CrimePrevention/Volume%202001/07clarke.pdf). See also R. V. Clarke, R. Cody, and M. Natarajan, “Subway Slugs: Tracking Displacement on the London Underground,” *British Journal of Criminology* 34 (1994): 122–138.

42. Not to be confused with Stephen Gray, father of modern electricity.

43. Henry Gray (1825–1861) was a physician. This is one of the great classics of scientific literature. For the 20th edition, see H. Gray, *Anatomy of the Human Body*, 20th ed. (Philadelphia: Lea & Febiger, 1918). Available online from several sources, including Yahoo! Education, <http://education.yahoo.com/reference> (accessed September 3, 2005).

44. This contrasts with a school of thought—a common system of beliefs among like-minded people. Common interest in social programs or social justice does not constitute a scientific paradigm. Nor is it sufficient simply to share membership in the same department or association. Interestingly, the Chicago School of sociology was not a paradigm or even a school of thought, but rather a “school of activity”—a group of scholars sometimes joining together for common purposes, despite their intellectual incompatibility on many issues. See H. Becker, “The Chicago School, So-called,” *Qualitative Sociology* 22 (1999): 3–12. Available from Howard Becker’s webpage, <http://home.earthlink.net/~hsbecker> (accessed September 3, 2005). Also see S. Gilmore, “Schools of Activity and Innovation,” *Sociological Quarterly* 29 (1988): 203–219. Professor Samuel Gilmore distinguishes a school of thought from a “school of activity.”

45. R. P. Feynman, *The Meaning of It All* (Reading, PA: Addison-Wesley, 1998).

46. “Criminal man” derives from Cesare Lombroso (1836–1909), known as the father of modern criminology. His works include *L'uomo Delinquente* (Criminal Man) first published in 1876. See the 1972 version in English: Gina Lombroso-Ferrero, *Criminal Man, According to the Classification of Cesare Lombroso* (Montclair, NJ: Patterson Smith, 1972) (Patterson Smith Reprint Series in Criminology, Law Enforcement, and Social Problems, publication 134).

47. A. L. Porterfield, “Delinquency and Outcome in Court and College,” *American Journal of Sociology* 49 (1943): 199–208. See also A. L. Porterfield, *Youth in Trouble* (Fort Worth, TX: Leo Potishman Foundation, 1946).

48. Porterfield compared college student offenses to a separate sample of court cases, showing that students tended to get away with their illegal acts.

49. M. Gold, "Undetected Delinquent Behavior," *Journal of Research in Crime and Delinquency* 3 (1966): 27–46. See also M. Gold, *Delinquent Behavior in an American City* (Belmont, CA: Brooks/Cole, 1970). Annual "Monitoring the City" studies confirm the same finding every year, under names of various authors, but easily found via the Internet.

50. The leader in this shift was Professor Marvin Wolfgang at the University of Pennsylvania, whose main work emerged from 1972 to 1985. See

- a. M. E. Wolfgang and F. Ferracuti, *The Subculture of Violence: Towards an Integrated Theory in Criminology* (Beverly Hills, CA: Sage, 1982).
- b. M. E. Wolfgang, R. M. Figlio, and J. T. Sellin, *Delinquency in a Birth Cohort* (Chicago: University of Chicago Press, 1972).
- c. M. E. Wolfgang, *The National Survey of Crime Severity* (Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, 1985).

51. Accordingly, Professor Terrie E. Moffitt, of the University of Wisconsin, presented a "developmental taxonomy" of crime and delinquency in 1993. See T. E. Moffitt, "Adolescence-limited and Life-course-persistent Antisocial Behavior: A Developmental Taxonomy," *Psychological Review* 100 (1993): 674–701.

52. See R. J. Sampson and J. H. Laub, "Life-course Desisters? Trajectories of Crime Among Delinquent Boys Followed to Age 70," *Criminology* 41 (2003): 555–592. Their ideas are amplified in a new volume: R. J. Sampson and J. H. Laub, eds., "Developmental Criminology and Its Discontents: Trajectories of Crime From Childhood to Old Age," special issue, *The Annals of The American Academy of Political and Social Science* 602 (November 2005).