

Criminal Profiling

Real Science or Just Wishful Thinking?

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Criminal profiling is designed to generate information on a perpetrator of a crime, usually a serial offender, through an analysis of the crime scene left by the perpetrator. The two main approaches to criminal profiling, crime scene analysis and investigative psychology, are examined for the presence of a paradigm and the possibility of falsifiability to determine whether they can be considered as science.

*The subject of criminal profiling has caught the public's imagination in recent times, with references to it appearing in all forms of media. The most well-known example of criminal profiling in the popular media is in the film *Silence of the Lambs*, based on the Thomas Harris novel of the same name. Several television shows have also recently been based around the premise of criminal profiling, including *Millennium*, *Profiler*, and even *The X-Files*. It is interesting to note that all of these popular portrayals of profiling are somewhat inaccurate because they suggest that profiling is a magical skill somewhat analogous to a precognitive psychic ability.*

Those who practice criminal profiling have claimed that it is alternatively a science or an art, depending on who you listen to. Even those who confess that it is more an art than a science (e.g., Ressler & Shachtman, 1992) still point to supposedly scientific studies to support their claims that it is in fact worth using. Yet one of the biggest hurdles standing in the way of acceptance of criminal profiling is that there is very little authoritative material on it, and almost nothing in the way of scientific studies to support the claims of the profilers.

Many of the law enforcement agencies around the world are still quite skeptical of the work of criminal profilers. Holmes and Holmes (1996) observe that an offender profile is usually only



called in when the police have exhausted all other leads, sometimes including psychics and astrologers. Techniques such as forensic DNA analysis have become essential to modern criminal investigation, possibly because one can point to the strong scientific basis on which they are founded. Yet most people have no idea how effective profiling is, let alone how it works, apart from what they have picked up from the media.

The aim of this article is to look beyond the ubiquitous media hype that surrounds profiling and critically examine the reality. Initially the two main approaches to profiling will be examined in some detail, highlighting the differences and similarities of the approaches. Profiling is usually conducted on serial offenders, which will also be examined, along with some of the research findings and controversies surrounding serial offenders. The approaches to criminal profiling will then be examined in light of two criteria for a science: the need for a paradigm and the requirement of falsifiability. The empirical support and problems with each of the approaches will be discussed, as will the studies that have empirically examined profiling. It is concluded that the current approaches to profiling do not yet have any substantial empirical support, but that they do have the potential to be scientific if they are worked on.

WHAT IS CRIMINAL PROFILING?

Definitions

Criminal profiling is the process of using available information about a crime and crime scene to compose a psychological portrait of the unknown perpetrator of the crime.¹ The information that the criminal profiler uses is often taken from the scene of the crime, and takes into account factors such as the state of the crime scene, what weapons (if any) were used in the crime, and what was done and said to the victim. Other information used in criminal profiling can include the geographic pattern of the crimes, how the offender got to and from the crime scene, and where the offender lives. The actual process of profiling differs from one profiler to another (depending on the training of the profiler), but the aim remains the same: to deduce enough about the behavioral,

personality, and physical characteristics of the perpetrator to catch him.²

According to Holmes and Holmes (1996), psychological profiling has three major goals to provide the criminal justice system with the following information: a social and psychological assessment of the offender(s), a psychological evaluation of relevant possessions found with suspected offenders, and consultation with law enforcement officials on the strategies that should be used when interviewing offenders. Not all profiles involve all of these three aspects, with the role of the profiler usually being dictated largely by the needs of the law enforcement officials for whom they are consulting. Also, not all crimes are suitable for profiling. Holmes and Holmes state that profiling is only appropriate in cases in which the unknown offender shows signs of psychopathology or the crime is particularly violent or ritualistic. Rape and arson are also considered by Holmes and Holmes to be good candidates for profiling.

A profile will rarely by itself solve a crime or catch a criminal, but is designed to be an aid to the investigating police (Wilson & Soothill, 1996). The profile will rarely be so accurate as to suggest a certain individual as being responsible for the crime, but should point the police in the right direction and help reduce the possible number of subjects. When the police have no leads, a profile might suggest some potentially helpful area that the police might have overlooked. Despite what the movies might suggest, profilers do not go running around the countryside solving crimes for hapless local police or rescuing hostages from dangerous psychopaths.

It is important to note that criminal profiling is not just one technique and that there are several distinct approaches to profiling. Wilson, Lincon, and Kocsis (1997) list three main paradigms of offender profiling: diagnostic evaluation (DE), crime scene analysis (CSA), and investigative psychology (IP). Other approaches to profiling exist, such as geographic profiling (Holmes & Holmes, 1996), but these will not be discussed in this article. The two latter approaches, both of which have been adapted and modified somewhat by various practitioners depending on their needs, will be discussed in the current report. The first method, DE, is not so much a discipline as the adaptation of psychotherapeutic (largely Freudian psychoanalytic) theory to crime by individual practitioners. As the DE approach relies mainly on clinical judgment, and

as it is approached by each practitioner in a different way, there is no one body of work that can be examined to determine whether it is scientific, and as such will not be discussed here (for a more in-depth description of one approach to DE, see Copson, Badcock, Boon, & Britton, 1997). The more widely known of the remaining two approaches, CSA, was developed by the Behavioral Science Unit (BSU) of the American Federal Bureau of Investigation (FBI). It is the FBI approach to profiling that has been popularized by films such as *Silence of the Lambs* and television shows such as *Profiler*. The other, less publicly well-known, approach was developed by Professor David Canter, a British academic psychologist. Canter's theories are IP and owe more to environmental psychology than to traditional criminal investigation. Although these methods have similarities, they are different enough to warrant separate treatment.

CSA

As mentioned above, the FBI approach is the more popular approach to criminal profiling. Although it is true that many people will have heard of criminal profiling and will associate it with the FBI, until recently there has been very little publicly available information as to what it actually is and how it works. Within the past few years, however, those who developed profiling with the FBI have written several popular books. Former BSU agents Ressler (Ressler & Shachtman, 1992) and Douglas (Douglas & Olshaker, 1995, 1997) have written books with journalists describing their experiences as profilers. Yet despite these books, which are more biographical than anything else, there is little authoritative information on the actual mechanics of the FBI profiling process.

Holmes and Holmes (1996) provide what is probably the best description of the underlying rationale that the FBI uses to profile offenders. The CSA approach, which is primarily applicable to serial murderers, places offenders into two broad categories on the basis of their crime and the crime scene. The two types of offenders are the disorganized asocial offender and the organized nonsocial offender, although in recent times the FBI tends to refer to these as simply disorganized and organized offenders, respectively (e.g., Ressler, Burgess, & Douglas, 1988). Ressler states that the simplistic dichotomy was to enable police who had little or no knowledge of

psychological jargon to understand what the BSU thought was a basic differentiation between two distinct groups of offenders (Ressler & Shachtman, 1992). Holmes and Holmes (1996) note that this categorization is particularly applicable to crimes such as rape, sexual assault, mutilation, and necrophilia.

The disorganized offender will usually be of low intelligence, often demonstrating some sort of severe psychiatric disturbance, and will have probably had contact with the mental health system. He will often be socially inept with few interpersonal relationships outside his immediate family, and will be sexually incompetent if he has any sexual experience at all. The crime scene of the disorganized offender will often show little or no premeditation, with whatever is at hand used for a weapon and usually left at the crime scene. The victim (selected more or less at random) will have been quickly overpowered and killed, with the killing often showing extreme overkill and brutality (what the FBI refer to as a "blitz" attack; see Douglas & Olshaker, 1995). The victim's face will often be severely beaten in an attempt to dehumanize her, or she will be forced to wear a mask or blindfold. If the victim is sexually assaulted, it will often be postmortem, with mutilation to the face, genitals, and breasts not uncommon. The body will often be left at the murder scene, but if it is removed, it is more likely that the offender wants to keep it as a souvenir than to hide evidence (Holmes & Holmes, 1996; Ressler, Burgess, & Douglas, 1988; Ressler & Shachtman, 1992).

The types of offenders who make up the organized and disorganized dichotomies are relatively straightforward and are, as the names suggest, organized and disorganized personalities. The organized offender is usually reasonably intelligent but an underachiever with a sporadic education and employment history. He is often married and socially adept, at least at face value, but usually has an antisocial or psychopathic personality. The crime scene left behind by an organized offender will show signs of planning and control. The offender will often bring his own weapons and restraints, which he will then take with him after the crime. The victim will be a targeted stranger, very often female, with the offender searching for either a particular sort of victim or merely a victim of convenience. The victim will often be raped, and the offender will control the victim by using threats and restraints. The

offender will usually torture the victim, killing in a slow, painful manner, which the killer will have fantasized about extensively beforehand. The body will also usually be hidden, often transported from the place where the killing occurred, and may be dismembered by more forensically aware killers to delay identification.

From the analysis of the crime scene, the investigator should then be able to determine some characteristics of the perpetrator, which will be of use to the investigating police. According to Ressler et al. (1988), criminal profiling is a six-stage process. The first stage is referred to as Profiling Inputs, and concerns the collection of all of the information that might be pertinent to solving the crime.³ This includes photos of the crime scene, the preliminary police report, information about the victim, and all of the collected forensic information. The second stage is the Decision Process Models, in which the information is organized and a preliminary analysis is conducted. In this stage, the homicide type and style are determined (e.g., whether it is a single, mass, spree, or serial murder). Several other important factors are determined in this stage, such as the intent of the offender (e.g., whether homicide was the primary objective or whether it was secondary to another crime), the risk status of the victim (a prostitute would be an example of a high-risk victim, whereas a married woman who lived in a middle-class area would probably be a fairly low-risk victim), and the risk the offender would have been putting himself in to commit the crime. The length of time that was taken to commit the offense is determined and information about the locations (such as where the offender was abducted and where the killing was actually performed) is also investigated.

The third stage of the profiling process, Crime Assessment, is presumably the inspiration for the title of Douglas's book, *Journey Into Darkness* (Douglas & Olshaker, 1997), as it is where the profiler attempts to reconstruct the crime in his or her head. This is where the profiler attempts to "walk in the shoes" of both the victim and the offender, or what the media likes to refer to as "getting into the mind of the killer." It is at this stage that the crime is categorized as organized or disorganized, as the profiler tries to determine how things happened, how people behaved, and how the offender planned and executed the crime. Also considered is the offender's motivation for the crime, such as what the offender hoped to

achieve with the crime. The selection of a victim is considered, as is whether the offender staged the scene (modified the crime scene to confuse police). Common elements of the crime scene that are thought to have significance for identifying certain types of offenders, such as types and locations of wounds and the positioning of the body, are also examined.

It is not until the fourth stage, the Criminal Profile, that the profiler ties all of the above information together and the profile is actually constructed. The profiler attempts to describe the person who committed the crime and proposes strategies that might be most effective in apprehending that particular offender. The profiler constructs the profile by examining all of the information pertinent to the crime in the light of his or her experiences with other similar crimes. The finished profile will contain anywhere between a few paragraphs and several pages of information about the unknown offender, depending on how much material about the crime was forwarded to the profiler. The following elements are commonly found in a profile: the age, race, gender, and general appearance of the offender; the offender's relationship status and any notable points about his relationship history; his likely occupation; and any notable features of his employment, education, or military record. The profiler also includes whether the offender lived in or was familiar with the area, the behavior of the offender both before and after the crime, some basic features about the offender's personality (including whether he has an organized or disorganized personality), and significant belongings that the offender may own, such as pornography. It also contains suggested strategies for interrogating, identifying, and apprehending the victim.

The fifth stage, the Investigation, is where the profiler submits a written report to the agency investigating the crime, which is added to their investigative efforts. If a suspect is identified and a confession is obtained, then the profile is judged to have been successful. If any additional information becomes available (e.g., new evidence or another connected murder), the new information is given to the profilers so that the profile can be reevaluated in light of the new data. The sixth stage is the Apprehension, and assumes that the correct offender has been caught. The profile and the profiling process are evaluated in terms of the actual offender so that future profiles might be even more accurate.

IP

Unlike CSA, IP is more a collection of related theories and hypotheses than a comprehensive methodology. As mentioned previously, IP originated in Britain, mainly due to the work of David Canter, an environmental psychologist who was then the head of the psychology department at the University of Surrey (Canter, 1989). Canter (1994) reports that he was first approached in 1985 by British police who were interested in determining whether psychology had anything to offer police to help them apprehend criminals. Although he observes that police are often very resistant to anything new or to any outsiders telling them how they should do their jobs, Canter's advice proved very helpful to the police in catching John Duffy. Duffy, who was dubbed the "Railway Rapist" by the media, committed approximately 25 rapes and three murders in London between 1982 and 1986 (Nowikowski, 1995). Since that case, Canter has worked on over 60 murder and rape cases in the United Kingdom (Casey, 1993).

Canter (1989) claims that psychology is directly applicable to crime, as crime can be seen as an interpersonal transaction in which criminals are performing actions in a social context (often just between themselves and their victims). He argues that our methods of psychological interaction are ingrained into our personalities, and reasons that the actions the criminal performs while engaging in a crime are direct reflections of the way they will act in other, more normal, circumstances. He postulated five broad approaches with which psychology can be used to profile offenders.

The first is interpersonal coherence, which proposes that actions performed by criminals make sense within the criminals' own psychology. For instance, the offender will select victims that are consistent with the important characteristics of people who are important to the offender. For example, there is some anecdotal evidence that serial killers only attack those of the same ethnicity as themselves in the United States (Canter, 1989). Therefore, the psychologist should be able to determine something about the offender from the victim and the way the offender interacted with the victim (where this can be determined, such as with rape). The second approach is the significance of place and time. The locations the offender chooses in which to commit the offenses will usually have some sort of significance to the offender. People are

unlikely to murder or rape in locations that are unfamiliar to them, as these are crimes of control, and the offender will not be able to feel completely in control in a strange environment. Therefore, if all of the crimes are committed in a certain geographic location, there is a high chance that the offender lives or works around the area. The third approach, criminal characteristics, involves looking at crimes and offenders and seeing if differences can lead to classifications of offenders into categories and subcategories. Canter does not actually provide an example of such as classification, but one attempt to do this has been the *FBI Crimes Classification Manual* (Douglas, Burgess, Burgess, & Ressler, 1992). Douglas and Olshaker (1995) state that "we set about to organize and classify serious crimes by their behavioral characteristics and explain them in a way that a strictly psychological approach such as *DSM* [*Diagnostic and Statistical Manual of Mental Disorders*] has never been able to do" (p. 346). Canter (1994), however, is quite critical of the FBI approach—especially the organized-disorganized dichotomy used by the FBI—arguing that there is too much overlap between the two categories for it to be helpful and that they have no theoretical backing. It will be interesting to see an attempt to derive a system like this by the proponents of IP and see what similarities and differences to the CSA system they come up with.

The fourth approach, criminal career, seeks to take advantage of the observation that criminals do not change the way they commit crimes throughout their criminal career, although they may escalate the crimes. Even escalation, though, may be a result of what has happened to the offender while committing earlier crimes, and it may be possible to negatively extrapolate back to earlier crimes committed by the offender where more evidence might be available. The fifth and final approach is forensic awareness. When a serial offender takes steps to cover his tracks, such as forcing his rape victim to take a bath or combing her pubic hair to remove any of his own hair, it is a clear sign that he has had some previous contact with police. The particular type of forensic awareness displayed by the offender should be a direct indication of the offender's previous police contact, and should help narrow the range of offenders to those with records for particular prior offenses.

Although this has been a fairly brief overview of some of Canter's suggestions, one particular area, that of space and time, has received a reasonable amount of attention and has been

empirically tested. Wilson et al. (1997) report that the "circle hypothesis" (as it is referred to in Canter, 1994) is one of the more prominent of the IP theories. This approach is built on the hypothesis that serial offenders will tend to operate within an area where they feel comfortable (e.g., close to their own homes) and has many similarities to the independently developed field of geographic profiling (Holmes & Holmes, 1996). In a recent paper, Godwin and Canter (1997) investigated the spatial behavior of 54 U.S. serial killers, each of whom had killed at least 10 times. They investigated the relationship of the offender's home to the locations at which he encountered and then dumped the bodies of his victims and the changes over time. Godwin and Canter found that the serial killers in the sample were likely to encounter and abduct nearly all of their victims close to their own home. The offender would then travel some distance, usually in a different direction for each offense, to dump the body. They also found, however, as the number of offenses progressed, the offender was more likely to dump the bodies close to home, reflecting perhaps a growing confidence with his ability to remain undetected.

The study by Godwin and Canter (1997) clearly demonstrates that experimental psychology, and IP in particular, does have something to offer police investigating serial crimes. Although psychological profiling alone will not catch an offender, the aim is to supplement police investigative efforts and give the police additional information that might focus their investigation.

Serial Murderers

One of the concepts most frequently associated with criminal profiling is that of the serial offender. This is partly due to some of the conditions under which profiling is most useful, but more to do with the fact that whenever profiling is mentioned in the popular media it is usually in the context of profiling a serial killer. As discussed later, serial offenders have had considerable input into the development of profiling, and any discussion of profiling would be amiss if it were not to discuss serial offenders.

In addition to making good newspaper headlines, serial killers are excellent candidates for criminal profiling. Unlike most offenders, serial killers often spend a great deal of time fantasizing about and executing their crime. The fact that they kill multiple times,

generally mutilating their victims, and often demonstrate some sort of psychopathology means that there is frequently a lot of material for profilers to work with (Wilson et al., 1997). These killers generally have no obvious motive for the killing, are the hardest offenders to apprehend, and their crimes are the ones that profiles are most often sought for (Holmes & Holmes, 1996).

Although serial murder has recently captured public attention, it is by no means a new phenomenon. The most well-known serial killer, who has been extensively profiled in recent times, was probably Jack the Ripper, who killed at least five women in the Whitechapel area of London in 1888 (Jenkins, 1994). Yet the term *serial killer*, popularized by Ressler (Ressler & Shachtman, 1992), is a relatively recent one and the definition is still the subject of some debate.⁴ We might think of a serial murderer as an individual who commits a series of homicides over an extended period of time, with at least a few days in between at least some of the killings. This distinction of time between the killings is important to distinguish serial killing from mass murder, in which one person kills many people in a spree, such as the recent Port Arthur massacre in Tasmania.

One of the initial hurdles in defining serial murder is how many people need to be killed before an individual is classified as a serial murderer. This has important implications for research and for the development of profiling. Some believe that two murders are enough to justify the label of serial murder (Holmes & Holmes, 1996), whereas others would argue that up to four murders are necessary (Jenkins, 1994). Whatever cutoff point is chosen, the important question should be whether serial murder (and by extension, serial murderers) is qualitatively and quantitatively different from other murders. Is it simply the number of people that are killed that defines an offender as a serial killer, or is there some fundamental difference between serial killers and all other murderers?

The motive of the serial killer is a subject that is still open to some debate. As mentioned above, many serial killings appear to lack a clear motive, with the victims often not known to the offender and seemingly chosen at random. Ressler et al. (1988) suggest that almost all serial murders are sexual in nature, although their use of the term *sexual* in this case seems to be inspired by the Freudian notion of psychosexual development. A more current

view of both serial murder and serial rape is that it is not about sexual gratification per se, but rather about the exercise of power and control over the victim (Canter, 1994; Egger, 1997). In fact, it seems that there is little difference between serial rape and serial murder, with Egger (1997) observing that it does not take much to turn a violent rape into a murder. Thus, the term *sexual* might be interpreted in the context of the killer's attempt to sexually control and dominate his victim.

It is important to know the extent of the problem that serial killers pose because they generally require a great deal of effort to apprehend. If serial killers are really a rare phenomenon, then it may not be worth focusing all these resources into profiling them. The problem is, it is not even known with any confidence how many serial killers there are or how many people are the victims of serial killers. In Australia, for example, it seems that serial murderers are reasonably rare, but then there are not that many murders in Australia of any sort. For example, in Australia from 1991-1992 there were 312 murders, with 309 identified suspects/offenders and 42 incidents for which an offender was not identified (Strang, 1993). This is relatively low when we consider that Washington, D.C., a single North American city, has over 500 reported homicides each year (Chappell, 1995). To confuse matters, when serial killers are suspected, they attract much more attention than any other murder. One of the more infamous of the Australian serial killers was John Wayne Glover, the "Granny Killer" who killed six elderly women in 1989 and 1990 in Sydney's North Shore district. According to Hagan (1992), these killings prompted one of the most extensive police investigations in Australia's history.

Serial murder usually involves the killing of a stranger and is therefore hidden somewhere in the crime statistics under the category of stranger homicide. The question is, What proportion of the stranger homicides can be attributed to serial murder? Egger (1990) notes that it is very difficult to tell, but the FBI often tends to take the pessimistic view that most of the stranger homicides are due to serial killers (Ressler et al., 1988). The FBI is probably not a very impartial judge in these matters, because as Jenkins (1996) notes, they have a vested interest in making serial offending seem to be much worse than it is. A more reasonable explanation might be to use the suggestion of Polk (1994) that the majority of these

stranger homicides are so-called "honor contests" in which fights between mainly young men, often over a trivial incident, lead to death. Kapardis (1992) also notes that there are at least five separate categories of stranger homicide, and that serial and mass murder only makes up an extremely small proportion of stranger killings in Victoria, Australia.

PROFILING AND SCIENCE

What Is Meant by Scientific?

In this article, a relatively loose definition of science will be used, if for no other reason than to give profiling the benefit of the doubt. As profiling claims to be an application of behavioral science, the definition of science will be drawn from those that are often used in psychology, and will revolve around the theories of Thomas Kuhn and Karl Popper.

The Need for a Paradigm

Kuhn (1962), originally a historian of science, observed that in many sciences the state of knowledge progressed in a standard way. Rather than a science accumulating knowledge cumulatively, with old knowledge building on the new, he believed that science progressed through leaps of knowledge, or scientific revolutions. When a discipline has only recently been formed, it is characterized by a number of seemingly irreconcilable theories that have no underlying basis. As the discipline progresses, a paradigm (a theoretical foundation on which the theory rests) is eventually formed. Once a paradigm is established, work in the discipline is mainly problem solving, or experimentation within the paradigm to make known phenomena fit within the bounds of the paradigm. Unfortunately, everything will not fit as nicely as people would like, so eventually some people will begin to recognize the inadequacies of their dominant paradigm and start to formulate the basis of a new one. Once the new paradigm has gained enough support (a sort of critical mass), the new paradigm will replace the old one completely (with the old one being abandoned) in a scientific revolution. Once the new paradigm is in place, the process will begin again.

What we are interested in here is not so much the scientific revolution, but rather the concept of the paradigm. *Paradigm* has become one of the most overused words in social science, and is used to describe everything from a particular experimental method to an individual's conception of the world. In this article it will be used to describe the theoretical underpinnings of a discipline, as it is this theoretical underpinning that is upended when a discipline undergoes a paradigm shift. Without a paradigm, without some coherence tying together the work within a discipline, it is impossible to be a science.

The Importance of Falsifiability

The legacy of Popper is quite simple at face value, but the reasoning behind it is somewhat more sophisticated. As discussed at length in Chalmers (1976), Popper was concerned that in science there was a tendency toward inductive reasoning. As an example, if we heat some water and observe that it boils at 100°C and then repeat the experiment 10, 100, or 1,000 times and each time water boils at the same temperature, we are likely to conclude that water will always boil at 100°C. That assumption, although usually safe, is logically flawed, and we can in fact never actually prove that water boils at 100°C. But although we can never actually prove anything by experimentation, we can disprove it quite easily. For example, if we hypothesize that water will always boil at 100°C and then heat water on top of a high mountain, when the water boils at a temperature somewhat lower than 100°C we have successfully disproved the hypothesis.

Popper therefore believes that for us to have any faith in our science, we should not attempt to prove anything but should construct hypotheses and rigorously attempt to disprove them. If we are unable to disprove a hypothesis we still cannot say we have proved it, but we are probably justified in placing some faith in the hypothesis for the time being. This approach to science is called hypothetico deductivism, and involves creating theories that are falsifiable and using experimentation to attempt to falsify them. Thus, to be scientific, a discipline must be able to propose hypotheses that are empirically testable.

The concept of falsifiability is also important because of its legal implications. If a profile is going to be used in a court of law, either

by the prosecution trying to demonstrate they have the right offender, or by the defense claiming they have the wrong one, it would need to be submitted as expert evidence. While the precedents surrounding the submission of expert evidence vary from country to country and even from state to state, one of the more significant developments was a 1993 U.S. Supreme Court case, *Daubert v. Merrell Dow Pharmaceuticals, Inc.*. In this case, the Court decided that a scientific theory could be said to be reliable under four conditions. The first and most important of these conditions was whether the theory could be tested, and to be able to be tested it had to meet Popper's criterion of falsifiability (Odgers & Richardson, 1995).

IS PROFILING SCIENTIFIC?

CSA

CSA relies heavily on the experience and intuition of the profiler, both of which are difficult to empirically test. One of the main problems with a scientific analysis of CSA is that its proponents have never felt the need to have it scientifically verified. Yet as shall be seen, there are various aspects of this technique that may be amenable to investigation.

Presence of a Paradigm

The proponents of CSA maintain that there is something of a paradigm underlying their approach, even if they do not use that particular term. Although serial offenses are apparently motiveless, the assumption that CSA is based on is that there is always a motive underlying them. That motive will be reflected in the crime scene, and by understanding that motive investigators will have a better understanding of the offender and a greater chance of solving the crime. As Ressler et al. (1988) state, "we theorize that these men are motivated to murder by their way of thinking. Over time their thinking patterns emerged from or were influenced by their life experiences" (p. 34).

The paradigm behind CSA postulates that if certain conditions are present in childhood, such as lack of good role models and childhood abuse, then the individual will turn to fantasy for stimulation and gratification. If the individual has access to

pornography or violent fiction, these fantasies might start to include violence and control. The fantasies will eventually dominate the individual's life to such an extent that the individual will act them out. When the actual offense is not as perfect as the fantasy, the individual will continue to offend until it becomes perfect (which is unlikely to happen) or he is apprehended (Ressler et al., 1988).

A paradigm implies some sort of theory, and one of the most fundamental aspects of CSA, that of offenders being organized or disorganized, is completely atheoretical. At no point, as far as the author is aware, is any difference stated in the developmental precursors that lead to the different types of offenders, with the exception possibly of major psychiatric disturbance. Even if one accepts the more current view that there is a continuum between organized and disorganized offenders (Wilson et al., 1997), what is it that pushes an offender one way rather than the other? Similarly, what is it that will lead one mentally disordered person to be peaceful and harmless and another to be a killer?

Falsifiability

Freudian psychoanalysis is concerned with unconscious processes that are often not observable or testable, and has been long criticized because many of the assertions that it makes in this area cannot be falsified (Odgers & Richardson, 1995). Many of the claims of CSA sound much like those of psychoanalysis, with talk of fantasies and sexual motivations, and, like psychoanalysis, these claims do not seem to be falsifiable in most cases. Take, for example, the following statement: "Although some of the murderers in our study did not report fantasies in a conscious way, their description of the murders they committed reveal hidden fantasies of violence" (Ressler et al., 1988, p. 52). We may be left wondering when FBI agents became experts in interpreting the unconscious fantasies of others. If one claims that a violent murder is a sign of violent fantasies—even if the murderer does not report any violent fantasies—then how is one to falsify the hypothesis that all murderers have violent fantasies?

As it stands, the CSA approach is not a good candidate for falsifiability, primarily due to the nature of the ideas that it is based on. A further problem is that those involved have had little

interest in their work being empirically substantiated. One of the problems is that of operationalizing the variables. As mentioned previously, Ressler et al. (1988) claim that many serial offenders have had troubled childhoods and have had an abnormally strong interest in pornography. Although it would be possible to create a falsifiable hypothesis that all serial offenders had a difficult childhood and were interested in pornography, this would be of little use unless you were also able to state the levels at which these things became important to their development as serial offenders. It would also be helpful to have some sort of theoretical reason that these variables would lead to the outcome of serial offending.

Problems

CSA does have the potential to be scientific (with some work), but the main problem seems to be that it does not want to be scientific. Douglas, the FBI agent who was responsible for hiring profilers for the BSU, states that in a profiler "degrees and academic knowledge [are not] nearly as important as experience and certain subjective qualities" (Douglas & Olshaker, 1997, p. 30). Jenkins (1996) states that criminal profiling is the FBI's special area of expertise, something that they believe that they do better than anyone else in the world. In essence, in the United States at least, the FBI has a monopoly on criminal profiling and it does not look like they are about to endanger that by telling anyone else how it works—or even if it works.

Although there might be some validity to the argument that revealing too much about how profiling is done might reveal to offenders ways in which they can avoid being apprehended (assuming, of course, that serial offenders read psychology or criminology journals), the dangers of not having the techniques open to investigation are even more serious. Canter (1994) states quite succinctly that "a doctor is not expected to operate on hunch and intuition, to learn his trade merely from hearing how others have treated patients in the past, to have no firmly established principles to operate on" (p. 275). Although the experience of police officers is certainly valuable and should not be overlooked, if we have no way of measuring the effectiveness of this approach we may be missing something important.

IP

Unlike CSA, IP was designed from the beginning with science in mind, but this does not mean that it is a science in itself. Canter and his colleagues have attempted to use established psychological principles and research methodology to create a discipline that is empirically sound and open to peer review. IP has a great deal of potential to become a science, but it still has a long way to go before it will be recognized as a discipline in itself.

Presence of a Paradigm

There is something of an underlying theme present in IP, but it is not nearly coherent enough to be called a paradigm. The theme is that of a narrative or a story that people create for themselves and that contains information on how they understand and interact with the world. Once an offender (like any other person) has formed this narrative, it will be reflected in everything that they do, including any offenses that they commit. From this comes the assumption that we can learn something about an offender by looking at his crimes and how he commits them. This may give us information about the geographical areas that the offender frequents, about how the offender interacts with other people in his day-to-day life, and about the sort of offenses that the offender might have been convicted of in the past. An example of a hypothesis derived from this paradigm is that offenders will operate in an area in which they are most familiar, as an offender's mental map of a geographical area is part of his narrative. This hypothesis has been tested and supported by both Canter (e.g., Godwin & Canter, 1997) and others outside IP (Holmes & Holmes, 1996), thus lending support to the paradigm.

Falsifiability

The benefit of working within an established science such as psychology or criminology is that there are accepted ways in which to perform research. Furthermore, research that is performed is usually published and submitted to peer review to get input from the widest possible audience. As such, most of the theories that have been formulated as part of IP are constructed in such a way that they can be easily falsified. Canter (1989) made a specific point

of stating that all of the main claims that are made by IP "lead themselves to specific hypotheses that can be tested against empirical data before being used within an investigation" (p. 16).

The underlying paradigm of the criminal narratives, as opposed to some of the hypotheses that it has inspired, is actually quite difficult to falsify. Admittedly, a paradigm itself does not need to be falsified, only to generate hypotheses that can be falsified. For example, one of the hypotheses that the paradigm has generated is that the experience of the criminal will be reflected in his crime. To test this hypothesis, one could look at the activities of offenders who had previously been apprehended and incarcerated and the activities of those who had not. If the offenders who had not been apprehended previously showed the same level of forensic awareness as the offenders who had, then that particular aspect of the hypothesis will have effectively been falsified.

Problems

Wilson et al. (1997) claim that one of the main problems with the IP approach to profiling is that it does not actually tell us anything new, except to propose new avenues to explore. This is probably a somewhat extreme view, as applying the application of psychological knowledge to criminal investigation potentially has great value. Canter has shown that the application of psychological principles and methodologies can, for example, help identify where the offender might live and what his job might be (e.g., Godwin & Canter, 1997). It is very easy for those in academia to remain aloof and remote from the real world, yet this is an attempt to make some practical use of psychology by applying it to genuine social problems.

Even within Great Britain, Canter is not without his critics. Copson et al. (1997) state that "it seems to have been assumed by some observers that Canter's is the only systematic approach to profiling in use in Britain, not least because he says so" (p. 13).⁵ Copson and his colleagues, proponents of the DE model of profiling, claim that statistical approaches to profiling (such as those used in IP) are only reliable so long as the data set that they are based on is reliable. As has been mentioned previously, it is extremely difficult to determine even how many serial killers there

are, let alone get reliable statistics on their activities and characteristics. They argue that until a more reliable database is built up, the clinical judgement of practitioners is a more reliable way to construct a criminal profile. Although it is true that there is lack of reliable data on serial offenders, criminologists have spent years collecting data on "normal" (i.e., nonserial) rapes and murders, which may be able to contribute to profiling. What is not known, however, is how applicable these data are to serial offenders.

STUDIES CONDUCTED ON PROFILING

CSA

If profiling is to be thought of as a science and a science is defined by the studies that examine its theories, then the defining study for the FBI approach would be that published under the title of *Sexual Homicide: Patterns and Motives* (Ressler et al., 1988). This study is basically the foundation on which the scientific basis of the FBI approach to profiling rests. The fact that there have been so few published studies on the FBI approach means that the scientific credibility of the FBI approach rests solely on this study.

The study, which attempts to determine the antecedents of serial murder, presents both qualitative and quantitative data. In the sample examined the researchers find a large amount of support for their hypothesis that the serial offender is the result of a developmental process, with most of the subjects reporting that they had troubled childhoods. For example, 69% of the respondents reported a history of alcohol abuse in their families while growing up, and 74% reported that they were psychologically abused (Ressler et al., 1988). The authors also provide quotes from the offenders that seem to support their hypothesis that most serial homicides are sexual in nature. Unfortunately, this study does have some fundamental flaws, which call into question the legitimacy of the approach.

One of the first things that any social science researcher learns is the danger of using retrospective self-report studies. These studies ask subjects to look back at their life and comment on what they remember they did or what they were like at a certain point

in time. This research methodology is open to considerable abuse and can be very inaccurate. For example, using the present topic, if you are talking to a person who was a neighbor of a serial killer when he was young, then the subject will be quite likely to selectively recall information that they think will be of interest to the researcher. There is also a very real danger of subjects' lying (e.g., to impress the researcher) and there is often no way to verify the veracity of the data.

The study conducted by Ressler et al. (1988) consisted mainly of interviews with 36 convicted serial killers who were in prison. Most, if not all, serial killers would be classified under *DSM-IV* (American Psychiatric Association, 1994) as suffering from antisocial personality disorder (Egger, 1997). In the mass media, this usually translates into their being referred to as psychopaths or sociopaths. According to Davison and Neale (1994),

the adult antisocial personality shows irresponsible and antisocial behaviour by not working consistently, breaking laws, being irritable and physically aggressive, defaulting on debts and being reckless. He or she is impulsive and fails to plan ahead. In addition, he or she shows *no regard for truth* [italics added] nor remorse for misdeeds. (p. 271)

Surely the psychopathic serial killer is the least suitable person on whom to conduct retrospective self-report research. Furthermore, the study included only convicted and imprisoned serial offenders who were willing to participate in the study, which most criminologists would consider to be an unacceptably biased sampling procedure (Wilson et al., 1997). For example, there may be some fundamental difference between those serial offenders who get caught and those who are able to evade capture. Thus, the profiling based on the imprisoned serial offender may not be appropriate for catching all serial offenders.

One of the most important factors of the CSA model of criminal profiling is the dichotomous categorization of offenders as organized or disorganized offenders, but how useful is this distinction? Holmes and Holmes (1996), for example, state that these categories are more useful in "lust killings" than in other sorts of serial murder that do not show evidence of sexual motives. Although the concepts of the organized and disorganized offenders are discussed at length in Ressler et al. (1988), they do not attempt

to use the data from the offenders in their sample to support or explain this typology. Ressler and Shachtman (1992) hypothesize that about one third of all serial killers are disorganized offenders and the remaining two thirds are organized offenders, but offer no data to support the claims. Wilson et al. (1997) claim that it is actually more of a continuum between organized and disorganized than two distinct types, with many offenders falling into the mixed category that displays features of both the organized and disorganized offenders.

The real truth is that we simply do not know. As far as the author knows, there have never been any published empirical studies on the differences between various subtypes of serial offenders. The organized/disorganized typology is the brainchild of the BSU, and although they have published information about it, they have never actually articulated any theoretical basis for the typology on which a study might be based.

Ressler et al. (1988) provide an excellent example of how politics and ideology may influence one's objectivity. The FBI, as North America's premier law enforcement organization, is a bastion of White, middle-class, conservative views, a fact admitted by many of the agents themselves (e.g., Douglas & Olshaker, 1995; Ressler & Shachtman, 1992). Is it then surprising that the FBI experts believe that serial killers often come from broken homes (where they are often raised by a single mother) and report day-dreaming, masturbation, confusion about sexual preference, and an interest in pornography as features of their childhood?

It is also important to remember that the only thing that has been determined so far is a correlation between factors such as abuse or neglect in childhood and serial killers. This does not imply that serial offending is causally related to an individual's having a difficult childhood or an obsession with pornography. Egger (1997) describes one serial killer, Arthur Shawcross, who did not show any evidence of coming from a dysfunctional or violent family. Rather than the antecedents of Shawcross's offending being environmental, as CSA might argue, they appeared more to be biological with Shawcross being involved in a number of serious accidents, some of which involved cerebral concussion. Examples such as this tend to cast doubt on the validity of the CSA paradigm of the development of serial offending.

IP

The most obvious of the studies conducted on IP, in which Godwin and Canter (1997) investigated the spatial patterns of serial murderers in the United States, has been described in some detail previously. Professor Canter and many of his colleagues have a history in experimental psychology, and several other studies have been published in the psychological and criminological literature. As yet there has not been a great deal of experimental work on the core features of IP, that of the narrative of the offender and how it is reflected in the crimes. Some of the other research that the IP department at the University of Liverpool are working on includes the decision-making process of detectives, psychological autopsies (investigating the course of actions that leads to an assault) and investigative interviewing ("What Is Investigative Psychology?" 1997).

Although the overall paradigm itself has not been experimentally tested, some of the theories that contribute to IP have. In one example, Canter and Kirby (1995) look at the conviction history of child molesters. This study investigated the validity of the common assumption that child molesters will have a history of sexually deviant behavior and assaults on children, and that these men will escalate their offending from minor to more serious sexual offenses. Interestingly, they found that these assumptions, which are often held by police officers, had no empirical basis. They found that these offenders were more likely to have had a history of convictions for theft, burglary, and violent offenses than for prior minor sexual offenses. They also found that there was little evidence to suggest escalation from less serious offenses. For example, very few of the men who were child molesters had any history of indecent exposure.

The Canter and Kirby (1995) study has very obvious implications for profiling sexual offenders, as it suggests strategies for narrowing the range of potential suspects by suggesting the offenses that the offender is more likely to have been convicted of in his past. A less obvious implication of this study is for CSA, where the assumptions and preconceptions that the profilers have about certain offenders greatly influence the profile. This study suggests that in the case of child molesters these assumptions are likely to lead the profile astray.

An interesting point to note about the Canter and Kirby (1995) study is that it does not seem to fit within the paradigm of the criminal narrative. This could be taken as evidence that IP is not scientific, as the paradigm is not broad or thorough enough to cover all of the work in the area. Another way to look at it, however, is as providing a less direct support for the paradigm. Canter (1994) does not just believe that criminals have narratives but that all people do, and that these narratives are developed by the individual's experiences of interacting with the world. Canter (1994) notes that police officers also tend to have rather limited narratives, with their explanations of how criminals operate formed mainly from their experience of police work and by what they observe in the courts. What Canter and Kirby (1995) have demonstrated is that, at least in regard to sex offenders, the narratives that the police have to explain the behavior of sex offenders may be too limited and are in some cases misleading. Although this does not directly support the idea of criminal narratives, it does provide some support for the narrative per se, and thus does fit within the paradigm of IP.

Other Related Studies

The studies mentioned so far are those that apply specifically to either CSA or IP. As mentioned earlier, another form of profiling that is used is known as DE. DE derives mainly from the clinical experience of the profiler, who is usually primarily a psychologist or a psychiatrist. The DE profile is usually a one-off event and as such does not lend itself to empirical testing. Some profilers do not owe allegiance to any of these camps exclusively, and pick and choose aspects of each that suit them best. Various researchers have also empirically investigated these more eclectic approaches.

Wilson and Soothill (1996) review three cases in which various approaches to profiling had been used to help police. They state that of the three cases examined the profiles were generally fairly accurate, although in the first two they were not actually used by the police to assist in the investigation. In the third case, the "Granny Killings" mentioned earlier, the profile was quite accurate except for one crucial characteristic—the killer was actually 40 years older than the profile said he would be.

In probably the most comprehensive experimental study on profiling conducted to date, Pinizzotto and Finkel (1990) examined profiles conducted by professional profilers, detectives, psychologists, and students for a series of cases. The study was looking at whether the accuracy of the profiles differed between the groups and whether there was a qualitative difference between the profilers and the nonprofilers in the process in which the profile was constructed. The accuracy of the profilers varied depending on the case, with the profilers more accurate than all of the other groups combined in the sex offender case, but these same profilers not especially accurate for the homicide. With regard to the sex offender case, the profilers were significantly more accurate for items such as the gender, age, and education of the offender. In the homicide case, however, the detectives were significantly more accurate than the profilers in regard to the offender's employment and the relationship of the offender's residence to the crime scene. It was also found that the profilers wrote richer, more detailed reports than the nonprofilers and that the profilers recalled more details that were necessary to generate the profile. There are, of course, some problems with the study. The psychologists and students used, for instance, had no special interest in policing or profiling, so it would be expected that those who have to construct profiles for a living were both better prepared and more invested in the process, and thus tried harder than the nonprofilers (Pinizzotto & Finkel, 1990).

Does It Actually Work?

In asking profiling to be scientific, we are trying to establish with some reliability whether profiling is of any use to us. Many police officers have shown a great deal of skepticism about profiling, partly due to the fact that they see apprehending offenders as their particular area of expertise, but also because it is still such a poorly developed field (e.g., Davies, 1994). As has been discussed above, the experimental evidence is still not overwhelming, but studies such as those conducted by Pinizzotto and Finkel (1990) suggest that profiling might have some validity. Experimental verification is not what will win the police over, however. Police still persist in using psychics to help them solve difficult cases, although Wiseman and West (1997) have shown experimentally

that there is absolutely no validity to the claims made by psychics in regard to criminal investigations.

The real test of profiling is not experimental studies in the laboratory, but evaluations on how well profiling actually performs in practice. Wilson et al. (1997) suggest, somewhat naively, that after looking at the track record of profiling so far the suggestion is that it works. They base this claim on a case study of selected high-profile crimes, but do not give any references or source for the data. The main problem with this claim is that it is purely anecdotal. Related to that is the problem of reporting bias, as we are only likely to hear about cases in which profiling has been used if the case was successfully resolved and the profile was accurate.

Organizations such as the FBI are, understandably, reluctant to release figures on the successes and failures of the profiles that they provide. Although figures such as an 80% success rate have been circulated (e.g., Ressler & Shachtman, 1992), there has yet to be any data put forward to substantiate this claim. According to Ressler et al. (1988), the accuracy of each profile is looked at after an offender has been apprehended so that the profilers may learn from their errors. The evaluation is not performed in public, and most people have no knowledge of how accurate profiles actually are. This is becoming increasingly important, as more private individuals are commissioning profiles themselves (or requesting that the investigating police do) for cases in which they have an interest. We would not tolerate other participants in criminal investigations (such as forensic DNA analysts) withholding data on the effectiveness of their techniques, so why do we tolerate it with psychological profiling?

There is also the question as to how accurate a profile actually has to be to be of help to the investigating authorities. Obviously an incorrect profile has the potential to mislead the investigation, but this may only be a problem if the police place a greater amount of faith in the profile than they do in their own investigative skills. Pinizzotto (cited in Wilson et al., 1997), for example, found that from 192 requests for profiles, only 17% actually were used to help identify the suspect. More positively, 77% of the respondents reported that the profile had helped them to focus their investigation. Overall, however, if profiles are consistently found to be incorrect in at least some aspects, police will quickly lose faith in their worth.

CONCLUSIONS

Offender profiling, in all its various guises, is still very much a discipline that is yet to be proved. Unlike much of psychology or criminology, the accuracy of an offender profile may have profound implications. If a profile of an offender is wrong or even slightly inadequate police may be misled, allowing the offender to escape detection for a little while longer—and innocent people may be dead as a result. This is not to say that we should ignore profiles or that police should not use them, but that we should approach profiling with caution. We should not blindly accept or rely on something that may not have any relationship to the truth.

This article has demonstrated that, of the two main approaches to offender profiling, IP is easily more scientific than CSA. Whereas IP has produced testable hypotheses and has several empirical studies to back up its claims, CSA is based mainly on experience and intuition of police officers and is not particularly amenable to testing. We cannot say which approach is more successful (defining successful as providing information that results in more arrests) as there is no reliable published information on the effectiveness of the various approaches. There is a great deal of anecdotal evidence supporting CSA and it is more widely depicted in the press than IP; yet this is not enough to indicate that it is significantly more successful than IP. Clearly, the effectiveness of the approaches is a subject in which more investigation is needed.

Building a solid scientific basis on which profiling can stand and empirically testing profiling in the lab and the field should not be too difficult. The scientific basis for IP is already present, and rethinking CSA so that it can produce testable hypotheses should not be impossible. However, as long as the FBI has a monopoly on profiling (which it does in most western nations except Britain) and they decline to share any information, it will be very difficult to prove that it is worthwhile. Yet as psychologists and criminologists we are more qualified than police officers to put profiling to the test, and maybe if there is to be a change it must begin with us.

If there is to be any hope to create a science out of profiling, the first step is to establish greater cooperation between those organizations that have an interest in it. The history of profiling seems to be littered with mistrust and contradictions between some of the

key players, as has been alluded to several times in this article. The most readily available information sources about profiling are probably the books by Douglas (Douglas & Olshaker, 1995, 1997) and Ressler (Ressler & Shachtman, 1992), both of whom were integral to the development of the CSA approach to profiling in North America. Yet it is amazing how often these two authors, who worked together in the FBI, blatantly contradict each other. These contradictions do not tend to be about fundamental issues but more about self-glorification. For example, Ressler (Ressler & Shachtman, 1992) states that although the agents of the BSU assisted in making the film *Silence of the Lambs* by letting the director observe them working for some time, none of the characters were actually based on particular people. Both the killers and the agents were based on amalgams of case files and active or retired agents. Yet Douglas (Douglas & Olshaker, 1997) quite distinctly states that one of the characters in the film, an FBI agent, was directly inspired by him. Although this might seem inconsequential to the validity of profiling, it may serve to call into question the professionalism of profilers and profiling in general. Rather than trying to sell books, make money, and acquire fame, the parties involved should be more concerned with improving profiling and demonstrating that it works.

Egger (1997) provides examples of serial killings in many countries around the world, all of which could possibly benefit from the input of profiling. By having profiling data and theories readily available and open to peer review, police forces that do not have the resources or knowledge to develop profiling techniques of their own will have access to information that may help them. Furthermore, an open approach to profiling will allow professionals and academics with a wide range of expertise and knowledge to contribute to the development of profiling.

The public and the media have long had a fascination with crime and all things related to it, which extends at least as far back as Arthur Conan Doyle's famous 19th-century detective, Sherlock Holmes. It is not uncommon to see an entire section in a book shop devoted to the category "True Crime," with dozens of books telling the stories of significant crimes from both Australia and overseas. It is beyond the scope of this article to hypothesize why people have such an interest in hearing about the actions of the most depraved section of society, yet it is clear that this infatuation is

not about to suddenly die away. When considering a subject such as criminal profiling, it is easy to get lost in the hype and difficult to distinguish the fact from the fiction.

Frank Black, the main character in the television show *Millennium*, has psychic visions of the murder being committed when he visits a crime scene. If profiling worked like that in real life it would probably simplify matters, with the ability to profile being just a special talent that some people had. Unfortunately, it does not work like that in real life. The reality of profiling is that without some solid theoretical and empirical basis on which to build a profile of an offender, we may as well just base it on psychic visions. If we are to help the most people and realize the potential of profiling, then we must accept that profiling requires much more work and an open approach.

NOTES

1. In this article, the terms *criminal profiling*, *offender profiling*, and *psychological profiling* will be used somewhat interchangeably. Within law enforcement circles, an unknown offender is referred to as the UNSUB, for "unknown subject" (Douglas & Olshaker, 1995).

2. In this article it will be assumed that the perpetrator is male. Almost all identified serial killers have been male, and all of the research on serial killers has focused exclusively on male killers. Although female serial killers may exist (Hale & Bolin, 1998), they will not be considered in the present article.

3. The Behavioral Science Unit (BSU) profilers do not generally visit a crime scene. All of the information is usually sent to the Federal Bureau of Investigation (FBI) center in Quantico, Virginia, where the profile is constructed (Douglas & Olshaker, 1995).

4. Egger (1997) states that although Ressler claims that he coined the phrase, several others disagree with him. This is a prime example of how ego tends to confuse the issues in profiling.

5. Paul Britton and David Canter seem to have something of a running feud going on between them. It is therefore difficult to state how objective their assessments of each other are (e.g., see Wilson & Soothill, 1996).

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