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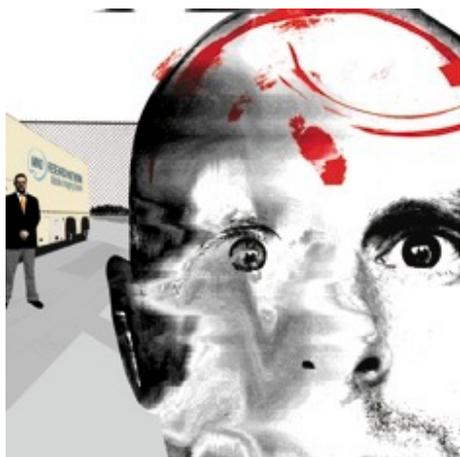
A REPORTER AT LARGE

SUFFERING SOULS

The search for the roots of psychopathy.

by John Seabrook

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Dr. Kent Kiehl uses MRI technology to scan prison inmates for signs of psychopathy in the hope of discovering a treatment.

The Western New Mexico Correctional Facility sits in high-desert country about seventy miles west of Albuquerque. Grants, a former uranium boomtown that depends heavily on prison work, is a few miles down the road. There's a glassed-in room at the top of the prison tower, with louvered windows and, on the ceiling, a big crank that operates a searchlight. In a box on the floor are some tear-gas shells that can be fired down into the yard should there be a riot. Below is the prison complex—a series of low six-sided buildings, divided by high hurricane fences topped with razor wire that glitters fiercely in the desert sun. To the east is the snow-covered peak of Mt. Taylor, the highest in the region; to the west, the Zuni Mountains are visible in the blue distance.

One bright morning last April, Dr. Kent Kiehl strode across the parking lot to the entrance, saying, "I guarantee that by the time we reach the gate the entire inmate population will know I'm here." Kiehl—the Doc, as the inmates call him—was dressed in a blue blazer and a yellow tie. He is tall, broad-shouldered, and barrel-chested, with neat brown hair and small ears; he looks more like a college football player, which was his first ambition, than like a cognitive neuroscientist. But when he speaks, in an unexpectedly high-pitched voice, he becomes that know-it-all kid in school who intimidated you with his combination of superior knowledge and bluster.

At thirty-eight, Kiehl is one of the world's leading younger investigators in psychopathy, the condition of moral emptiness that affects between fifteen to twenty-five per cent of the North American prison population, and is believed by some psychologists to exist in one per cent of the general adult male population. (Female psychopaths are thought to be much rarer.) Psychopaths don't exhibit the manias, hysterias, and neuroses that are present in other types of mental illness. Their main defect, what psychologists call "severe emotional detachment"—a total lack of empathy and remorse—is concealed, and harder to describe than the symptoms of schizophrenia or bipolar disorder. This absence of easily readable signs has led to debate among mental-health practitioners about what qualifies as psychopathy and how to diagnose it. Psychopathy isn't identified as a disorder in the *Diagnostic and Statistical Manual of Mental Disorders*, the American Psychiatric Association's canon; instead, a more general term, "antisocial personality disorder," known as A.P.D., covers the condition.

There is also little consensus among researchers about what causes psychopathy. Considerable evidence, including several large-scale studies of twins, points toward a genetic component. Yet psychopaths are more likely to come from

neglectful families than from loving, nurturing ones. Psychopathy could be dimensional, like high blood pressure, or it might be categorical, like leukemia. Researchers argue over whether tests used to measure it should focus on behavior or attempt to incorporate personality traits—like deceitfulness, glibness, and lack of remorse—as well. The only point on which everyone agrees is that psychopathy is extremely difficult to treat. And for some researchers the word “psychopath” has been tainted by its long and seamy relationship with criminality and popular culture, which began with true-crime pulps and continues today in TV shows like CBS’s “Criminal Minds” and in the work of authors like Thomas Harris and Patricia Cornwell. The word is so loaded with baleful connotations that it tends to empurple any surrounding prose.

Kiehl is frustrated by the lack of respect shown to psychopathy by the mental-health establishment. “Think about it,” he told me. “Crime is a trillion-dollar-a-year problem. The average psychopath will be convicted of four violent crimes by the age of forty. And yet hardly anyone is funding research into the science. Schizophrenia, which causes much less crime, has a hundred times more research money devoted to it.” I asked why, and Kiehl said, “Because schizophrenics are seen as victims, and psychopaths are seen as predators. The former we feel empathy for, the latter we lock up.”

In January of 2007, Kiehl arranged to have a portable functional magnetic-resonance-imaging scanner brought into Western—the first fMRI ever installed in a prison. So far, he has recruited hundreds of volunteers from among the inmates. The data from these scans, Kiehl hopes, will confirm his theory, published in *Psychiatry Research*, in 2006, that psychopathy is caused by a defect in what he calls “the paralimbic system,” a network of brain regions, stretching from the orbital frontal cortex to the posterior cingulate cortex, that are involved in processing emotion, inhibition, and attentional control. His dream is to confound the received wisdom by helping to discover a treatment for psychopathy. “If you could target the brain region involved, then maybe you could find a drug that treats that region,” he told me. “If you could treat just five per cent of them, that would be a Nobel Prize right there.”

The four hundred and six prisoners in the Western New Mexico facility are serving sentences ranging from a year to life without parole. New Mexico uses a classification system that assigns each inmate a number from one to six, with six being reserved for the most violent offenders; Western has inmates of all levels up to five. Although not all psychopaths are violent, Kiehl told me, the majority are fours, fives, and sixes.

Unlike most academic psychopathy researchers, Kiehl has spent many hours in the company of his subjects. When he meets colleagues at conferences, he told me, “they always ask, ‘What are they like?’ These are guys who have spent twenty years studying psychopaths and never met one.” Although the number of psychopaths who are not in prisons is thought to exceed the number who are—if the one-per-cent figure is correct, there are more than a million psychopaths at large in the United States alone—they are much harder to identify in the outside world. Some are “successful psychopaths,” holding down good jobs in many types of industries. It is generally only if they commit a crime and enter the criminal-justice system that they become available for research.

In the conference room where Western’s warden, Anthony Romero, greeted Kiehl, there was a framed tableau of illegal items confiscated from inmates, including handmade shivs and crude tattooing devices. Romero explained that Kiehl was using the scanner not only to study psychopathy but also to measure the level of craving in the brains of substance abusers as they go through a treatment program, also run by Kiehl, which is funded by the National Institute on Drug Abuse. The volunteer rate among the inmates is more than ninety per cent (although some are too muscle-bound to fit inside the scanning tube). As a “collateral benefit,” Kiehl throws in a free clinical examination of their brains. (He has discovered previously undetected tumors in about five per cent of the volunteers.) In addition to the pay they receive for their time (a dollar an hour, Western’s standard rate for prison labor), inmates get pictures of their brains that they can post in their cells. “There’s a lot of joking among the prisoners about who’s got the biggest brain,” Romero said.

The scanner was housed in a tractor-trailer parked behind the prison’s I.D. center. We followed a correctional officer through an internal courtyard to the rehab wing, which consisted of a large common area surrounded by two-man cells. The prisoners were standing at attention outside their cells, some holding mops and brooms. I entered a vacant cell and saw the occupant’s brain, a grainy black-and-white image on a piece of a paper, its edges curling, tacked up over the desk.

Then we walked through the common room and out a door at the other end, passing under a large poster with lines that read, “I am here because there is no refuge, finally, from myself.” The officer led us along a corridor of offices in which students from the University of New Mexico, where Kiehl is on the faculty, conduct psychopathy interviews and also counsel participants in the drug-treatment program. Carla Harenski, one of Kiehl’s postdocs, was interviewing a beefy guy with a tattoo on his neck. Her office, like those of all the researchers in the lab, is equipped with a button she can press to call for help if an interview gets out of hand.

In order to distinguish psychopaths from non-psychopaths among the Western volunteers, Kiehl and his students

use the revised version of the Psychopathy Checklist, or PCL-R, a twenty-item diagnostic instrument created by Robert Hare, a Canadian psychologist, based on his long experience in working with psychopaths in prisons. Kiehl was taught to use the checklist by Hare himself, under whom he earned his doctorate, at the University of British Columbia. Researchers interview an inmate for up to three hours, and compare the inmate's statements against what is known of his record and his personal history. The interviewer "scores" the subject on each of the twenty items—parasitic life style, pathological lying, conning, proneness to boredom, shallow emotions, lack of empathy, poor impulse control, promiscuity, irresponsibility, record of juvenile delinquency, and criminal versatility, among other tendencies—with zero, one, or two, depending on how pronounced that trait is. Most researchers agree that anyone who scores thirty or higher on the PCL-R is considered to be a psychopath. Kiehl says, "Someone who scores a thirty-five, a thirty-six, they are just different. You say to yourself, 'Aha, here you are. You are why I do this.' "

Harenski recently interviewed a Western inmate who scored a 38.9. "He had killed his girlfriend because he thought she was cheating on him," she told me. "He was so charming about telling it that I found it hard not to fall into laughing along in surprise, even when he was describing awful things." Harenski, who is thirty, did not experience the involuntary skin-crawling sensation that, according to a survey conducted by the psychologists Reid and M. J. Meloy, one in three mental-health and criminal-justice professionals report feeling on interviewing a psychopath; in their paper on the subject, Meloy and Meloy speculate that this reaction may be an ancient intraspecies predator-response system. "I was just excited," Harenski continued. "I was saying to myself, 'Wow. I found a real one.' "

At the end of the hall, a door led outside to the trailer. Inside, there was a small sitting area; computer screens and hard drives were built into a large console in the center, and the fMRI scanning tube was at the back. Its surfaces were made of molded white plastic. Harenski's husband, Keith, the chief MRI technician in Kiehl's lab, sat in front of the computer, monitoring a scan in progress. The screen showed what the inmate inside the scanner was seeing. All that was visible of him was his feet, covered with dirty white athletic socks, which protruded from the mouth of the tube.

Kiehl and the researchers in his lab have designed two tests—or tasks, as the researchers call them—one word-based and the other image-based. Kiehl said he had avoided complicated moral problems, such as the classic trolley dilemma, in which the subject is asked to choose whether to cause one person's death in order to save the lives of others in the path of a runaway trolley, because psychopaths might not understand the problem or wouldn't answer seriously. "You try to minimize their opportunities for messing with you," he said. The same tasks are performed by control groups, one of non-psychopathic inmates and another of non-inmates with intelligence-test scores and educational backgrounds similar to those of the inmates.

The word-based task was under way. The inmate was being shown a series of words and phrases, and was supposed to rate each as morally offensive or not. There were three kinds of phrases: some were intended as obvious moral violations, like "having sex with your mother"; some were ambiguous, like "abortion"; and some were morally neutral, like "listening to others." The computer software captured not only the inmate's response but also the speed with which he made his judgment. The imaging technology recorded which part of the brain was involved in making the decision and how active the neurons there were.

Neurons in the brain consume oxygen when they are "firing," and the oxygen is replenished by iron-laden hemoglobin cells in the blood. The scanner's magnet temporarily aligns these iron molecules in the hemoglobin cells, while the imaging technology captures a rapid series of "slices"—tiny cross-sections of the brain. The magnet is superconductive, which means it operates at very cold temperatures (minus two hundred and sixty-nine degrees Celsius). The machine has a helium cooling system, but if the system fails the magnet will "quench." Quenches are an MRI technician's worst fear; a new magnet costs about two million dollars.

The inmate wore a helmet with a head coil for receiving magnetic data and, on the inside, a screen on which words were projected. A sensor measured "skin conductance"—palm sweat. During the functional imaging scans, there was a series of high-pitched beeps, then a loud drilling sound. And during the brain-anatomy scans the machine made a low, rapid thumping, like a metal heartbeat. As the inmate's brain was scanned, he crossed his feet at the ankles and then uncrossed them. His toes wiggled.

P psychopaths are as old as Cain, and they are believed to exist in all cultures, although they are more prevalent in individualistic societies in the West. The Yupik Eskimos use the term *kunlangeta* to describe a man who repeatedly lies, cheats, steals, and takes sexual advantage of women, according to a 1976 study by Jane M. Murphy, an anthropologist then at Harvard University. She asked an Eskimo what the group would typically do with a *kunlangeta*, and he replied, "Somebody would have pushed him off the ice when nobody else was looking."

The condition was first described clinically in 1801, by the French surgeon Philippe Pinel. He called it "mania without delirium." In the early nineteenth century, the American surgeon Benjamin Rush wrote about a type of "moral derangement" in which the sufferer was neither delusional nor psychotic but nevertheless engaged in profoundly antisocial behavior, including horrifying acts of violence. Rush noted that the condition appeared early in life. The term

“moral insanity” became popular in the mid-nineteenth century, and was widely used in the U.S. and in England to describe incorrigible criminals. The word “psychopath” (literally, “suffering soul”) was coined in Germany in the eighteen-eighties. By the nineteen-twenties, “constitutional psychopathic inferiority” had become the catchall phrase psychiatrists used for a general mixture of violent and antisocial characteristics found in irredeemable criminals, who appeared to lack a conscience.

In the late nineteen-thirties, an American psychiatrist named Hervey Cleckley began collecting data on a certain kind of patient he encountered in the course of his work in a psychiatric hospital in Augusta, Georgia. These people were from varied social and family backgrounds. Some were poor, but others were sons of Augusta’s most prosperous and respected families. Cleckley set about sharpening the vague construct of constitutional psychopathic inferiority, and distinguishing it from other forms of mental illness. He eventually isolated sixteen traits exhibited by patients he called “primary” psychopaths; these included being charming and intelligent, unreliable, dishonest, irresponsible, self-centered, emotionally shallow, and lacking in empathy and insight.

“Beauty and ugliness, except in a very superficial sense, goodness, evil, love, horror, and humor have no actual meaning, no power to move him,” Cleckley wrote of the psychopath in his 1941 book, “The Mask of Sanity,” which became the foundation of the modern science. The psychopath talks “entertainingly,” Cleckley explained, and is “brilliant and charming,” but nonetheless “carries disaster lightly in each hand.” Cleckley emphasized his subjects’ deceptive, predatory nature, writing that the psychopath is capable of “concealing behind a perfect mimicry of normal emotion, fine intelligence, and social responsibility a grossly disabled and irresponsible personality.” This mimicry allows psychopaths to function, and even thrive, in normal society. Indeed, as Cleckley also argued, the individualistic, winner-take-all aspect of American culture nurtures psychopathy.

The psychiatric profession wanted little to do with psychopathy, for several reasons. For one thing, it was thought to be incurable. Not only did the talking cure fail with psychopaths but several studies suggested that talk therapy made the condition worse, by enabling psychopaths to practice the art of manipulation. There were no valid instruments to measure the personality traits that were commonly associated with the condition; researchers could study only the psychopaths’ behavior, in most cases through their criminal records. Finally, the emphasis in the word “psychopath” on an internal sickness was at odds with liberal mid-century social thought, which tended to look for external causes of social deviancy; “sociopath,” coined in 1930 by the psychologist G. E. Partridge, became the preferred term. In 1958, the American Psychiatric Association used the term “sociopathic personality” to describe the disorder in its *Diagnostic and Statistical Manual of Mental Disorders*. In the 1968 edition, the condition was renamed “general antisocial personality disorder.”

Cleckley’s book fell out of favor, and Cleckley described himself late in life as “a voice crying in the wilderness.” When he died, in 1984, he was remembered mostly for his popular study of multiple-personality disorder, written with Corbett Thigpen, “The Three Faces of Eve.”

In 1960, Robert Hare took a job as the resident psychologist in a maximum-security prison about twenty miles outside Vancouver. On his first day, a tall, slim, dark-haired inmate came into his office and said, “Hey, Doc, how’s it going? Look, I’ve got a problem. I need your help.” Hare later wrote of this encounter, “The air around him seemed to buzz, and the eye contact he made with me was so direct and intense that I wondered if I had ever really looked anybody in the eye before.” Hare asked the inmate, whom he called Ray in his account, to tell him about his problem. “In response, he pulled out a knife and waved it in front of my nose, all the while smiling and maintaining that intense eye contact,” Hare wrote in his 1993 book, “Without Conscience: The Disturbing World of the Psychopaths Among Us.” Ray said he was planning to use the knife on another inmate, who was making overtures to his “protégé,” a prison term for the more passive member of a homosexual pairing.” Ray never harmed Hare, but he successfully manipulated him throughout Hare’s eight months at the prison, and two and a half years later, after Hare had joined the faculty at the University of British Columbia, Ray, now paroled, tried to register there with a forged transcript.

Hare wasn’t familiar with the psychopathy literature when he was working at the prison. Later that year, he moved with his family to London, Ontario, where he pursued a Ph.D. at the University of Western Ontario. (When his brakes failed at the first steep hill on the trip east, he recalled that Ray had worked on his car in the prison garage.) His dissertation was on the effects of punishment on human learning and performance. One day in the library, he came across “The Mask of Sanity.” Reading Cleckley’s case histories put Hare in mind of Ray, and of other types he had encountered in the maximum-security prison. Were these men psychopaths? Over the next year, Hare read not only Cleckley but also the early literature Cleckley had synthesized. After receiving his doctorate, in 1963, and returning to Vancouver, he set about what would be his life’s work: the study of psychopathy, and the creation of the Psychopathy Checklist, the twenty-item diagnostic instrument that Kiehl is using at Western.

Thanks to the checklist, scientists working in different places can be confident that the subjects they are studying

are taxonomically similar. The PCL also has a wide variety of forensic applications. It is employed throughout Canada in parole-board hearings and is gaining popularity in the U.S. In the thirty-seven states that allow the death penalty, a high psychopathy score is often used by prosecutors as an “aggravating factor” in the penalty phase of capital cases. Psychopathy scores have also been used in child-custody cases; a high score may result in one parent’s loss of custody. Hare’s influence on the field of psychopathy is profound. Today, Hare’s former students hold important administrative positions throughout the Canadian prison system, and are prominently represented in the next two generations of psychopathy researchers around the world.

One day when Kent Kiehl was eight years old, his father, Jeff, a copy editor at the *Tacoma News Tribune*, came home talking about a local man named Ted Bundy. “This was a guy who had grown up just down the street,” Kiehl told me, “and he had supposedly killed all these women.” Bundy, whose family moved to Tacoma when he was a child, is known to have sexually assaulted and murdered at least thirty women in the nineteen-seventies. But to outward appearances he was an exceptionally promising young man. He had received glowing letters of recommendation both from a psychology professor at the University of Washington, where he was an undergraduate (“he is exceedingly bright, personable, highly motivated, and conscientious”), and from the Republican governor of Washington, Dan Evans, for whom he worked. His good looks, charm, and verbal skills—qualities that made him such an effective predator—convinced many in the Tacoma community that he was innocent, up until the time he was convicted of murder and sentenced to death, in 1979. Bundy was executed in Florida in 1989.

Kiehl’s father was a sports fanatic, but he suffered from a form of muscular dystrophy that made it difficult for him to walk. (He died when Kiehl was twenty-two.) “My dad’s greatest wish for me was that I play college football,” Kiehl told me. Kent fantasized about playing for the University of Washington Huskies in front of fifty thousand fans. He ended up at the University of California at Davis, where he played in front of a couple of thousand. He enrolled as a pre-med, planning to be a doctor, but was having trouble balancing his academic and athletic commitments. When he blew out his knee at the start of his sophomore year, his choice became clear.

Kiehl had taken a course in psychology under Debra Long, a professor specializing in psycholinguistics, who was also his academic adviser, and he had enjoyed the work they did on emotional processing and the brain. Long asked what inspired him, Kiehl recalled. “I said I want to understand why people do bad things—how someone could get to be like Ted Bundy—and I want to study the brain. So she said, ‘You should combine those two things and study psychopaths.’ ” Kiehl’s first published paper was based on data collected from four hundred and eighty-five undergraduates at U.C. Davis, to whom he distributed a psychopathy checklist adapted from Hare, which they filled out themselves. He found that a high proportion of psychopathic traits were remarkably consistent with a pattern of disruptive behavior.

Kiehl’s early training in psychopathology coincided with the emergence of functional neuroimaging; Kiehl, a techie, quickly became adept at the computer skills necessary to run experiments. The earliest technique, measuring what’s known as an event-related potential, or E.R.P., charts the brain’s electrical activity, using an electrode-studded skullcap. In a landmark 1991 E.R.P. study conducted at a prison in Vancouver, Robert Hare and two graduate students showed that psychopaths process words like “hate” and “love” differently from the way normal people do. In another study, at the Bronx V.A. Medical Center, Hare, Joanne Intrator, and others found that psychopaths processed emotional words in a different part of the brain. Instead of showing activity in the limbic region, in the midbrain, which is the emotional-processing center, psychopaths showed activity only in the front of the brain, in the language center. Hare explained to me, “It was as if they could only understand emotions linguistically. They knew the words but not the music, as it were.”

Since then, cognitive neuroscience has come to be dominated by brain scans, although they are not as widely used in psychopathy research. So far, fMRI studies of psychopaths have only reinforced different models of psychopathy that were in place before fMRI became popular, theories that Kiehl studied while pursuing a doctorate in Hare’s lab at the University of British Columbia. Some scientists think that psychopaths suffer from an extreme and far-reaching attention deficit, which causes them temporarily to forget the moral and social consequences of certain antisocial actions. Joseph Newman, who chairs the psychology department at the University of Wisconsin at Madison, is the leading advocate of this theory. His model is based on traditional research methods, such as lab work using rats with brain lesions, and studies of humans using a well-known card-playing task, in which players gradually start to lose money; the players in the control group stopped as their earnings diminished, but the psychopaths could focus only on the outcome of the next card choice. Another hypothesis is that psychopaths lack fear of personal injury and, more important, moral fear—fear of punishment. David Lykken pioneered this theory in the nineteen-fifties, and it has been taken up by James Blair, Christopher Patrick, and others. The updated version of this model posits that psychopathy is a result of a dysfunction of the amygdala, the almond-shaped bundle of gray matter situated in the midbrain, which is another area instrumental in emotional processing.

When Kiehl arrived at the University of British Columbia, Hare sent him to a new maximum-security prison nearby. Kiehl recalled, “Bob said, ‘There is this new prison that just opened up, with the worst of the worst offenders—you can work there.’ So I submitted my proposal to do E.R.P. studies, and met with the prison psychiatrist, whose name was Johann Brink. He said, ‘I got you this office over here, here are your keys, and there are the inmates’—that was my training. They open the door, and there are fifty guys with tattoos looking at me. My first week, I interviewed a serial killer. He told me he had killed sixteen people and described how he had chopped them up—and I am sitting right across the table from the guy.”

Kiehl’s most memorable “perfect forty” on a PCL was an inmate I’ll call George. Kiehl was at the prison on the morning that George arrived. After being processed, George stripped naked and walked around the track outside the cellblock in the pouring rain. “I was new here,” he later explained to Kiehl, “and I wanted to establish right away that I am a crazy motherfucker so leave me alone.” George described his criminal past in full detail. He started out committing petty crimes as a child and by seventeen had been convicted of arson. In the early nineties, after serving eighteen months in prison for breaking and entering, he moved back in with his mother. One day, the two had a fight, and his mother picked up the phone to call the cops. “Man, can you believe the balls on that chick?” George asked Kiehl. He wrapped the phone cord around his mother’s neck and strangled her. “Then I threw her down the basement stairs, but I wasn’t sure she was dead, so I got a kitchen knife and stabbed her, and her body made these weird noises, I guess gas escaping, but I wasn’t sure, so I grabbed a big propane cannister and bashed her brains in.” Then he went out and partied for three days. “When I came back, that house stank—what a stench.” He cleaned the whole basement with bleach, wrapped up his mother’s body, put it in the trunk of her car, and drove to the mountains.

On the way, a policeman stopped him and asked if he was drunk. George said that he was just looking for a place to pee. So the cop pointed him toward a dirt road, and George went up there and left the body in the woods. It turned out he had dumped his mother in a mountain-pine-beetle-infested area, and a forestry crew came across the body a few days later. “Fucking pine beetles,” George remarked. At first, the police couldn’t find any evidence in the house, but George had neglected to clean the propane tank, which was splattered with his mother’s blood. When he was convicted of manslaughter and sentenced to life imprisonment, George just smiled.

Kiehl would have loved to scan George’s brain. But transporting inmates from prisons to fMRI machines, which tend to be in hospitals and neuroscience centers, was complicated and expensive; elaborate security measures had to be taken to insure the safety of the staff and to prevent the subjects from escaping. Throughout his career, Kiehl has been frustrated by the difficulty of scanning offenders, and the tiny data samples scientists have to work with. “You want to have eight hundred subjects, not eight,” he said. In eight years as a graduate student at U.B.C., Kiehl was able to scan only about fifty inmates, and in seven subsequent years as an associate professor at Yale University he scanned about two hundred former inmates, but only a few were high scorers on the PCL.

Kiehl had had a remedy in mind since 1993, when, on a freeway in Vancouver, he passed a truck that had the words “Mobile MRI Unit” written on the side. “Right away, I thought, Man, how great would it be to have one of these things in a prison,” Kiehl said. At the time, he had little hope of securing the two to three million dollars that the scanner would cost. Finally, in 2006, the University of New Mexico approached him about moving his lab to Albuquerque. Kiehl was given an associate professorship at the university, and a position as the principal investigator at the Mind Research Network, a neuroscience center in Albuquerque, which paid for a portable scanner to be built to his specifications by Siemens, in Germany. In January, 2007, the machine was installed at the Western New Mexico Correctional Facility, and, with the help of a grant from the National Institute of Mental Health, Kiehl began scanning. “So far, we’ve scanned more than five hundred inmates in more than a thousand total sessions,” he told me. “In four months I’ve scanned twice as many psychopaths as in my whole previous career.”

Today, Kiehl and Hare have a complementary but complicated relationship. Kiehl claims Hare as a mentor, and sees his own work as validating Hare’s checklist, by advancing a neurological mechanism for psychopathy. Hare is less gung ho about using fMRI as a diagnostic tool. “Some claim, in a sense, this is the new phrenology,” Hare said, referring to the discredited nineteenth-century practice of reading the bumps on people’s heads, “only this time the bumps are on the inside.” (Hare himself is a “strong proponent” of brain-imaging technology, but he noted that scans in isolation will always be insufficient.) Hare sees himself as a generalist, and Kiehl as “more of a data-driven guy.” Hare added that, while Kiehl’s brashness sometimes puts people off, “that’s why Kent gets things done.”

Robert Hare is bearded and slight, and has a detached, feline manner. He is in his early seventies, and his position at the University of British Columbia is emeritus. I met him in May, at a Homewood Suites hotel in Albany, where he was conducting a two-day seminar in psychopathy and the use of the checklist, sponsored by the New York State Office of Mental Health’s Bureau of Sex Offender Education and Treatment. A substantial percentage of sex offenders are psychopaths. New York State recently began creating special programs housed in psychiatric facilities for sex offenders who have completed their prison terms but are judged too dangerous to release.

Hare's Psychopathy Checklist now exists in three variations. (There's one for juveniles, the PCL-YV, and one designed for the general population—the "screening" version.) He collects a royalty fee every time the official PCL scoring sheet is used. The complete psychopathy kit, which includes a book-length manual on how to administer the checklist, costs two hundred and sixty-three dollars. It has been translated into more than twenty languages. The Albany seminar was one of roughly half a dozen that Hare conducts each year. He was giving a talk on psychopathy and culpability in Las Vegas the following week; then he was off to Rome, to instruct the carabinieri in the use of the checklist, and in profiling psychopaths. In Albany, his audience was composed mostly of psychologists and other mental-health professionals.

Hare sees himself as continuing the work that Cleckley started—warning society of a devastating and costly mental disorder that it mostly continues to ignore. Hare's forensic experience has taught him that psychopathy is of vital concern to mental-health workers in prisons as well as to people in law enforcement and on parole boards; people who come into daily contact with dangerous and destructive individuals need an instrument that will allow them to identify psychopaths and make risk assessments based on their predictive behavior. (According to several national and international studies, psychopathic criminal offenders are three times more likely to return to prison within a year of their release.) Mary Ellen O'Toole, one of the F.B.I.'s top criminal profilers, whose job is "to investigate the most extreme and violent crimes from all over the world, including serial murders, serial rapes, child abductions, school shootings, workplace violence, domestic homicides, and other crimes of extreme and/or bizarre violence," told me that she uses her psychopathy training, some of which came under Hare, when she is investigating crime scenes. She looks for evidence of, "for example, lack of remorse, thrill seeking, or impulsivity that could be consistent with the traits and characteristics of psychopathy." This information, in turn, can be useful in "the investigation, the interview, even the prosecution of the offender."

Hare wants to disassociate psychopathy from the *DSM's* catchall diagnosis of antisocial personality disorder. "It's like having pneumonia versus having a cold," he said. "They share some common symptoms, but one is much more virulent." Before the fourth edition of the *DSM* came out, in 1994, Hare published several articles pointing to field research that showed a difference between psychopathy and A.P.D. John Gunderson, the psychiatrist who chaired the personality-disorders work group for the revision, told Hare that, intellectually, he had "won the battle," Hare recalls; even so, in *DSM-IV* "psychopathy" appears only as a synonym for A.P.D. (Gunderson says this was a function of institutional inertia.) Hare has continued to follow preparations for the next edition, due out in 2012, and recently sent an e-mail to a senior member of the task force inquiring about what revisions, if any, were planned for A.P.D. The reply, Hare said, was noncommittal.

Hare has published two books that translate some of the concepts of psychopathy for a general audience and attempt to teach people how to identify the "successful psychopaths" in their midst. In the introduction to "Without Conscience," he writes, "It is very likely that at some point in your life you will come into painful contact with a psychopath. For your own physical, psychological, and financial well-being it is crucial that you know how to identify the psychopath." Among the professions likely to attract psychopaths, he writes, are law enforcement, the military, politics, and medicine, although he notes that these have norms and are self-policing. The most agreeable vocation for psychopaths, according to Hare, is business. In his second book, "Snakes in Suits: When Psychopaths Go to Work," written with Paul Babiack, Hare flirts with pop psychology when he points out that many traits that may be desirable in a corporate context, such as ruthlessness, lack of social conscience, and single-minded devotion to success, would be considered psychopathic outside of it.

On the evening of the first day of the seminar, Hare and I went out for dinner at Smokey Bones, a rib joint. As I sped along Wolf Road, a traffic light ahead turned yellow. I momentarily thought about flooring it, and probably would have, if not for my passenger; instead, I slowed down and stopped. But the car on my left went flying by, through what was now a red light.

"Wow, look at that," Hare said. "Now, that man might be a psychopath. That was psychopathic behavior, certainly—to put others in the intersection in danger in order to realize your own goals."

But the problem is that "psychopathic behavior"—egocentricity, for example, or lack of realistic long-term goals—is present in far more than one per cent of the adult male population. This blurriness in the psychopathic profile can make it possible to see psychopaths everywhere or nowhere. In the mid-fifties, Robert Lindner, the author of "Rebel Without a Cause: A Hypnoanalysis of a Criminal Psychopath," explained juvenile delinquency as an outbreak of mass psychopathy. Norman Mailer inverted this notion in "The White Negro," admiring the hipster as a "philosophical psychopath" for having the courage of nonconformity. In the sixties, sociopathy replaced psychopathy as the dominant construct. Now, in our age of genetic determinism, society is once again seeing psychopaths everywhere, and this will no doubt provoke others to say they are nowhere, and the cycle of overexposure and underfunding will continue.

Hare is urbane and well read, and during dinner he seasoned his clinical descriptions of the psychopath with references to characters from film and literature. Harry Lime, the villain played by Orson Welles in "The Third Man,"

is one example. “Iago was a classic psychopath,” he added. “The way Shakespeare wrote him. In films and plays he is portrayed as evil-seeming, but he isn’t written that way.” Hare was friendly but wary of me—several times he said, “I have to see your eyeballs before I can tell you that.” We talked about the checklist. “Am I happy about the way the checklist can be used?” Hare asked rhetorically. “No, not always. Am I happy it is used to help condemn people to death? No, I am not.” Nor does he approve of its use in child-custody cases. However, he believes that, when properly used as a predictor of risk in forensic settings, the social benefits of the checklist far outweigh its drawbacks. Hare rejects the notion that a distinction ought to be made between a violent psychopath, like Ted Bundy, and a nonviolent one who commits financial crimes. Both, he said, are willing to do whatever it takes. He went on, “Can you say Ted Bundy caused more disaster than the guys at Enron? How many destroyed lives and suicides followed as a result of so many people losing their savings?”

During his years of teaching at U.B.C., Hare confided to me, he discovered that “it is possible for people who study psychopaths to end up becoming the victims of what you are looking for.” He described how, early in his career, one of his students became sexually involved with an inmate. Prison authorities caught the student having sex with the inmate in his cell. When confronted by Hare, the student “looked me right in the eye and said, ‘I didn’t do it,’ ” he recalled. The student denied everything so convincingly that Hare began to doubt what he knew to be true.

After dinner, we went to Hare’s room at the hotel and drank Scotch, while he showed me videos of psychopaths which he had on his computer. “It’s their eyes that are the most remarkable feature,” he said. “How they drill into you.” We watched while “Bruce,” a long-haired, snaggletoothed man in his forties, described how as a child he had murdered his brother. Something about the slight smile on his lips caused the muscles in my neck to tighten painfully, and the only relief was to look away from the screen.

One morning while I was in New Mexico, Kent Kiehl arranged for me to have my brain scanned. I reported to the Mind Research Network, and put on a hospital gown. I was going to perform the visual task—rate a series of images as “morally offensive,” on a scale of zero to five.

I climbed onto the gurney, and a technician fitted me with a helmet that had a built-in viewer, and then slowly slid me into the coffin-like scanning tube. I fought a momentary sense of panic. In my right hand I held a push-button device that I would use to rate the offensiveness of the pictures. An iris scan, which was trained on my right eye, would record which part of the picture I was looking at when I made my judgments. The soothing voice of the MRI technician, heard over a speaker in the helmet, guided me. Carla Harenski, who was the lead designer of the task, was overseeing the procedure from the next room.

The fMRI machine started up with a high-pitched whirring sound. I began to see photographs. One was of a baby covered with blood. I thought first about the blood, then realized the circumstances—birth—and rated the moral offense zero. A man was lying on the ground with his face beaten to a bloody pulp: I scored this high. There was a picture of Osama bin Laden. I scored it four, although I felt that I was making more of an intellectual than a moral judgment. Two guys inadvertently butting heads in a soccer game got a zero, but then I changed it to a one, because perhaps a foul was called. I had considered deliberately giving wrong answers, as a psychopath might. But instead I worked at my task earnestly, like a good fifth grader.

That evening, when I met Kiehl and three of his postdocs at a restaurant near the university, I brought along my brain scan for them to examine. The Mind Research Network had burned me a disk, and I had loaded it on my laptop. “It’s always good looking at your brain in a bar,” Kiehl said, bringing up a center slice of my brain. “Well, it looks normal—all the parts are there.” He studied the image silently for several seconds. “Your corpus callosum looks a little thin,” he added. “Wait, is this a center slice? Yes, it is. Hmm. Yeah, it’s thin.” The corpus callosum is the slender bridge between the left and right sides of the brain.

“What does that mean?” I asked.

“Not sure,” Kiehl said. “We’d need a thorough case history from you to make sense of it.” He said he would analyze the data and get back to me, but months passed before I heard the results. In the meantime, I questioned my moral choices with a new severity. Finally, the Doc informed me that I was O.K.

Kiehl has big plans for his portable scanner. In the summer of 2008, he moved it to a maximum-security juvenile detention facility in Albuquerque, in order to scan high-risk youths. Scanning minors is more complicated, legally, than scanning adults—both the subjects and their parents have to sign consent forms—but Kiehl said that he had managed to recruit a hundred and fifty volunteers. Using the youth version of the PCL, he identified more than fifty over-thirties among the kids.

Although psychologists don’t call minors “psychopaths”—they are “youths with psychopathic traits”—there is considerable evidence that the condition manifests itself at ages earlier than eighteen; in a much cited 2005 paper, “Evidence for Substantial Genetic Risk for Psychopathy in Seven-Year-Olds,” published in the *Journal of Child Psychology and Psychiatry*, Essi Viding suggests that the condition can be detected in early childhood. Fledgling

psychopaths are particularly interesting to researchers, because their brains are thought to be more malleable than those of adults. In a landmark 2006 study of a specialized talk-therapy treatment program, conducted at a juvenile detention center in Wisconsin, involving a hundred and forty-one young offenders who scored high on the youth version of the checklist, Michael Caldwell, a psychologist at the treatment center and a lecturer at the University of Wisconsin at Madison, reported that the youths that were treated were much more likely to stay out of trouble, once they were paroled, than the ones in the control group. “In other words,” Kiehl told me, “psychopathy is treatable after all, if you can catch it young enough.” Of course, as he pointed out in an e-mail, even with very violent young offenders we have to accept that “the only way to know if the treatment worked or not is to return the youths to the community once they have finished their sentence. . . . Perhaps you put them in a specialized community/monitoring program once they are released again.”

To date, Kiehl has scanned ninety adult psychopathic brains with the portable scanner. The data, he says, confirm his hypothesis that psychopathy corresponds to a deficit in the paralimbic region. “If you put the pictures of the psychopaths’ brains next to the control group, it’s obvious,” he told me. Joseph Newman, of the University of Wisconsin, while generally enthusiastic about Kiehl’s hypothesis, hopes that he will use these new data to refine his model, which he still finds “quite vague as a theory.”

This fall, Kiehl plans to move the scanner to a women’s prison near Grants. “No one has ever scanned female psychopaths, to my knowledge,” Kiehl said. He can foresee many other neurobiological-research applications for the portable scanner, far beyond the field of psychopathy. “You could take it to Iraq, scan guys just before they go into battle, and then scan them when they come off the battlefield, and use that data to study post-traumatic stress syndrome,” he suggested. Researchers into empathy and moral reasoning would also like to try Kiehl’s scanner, but they have to be able to afford the five hundred dollars an hour it costs to run it. Recently, Jean Decety, a professor of social neuroscience at the University of Chicago, who is one of the world’s leading empathy researchers, went to Western and used the scanner to study some of Kiehl’s volunteers for a joint project.

While Kiehl and his colleagues are looking for a biological marker for psychopathy, molecular biologists have been analyzing DNA, in an attempt to identify a genetic marker. In a recently published study in the *British Journal of Psychiatry*, Guillermo Ponce and Janet Hoenicka report that two genes that have already been associated with severe alcoholism may also be linked to psychopathy. Efforts are also ongoing in other areas of neurobiological inquiry, including behavioral, neurochemical, pharmacological, and psychophysiological research.

If a biological basis for psychopathy could be established and pharmacological treatments developed, the idea that many people have at least a little of the psychopath in them could well become accepted. As Kiehl points out, “It used to be the case that it was very hard to meet clinical criteria for depression in the fifties and sixties. However, the definition of depression has been broadened so much with *DSM-IV* that nearly every person will meet the criteria at some point in their lives. One reason for this is that drug companies have lobbied to change the criteria—because they have a treatment, a drug, that can help people even with moderate levels of depression. It’s a completely different issue whether this is appropriate.” He added that “even moderate levels of psychopathy may someday be considered a disorder—especially if we can treat it.”

Like many in the field of psychopathy research, Kiehl is aware of the enormous social implications of accepting psychopathy as a form of mental illness. What, for example, would you do with the young psychopaths who don’t respond to treatment? The stigma would be profound. It’s not hard to imagine a day when everyone’s personal psychopathy risk will be assigned early in life—a kind of criminal-potential index. Kiehl was recently appointed as a scientific member of the MacArthur Foundation’s Law and Neuroscience Project, which will study some of the legal implications of neuroimaging.

Psychopathy also raises fundamental issues about justice. At the core of our judicial system is the assumption that someone who appears sane is culpable for his actions. (In the U.S., there is no insanity defense for psychopaths.) As Decety, of the University of Chicago, put it to me, “We still basically work out of a Biblical system of punishment—we don’t consider, in most cases, to what extent the offender’s actions were intentional or unintentional. But what neuroscience is showing us is that a great many crimes are committed out of compulsion—the offenders couldn’t help it. Once that is clear, and science proves it, what will the justice system do?” Joseph Newman told me, “I go around and give speeches to the staff in prisons, saying the inmates are not just assholes, and afterwards the guards come up and say, ‘Enjoyed your talk, Doc, but are you saying these guys aren’t responsible for their crimes?’ ”

Over the next ten years, Kiehl hopes to amass a database of ten thousand psychopaths—men, women, and juveniles, from a broad array of ethnic groups—complete with brain scans, DNA, and case histories. This database would serve psychopathy researchers in something of the same way that Dr. Johnson’s dictionary served linguists—as a founding reference. Whether the data will guarantee the acceptance of psychopathy as a mental disorder is another matter. Hare said, “You’re still going to have to collect a massive amount of biographical data from the subjects and link it all to the brain scans in order for them to make sense.” And even then we probably won’t know what makes

people act without conscience.

Still, for Kiehl the portable fMRI is like a sports fantasy come true. “Sometimes I wake up in the morning and I just can’t believe that it’s all come together,” he said. “The scanner, the lab, and the data we are amassing. It feels like winning the Super Bowl.” ♦

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