The New York Times Reprints

This copy is for your personal, noncommercial use only. You can order presentation-ready copies for distribution to your colleagues, clients or customers here or use the "Reprints" tool that appears next to any article. Visit www.nytreprints.com for samples and additional information. Order a reprint of this article now.

PRINTER-FRIENDLY FORMAT SPONSORED BY

June 7, 2010

The Animal-Cruelty Syndrome

By CHARLES SIEBERT

On a late May afternoon last year in southwest Baltimore, a 2-year-old female pit bull terrier was doused in gasoline and set alight. A young city policewoman on her regular patrol of the neighborhood of boarded-up row houses and redbrick housing developments turned her squad car onto the 1600 block of Presbury Street and saw a cloud of black smoke rising from the burning dog. She hopped out, ran past idle onlookers and managed to put out the flames with her sweater. The dog, subsequently named Phoenix, survived for four days with burns over 95 percent of her body, but soon began to succumb to kidney failure and had to be euthanized.

It was only a matter of hours before the story, made vivid by harrowing video footage of the wounded dog, was disseminated nationwide in newspapers, TV and radio newscasts and countless Web sites. An initial $1,000 reward for the capture of the culprits would soon climb to $26,000 as people around the country followed Phoenix's struggle for life. A gathering of people in Venice Beach, Calif., held a candlelight vigil for her. A month later, the mayor of Baltimore, Sheila Dixon, announced the creation of the Anti-Animal-Abuse Task Force to work in concert with city officials, local law enforcement and animal rights and animal-control groups to find ways to better prevent, investigate and prosecute such crimes.

The scale, speed and intensity of the response were striking. The subject of animal abuse, especially the abuse of pit bulls in dog-fighting activities, has achieved a higher profile after the 2007 arrest of the N.F.L. star Michael Vick for operating an illegal interstate dog-fighting operation in Surry County, Va. But the beleaguered pit bull is merely the most publicized victim of a phenomenon that a growing number of professionals — including police officers, prosecutors, psychologists, social workers, animal-control officers, veterinarians and dogcatchers — are now addressing with a newfound vigor: wanton cruelty

toward animals. Before 1990, only six states had felony provisions in their animal-cruelty laws; now 46 do. Two years ago, the American Society for the Prevention of Cruelty to Animals formed the nation's first Mobile Animal Crime Scene Investigation Unit, a rolling veterinary hospital and forensic lab that travels around the country helping traditional law-enforcement agencies follow the evidentiary trails of wounded or dead animals back to their abusers.

In addition to a growing sensitivity to the rights of animals, another significant reason for the increased attention to animal cruelty is a mounting body of evidence about the link between such acts and serious crimes of more narrowly human concern, including illegal firearms possession, drug trafficking, gambling, spousal and child abuse, rape and homicide. In the world of law enforcement — and in the larger world that our laws were designed to shape — animal-cruelty issues were long considered a peripheral concern and the province of local A.S.P.C.A. and Humane Society organizations; offenses as removed and distinct from the work of enforcing the human penal code as we humans have deemed ourselves to be from animals. But that illusory distinction is rapidly fading.

"With traditional law enforcement," Sgt. David Hunt, a dog-fighting expert with the Franklin County Sheriff's Office in Columbus, Ohio, told me, "the attitude has been that we have enough stuff on our plate, let the others worry about Fluffy and Muffy. But I'm starting to see a shift in that mentality now." Hunt has traveled to 24 states around the country in order to teach law-enforcement personnel about the dog-fighting underworld, often stressing the link between activities like dog fighting and domestic violence. "You have to sell it to them in such a way that it's not a Fluffy-Muffy issue," he said of teaching police officers about animal-abuse issues. "It's part of a larger nexus of crimes and the psyche behind them."

The connection between animal abuse and other criminal behaviors was recognized, of course, long before the evolution of the social sciences and institutions with which we now address such behaviors. In his famous series of 1751 engravings, "The Four Stages of Cruelty," William Hogarth traced the life path of the fictional Tom Nero: Stage 1 depicts Tom as a boy, torturing a dog; Stage 4 shows Tom's body, fresh from the gallows where he was hanged for murder, being dissected in an anatomical theater. And animal cruelty has long been recognized as a signature pathology of the most serious violent offenders. As a boy, Jeffrey Dahmer impaled the heads of cats and dogs on sticks; Theodore Bundy, implicated in the murders of some three dozen people, told of watching his grandfather torture animals; David Berkowitz, the "Son of Sam," poisoned his mother's parakeet.

But the intuitions that informed the narrative arc of Tom Nero are now being borne out by empirical research. A paper published in a psychiatry journal in 2004, “A Study of Firesetting and Animal Cruelty in Children: Family Influences and Adolescent Outcomes,” found that over a 10-year period, 6-to-12-year-old children who were described as being cruel to animals were more than twice as likely as other children in the study to be reported to juvenile authorities for a violent offense. In an October 2005 paper published in Journal of Community Health, a team of researchers conducting a study over seven years in 11 metropolitan areas determined that pet abuse was one of five factors that predicted who would begin other abusive behaviors. In a 1995 study, nearly a third of pet-owning victims of domestic abuse, meanwhile, reported that one or more of their children had killed or harmed a pet.

The link between animal abuse and interpersonal violence is becoming so well established that many U.S. communities now cross-train social-service and animal-control agencies in how to recognize signs of animal abuse as possible indicators of other abusive behaviors. In Illinois and several other states, new laws mandate that veterinarians notify the police if their suspicions are aroused by the condition of the animals they treat. The state of California recently added Humane Society and animal-control officers to the list of professionals bound by law to report suspected child abuse and is now considering a bill in the State Legislature that would list animal abusers on the same type of online registry as sex offenders and arsonists.

When I spoke recently with Stacy Wolf, vice president and chief legal counsel of the A.S.P.C.A.’s Humane Law Enforcement department, which focuses on the criminal investigation of animal-cruelty cases in New York City, she drew a comparison between the emerging mindfulness about animal cruelty and the changing attitudes toward domestic abuse in the 1980s. “It really has only been in recent years that there’s been more free and accurate reporting with respect to animal cruelty, just like 30 years ago domestic violence was not something that was commonly reported,” she said. “Clearly every act of violence committed against an animal is not a sign that somebody is going to hurt a person. But when there’s a pattern of abusive behavior in a family scenario, then everyone from animal-control to family advocates to the court system needs to consider all vulnerable victims, including animals, and understand that violence is violence.”

It isn’t clear whether Phoenix was used for dog fighting. Subsequent examinations of her body did find — along with evidence that gasoline had been poured down her throat — a number of bite wounds. Veterinarians, however, said that those could have been

self-inflicted in the course of Phoenix's frenzied attempts to fight off the flames. But prosecutors also later claimed that Phoenix's accused assailants, 17-year-old twin brothers named Tremayne and Travers Johnson, of a nearby block of Pulaski Street, were using a vacant neighborhood home for the keeping of pit bulls and other ganglike activities.

The Johnson twins have pleaded not guilty. According to court documents, both suspects, said to be members of the 1600 Boys gang, were identified by a witness as running out of the alley where the dog was set alight. "There was some gang-style graffiti found in that abandoned building," Randall Lockwood, the A.S.P.C.A.'s senior vice president for forensic sciences and anticruelty projects, and a member of the new Anti-Animal-Abuse Task Force in Baltimore, told me at the A.S.P.C.A.'s Midtown Manhattan offices in December. "There was also dog feces on the premises. Unfortunately, nobody bothered collecting the feces to see if it was from Phoenix."

Along with the need to track the physical evidence of animal cruelty there is the deeper and more complex challenge of trying to parse its underlying causes and ultimate ramifications. As a graduate student in psychology, Lockwood had an interest in human-animal interactions and the role of animals and education in the development of empathy in children. This inevitably led him to consider the flip side of the equation: the origins of cruelty to animals and what such behavior might indicate about an individual's capacity for empathy and his or her possible future behavior.

Back in the early 1980s, Lockwood was asked to work on behalf of New Jersey's Division of Youth and Family Services with a team of investigators looking into the treatment of animals in middle-class American households that had been identified as having issues of child abuse. They interviewed all the members of each family as well as the social workers who were assigned to them. The researchers' expectation going in was that such families would have relatively few pets given their unstable and volatile environments. They found, however, not only that these families owned far more pets than other households in the same community but also that few of the animals were older than 2.

"There was a very high turnover of pets in these families," Lockwood told me. "Pets dying or being discarded or running away. We discovered that in homes where there was domestic violence or physical abuse of children, the incidence of animal cruelty was close to 90 percent. The most common pattern was that the abusive parent had used animal cruelty as a way of controlling the behaviors of others in the home. I've spent a lot of time looking at what links things like animal cruelty and child abuse and domestic violence. And one of the things is the need for power and control. Animal abuse is basically a power-and-control

crime."

The dynamic of animal abuse in the context of domestic violence is a particularly insidious one. As a pet becomes an increasingly vital member of the family, the threat of violence to that pet becomes a strikingly powerful intimidating force for the abuser: an effective way for a petty potentate to keep the subjects of his perceived realm in his thrall. In 2005, Lockwood wrote a paper, "Cruelty Toward Cats: Changing Perspectives," which underscores this dynamic of animal cruelty as a means to overcome powerlessness and gain control over others. Cats, Lockwood found, are more commonly victims of abuse than dogs because dogs are, by their very nature, more obedient and eager to please, whereas cats are nearly impossible to control. "You can get a dog to obey you even if you're not particularly nice to it," Lockwood told me. "With a cat you can be very nice, and it's probably going to ignore you, and if you're mean to it, it may retaliate."

Whatever the particular intimidation tactics used, their effectiveness is indisputable. In an often-cited 1997 survey of 48 of the largest shelters in the United States for victims of domestic violence and child abuse, more than 85 percent of the shelters said that women who came in reported incidents of animal abuse; 63 percent of the shelters said that children who came in reported the same. In a separate study, a quarter of battered women reported that they had delayed leaving abusive relationships for the shelter out of fear for the well-being of the family pet. In response, a number of shelters across the country have developed "safe haven" programs that offer refuges for abused pets as well as people, in order that both can be freed from the cycle of intimidation and violence.

What cannot be so easily monitored or ameliorated, however, is the corrosive effect that witnessing such acts has on children and their development. More than 70 percent of U.S. households with young children have pets. In a study from the 1980s, 7-to-10-year-old children named on average two pets when listing the 10 most important individuals in their lives. When asked to "whom do you turn to when you are feeling sad, angry, happy or wanting to share a secret," nearly half of 5-year-old children in another study mentioned their pets. One way to think of what animal abuse does to a child might simply be to consider all the positive associations and life lessons that come from a child's closeness to a pet — right down to eventually receiving their first and perhaps most gentle experiences of death as a natural part of life — and then flipping them so that all those lessons and associations turn negative.

In a 2000 article for AV Magazine, a publication of the American Anti-Vivisection Society, titled, "Wounded Hearts: Animal Abuse and Child Abuse," Lockwood recounts an interview

he conducted for the New Jersey Division of Youth and Family Services in the early 1980s. He describes showing to “a perky 7-year-old boy” a simple drawing of a boy and a dog, playing ball inside a house and a broken lamp on the floor beside them. Lockwood asked the 7-year-old — a child who had witnessed his brother being beaten by their father, who was “reportedly responsible for the ‘disappearance’ of several family pets” — to describe what would happen next in the story of the boy in the picture. “He grew still and sullen,” Lockwood writes, “and shook his head slowly. ‘That’s it,’ he said in a matter-of-fact tone, ‘They’re all going to die.’ ”

Children who have witnessed such abuse or been victimized themselves frequently engage in what are known as “abuse reactive” behaviors, Lockwood said, re-enacting what has been done to them either with younger siblings or with pets. Such children are also often driven to suppress their own feelings of kindness and tenderness toward a pet because they can’t bear the pain caused by their own empathy for the abused animal. In an even further perversion of an individual’s healthy empathic development, children who witness the family pet being abused have been known to kill the pet themselves in order to at least have some control over what they see as the animal’s inevitable fate. Those caught in such a vicious abuse-reactive cycle will not only continue to expose the animals they love to suffering merely to prove that they themselves can no longer be hurt, but they are also given to testing the boundaries of their own desensitization through various acts of self-mutilation. In short, such children can only achieve a sense of safety and empowerment by inflicting pain and suffering on themselves and others.

In March I paid a visit to the newly established Veterinary Forensics Medicine Sciences program at the University of Florida, Gainesville. Directed by Melinda Merck, a veterinarian who serves as the A.S.P.C.A.’s senior director of veterinary forensics and as the “captain” of its new mobile C.S.I. unit, the program is the first of its kind at a major U.S. university. As animal abuse has become an increasingly recognized fixture in the context of other crimes and their prosecution, it is also starting to require the same kinds of sophisticated investigative techniques brought to bear on those other crimes.

Veterinary forensic students at the University of Florida are being trained in the same way that traditional crime-scene investigators are, taking courses in a wide range of topics: crime-scene processing; forensic entomology (determining the time of an animal’s injury or death by the types of insects around them); bloodstain-pattern and bite-mark analysis; buried-remains excavation; and forensic osteology (the study of bones and bone fragments).

“I love being around bones,” Merck proclaimed as she led me into the university’s C. A.

Pound Human Identification Laboratory, a sprawling, brashly lighted array of human skeletal remains arranged in meticulous piecemeal patterns on rows of shiny metal tables. “I find bones fascinating. There is a lot of information in them.” Merck, who testifies at animal-cruelty trials across the country, conducted the forensic osteology on the dog remains recovered from the mass graves on Michael Vick’s Virginia property in 2007.

The lab is one of the busiest of its kind in the world, enlisted for countless crime-scene investigations and archaeological digs and to help identify the victims of disasters, including those of the 9/11 attacks on the World Trade Center and Hurricane Katrina. The fact that one of the examining tables and adjacent bone-boiling and cleansing units have now been assigned to Merck for her own animal-forensic work and course instruction speaks volumes about the shifting perspective toward animal-cruelty crimes. “We have a really cool thing going on here,” Merck told me. “We have the collaborative effort of a lot of big-wig forensic specialists down here with years of experience.”

She led me over to her examining table. Set at one end was what she called “my box of evidence,” a picnic-cooler-size plastic container that held the excavated remains from a mass grave, part of an investigation she is conducting into a suspected dog-fighting operation in Georgia. “In most of our cases of animal cruelty, the bodies are not fresh,” she said. “They’re decomposed. They’re discarded. They’re hidden. And so the advanced post-mortem stage is where we really need to be experts.”

Merck’s 2006 book, “Forensic Investigation of Animal Cruelty: A Guide for Veterinary and Law Enforcement Professionals,” which she wrote with Randall Lockwood and Leslie Sinclair of Shelter Veterinary Services in Columbia, Md., contains a daunting list of the grisly things human beings do to animals: thermal injuries (immolation, baking, microwaving); blunt-force trauma; sharp-force and projectile injuries; asphyxiation; drowning; poisoning; ritual murders; and sexual assault. Merck spared no details in discussing such horrors over the course of a veterinary-forensics lecture I attended earlier that day, held in a conference room at a hotel near the university as part of a four-day seminar. Even Merck’s seasoned audience of out-of-town vets, A.S.P.C.A. disaster-response and investigative-team workers, community-outreach personnel and the chief legal counsel for New York City’s Humane Law Enforcement department could be heard gasping into their coffee mugs as Merck annotated, one after the next, screen-projected slides of stark brutality: blood-drenched dog-fighting pits; bludgeoned, internally hemorrhaging pets; bruised and mutilated canine sexual organs; a heavily duct-taped, paint-coated puppy and the fur-lined, nail-scraped oven walls from which the puppy struggled vainly to escape.

Those whose compassion compels them to confront and combat daily its utter absence are, of necessity, often forced to affect a passionless pose. Merck proceeded through her seminar with clinical speed and precision through a series of signature forensic cases. One of the first pivoted around the mystery of a missing Pomeranian whose owners were convinced had been stolen from their backyard. Merck called up the slide of a tiny skeleton she had rendered in her corner of the lab from remains found in a vacant lot not far from the Pomeranian owners' home. It looked like a wingless bat, the delicate brace of ribs bearing tiny symmetrical snaps on each side.

"What could have caused these," Merck asked, pointing her red laser at the breaks. "What could make a dog disappear so fast?"

"Man!" someone called out to bursts of laughter.

"What else," Merck said, smiling.

"A bird of prey!"

"Yep," Merck nodded. "Most likely a hawk. These two breaks are where the bird's talons grabbed hold of the dog. This is why forensic osteology is so important, and yet there's nothing in our standard veterinary training that teaches us how to look at bones properly."

Merck soon proceeded to the case of the puppy found four years ago in the oven of a ransacked community center in Atlanta. An outraged local prosecutor called Merck about the case and then showed up at her vet clinic one day with the dog's remains. "She brings me the puppy, and this . . . ," Merck said, the slide behind her now sapping the room's air, "is what she brings me."

Step by step, from the outer paint to the unraveled layers of duct tape to the dog's abraded nails and paws to the hem of an old T-shirt that was used as a leash, Merck's detailed forensic analysis of the victim and of the crime scene would be used to assemble a timeline of events. Ultimately, her analysis would help seal the conviction of two teenage brothers on multiple charges, including burglary, animal cruelty and — because the brothers had shown a number of children at the community center what they had done and then threatened them with their lives if they told anyone — additional charges of child abuse and terroristic threats.

The most common dynamic behind the cases cited that morning was that of a man abusing a family pet to gain control over, or exact revenge against, other family members.

Merck told of one puppy found buried in the backyard of a house. As Merck tells it, the dog belonged to the female friend of a woman who had recently left the man with whom she and her two children from a previous marriage were living. She and her children had moved in with the friend, someone who the man decided was keeping him and his estranged partner from reuniting. The girlfriend's pet, therefore, became for him the optimum vehicle for expressing his rage against both women.

"He tortured the puppy when the two women weren't home," Merck told me after her lecture that day. "He also tried to make two of the kids participate just to make it more heinous. So along with the animal cruelty, of course, we had child abuse."

Merck has made it her mission to urge other vets to report and investigate suspected cases of animal abuse, incorporating a few cautionary tales of her own into her lectures to point up the often dire consequences of failing to do so. One involved a man from Hillsborough County in Florida who was arrested for murdering his girlfriend, her daughter and son and their German shepherd. He had previously been arrested (but not convicted) for killing cats. In another story Merck tells, one related to her by a New York City prosecutor, a woman reported coming home to find her boyfriend sexually molesting her Labrador retriever, but the case never went to trial.

"My point on that one," Merck told me, "is that no one took precautions to preserve the evidence on the dog. And once it comes down to a he-said-she-said type of situation, you're lost. These types of cases are difficult enough even when we have all the evidence, in part because it's very hard for investigators and prosecutors to even consider that someone would do things like this. It's so disturbing and offensive, they don't know what to do about it. A lot of the work I do involves not just talking to vets but reaching out to law enforcement to make them more knowledgeable on these matters, to make them understand, for example, that things like sexual assault of children and animals are linked. They are similar victims."

On our way back to the hotel for an afternoon lecture on forensic entomology, Merck made a little detour to show me the A.S.P.C.A.'s new mobile C.S.I. unit, parked in a side lot of the vet school's farm-animal compound. Twenty-six-feet long, with its own climate-control, generator, examination room and surgical suite, digital microscope, X-ray machine, sexual-assault kit and anesthesia-oxygen machine, it is essentially a giant emergency room on wheels, allowing Merck and her crew to examine and care for animals at suspected crime scenes and to efficiently analyze and process evidence to ensure its integrity.

The van was an important part of the largest dog-fighting raid in American history last year, in which more than 400 dogs were rescued and 26 people from six states arrested. “We had two forensic teams on board for that,” Merck said. “We had to hit 25 different crime scenes in one day. We hit the first one at 7 a.m., and we finished up at around 6 a.m. the following morning.”

When I asked Merck if she thought incidents of animal cruelty were on the rise or if it was that we are now being more vigilant about them, she said that it is probably more the latter. “We’re more aware now,” she said, “but there is also more of a support system for responding to these incidents. When I started out as a vet 20 years ago, I was one of the few who would call if I got a suspicious case, and that was when such things were still a misdemeanor and it wasn’t law enforcement involved. It was animal control taking care of nuisance animals. Now with veterinarians I tell them you cannot not report, because you don’t know if what you’re seeing on the animal isn’t the proverbial tip of the iceberg.”

Merck then recalled for me a personal experience she most likes to relate in classes and seminars, what she’s dubbed “the tale of the good Samaritan and the savvy vet.” An Atlanta contractor pulled up to a house one morning where he was to perform some work. As he got out of his truck, he heard a dog screaming from the house next door, went over to investigate and saw through an open garage door a dog dragging its back legs and a woman standing beside it. The woman instantly began pleading to the contractor that the dog needed to be euthanized, but she said she couldn’t afford the vet bills. The contractor offered to take the dog to his vet, who, upon examining the dog, agreed that it was too debilitated to be saved. He then told the contractor that there was something suspicious about the case and that he was going to report it to animal services for whom Merck worked at the time as a consultant outside of her daily vet practice.

“They asked me to perform a necropsy,” Merck told me. “It turns out the dog was paralyzed from having been beaten so often. I reported what I found. Police went to the woman’s house to make an arrest. They found a badly bruised boy. And just like that both parents are being hauled off for child abuse. So there was a classic case of the system working like it should.”

Last November, Lockwoodwas asked to testify at the pretrial hearing in which a judge ruled that Tremayne and Travers Johnson would be tried as adults for the burning of Phoenix in Baltimore last year. Lockwood looked at dozens of pictures of Phoenix in order to select which images to present to A.S.P.C.A. staff members. “I could only find one that wasn’t overwhelmingly disturbing,” he told me. “It’s where she’s so bundled up in gauze and

bandages you can't really see anything. It's easy to empathize with burns because we've all been burned, and even if it's only minor, you realize how painful that is."

The matter of empathy, of course, goes to the heart of most of our inquiries into the nature of cruel acts and their possible causes. There seems to be little doubt anymore about the notion that a person's capacity for empathy can be eroded; that someone can have, as Lockwood put it to me, "their empathy beaten or starved out of them." To date, little is known about the Johnson twins' background beyond the fact that they both reportedly have chronic truancy issues and previous probation violations and were recently involved with a gang. Along with possible early abuse or genetic and biological components, Lockwood also spoke of the frequent association between environment and acts of violence, how poverty often creates the sense of persecution and injustice that makes some people feel justified in striking back in order to gain the sense of power and control they otherwise lack.

"What I have the most trouble relating to," Lockwood told me, "and the Phoenix kids might be indicative of this sort of thing, is the kind of cruelty that happens just out of boredom. I've had quite a few cases where I ask a kid, Why did you blow up that frog or set fire to that cat? and they don't respond with answers like 'I hate cats' or 'I didn't see that as a living thing.' Their answer is 'We were bored.' And then you have to ask yourself, Well, what about alternative pathways to alleviating this boredom? I have difficulty grasping what would be the payoff for setting fire to a dog."

Neuroscientists are now beginning to get a fix on the physical underpinnings of empathy. A research team at the University of Chicago headed by Jean Decety, a neuroscientist who specializes in the mechanisms behind empathy and emotional self-regulation, has performed fMRI scans on 16-to-18-year-old boys with aggressive-conduct disorder and on another group of similarly aged boys who exhibited no unusual signs of aggression.

Each group was shown videos of people enduring both accidental pain, like stubbing a toe, and intentionally inflicted pain, like being punched in the arm. In the scans, both groups displayed a similar activation of their empathic neural circuitry, and in some cases, the boys with conduct disorder exhibited considerably more activity than those in the control group. But what really caught the attention of the researchers was the fact that when viewing the videos of intentionally inflicted pain, the aggressive-disorder teenagers displayed extremely heightened activity in the part of our brain known as the reward center, which is activated when we feel sensations of pleasure. They also displayed, unlike the control group, no activity at all in those neuronal regions involved in moral reasoning and self-regulation.

"We're really just beginning to have an inkling of the neurophysiology of empathy," Lockwood told me. "I think empathy is essentially innate, but I also think empathy can be learned, and I know it can be destroyed. That's why having a better understanding of the neurophysiology will really help us. Just doing a social intervention on a person doesn't do any good if you're not aware of certain physiological deficits. As I heard someone put it at a recent lecture I attended, that would be like an orthopedist telling someone with a broken arm to lift weights. It won't do anything until the arm is set, and it actually might make things worse. I try to understand who the kids are who seem beyond reach, who seem to have truly impaired systems of empathy. And then I ask, Can that be restored?"

It turns out that just as recent brain-imaging studies have begun to reveal the physical evidence of empathy's erosion, they are now also beginning to show definitive signs of its cultivation as well. A group of researchers led by Richard Davidson, a professor of psychiatry and psychology at the University of Wisconsin, Madison, published a study in a March 2008 edition of the Public Library of Science One, showing that the mere act of thinking compassionate thoughts caused significant activity and physical changes in the brain's empathic pathways. "People are not just stuck at their respective set points," Davidson has said of the study's results. "We can take advantage of our brain's plasticity and train it to enhance these qualities. . . . I think this can be one of the tools we use to teach emotional regulation to kids who are at an age where they're vulnerable to going seriously off track."

To date, one of the most promising methods for healing those whose empathic pathways have been stunted by things like repeated exposure to animal cruelty is, poetically enough, having such victims work with animals. Kids who tend to be completely unresponsive to human counselors and who generally shun physical and emotional closeness with people often find themselves talking openly to, often crying in front of, a horse — a creature that can often be just as strong-willed and unpredictable as they are and yet in no way judgmental, except, of course, for a natural aversion to loud, aggressive human behaviors.

Equine-therapy programs, for example, are now helping an increasing number of teenagers who have severe emotional and behavioral issues, as well as children with autism and Asperger's syndrome. At Aspen Ranch in Loa, Utah, troubled teenagers are being paired off with wild mustangs that have been adopted from the Bureau of Land Management, each species ultimately managing to temper the other, a dynamic that has also proved very effective in teaching patience and empathy to prisoners in correctional facilities. In the Los Angeles suburb of Compton, there is a youth equestrian program called the Compton Junior

Posse. Teenagers clean stables, groom horses and then ride them in amateur equestrian events across Southern California. There are now bovine- and elephant-assisted therapy programs as well.

For Lockwood, animal-therapy programs draw on the same issues of power and control that can give rise to animal cruelty, but elegantly reverse them to more enlightened ends. “When you get an 80-pound kid controlling a 1,000-pound horse,” he said, “or a kid teaching a dog to obey you and to do tricks, that’s getting a sense of power and control in a positive way. We all have within us the agents of entropy, especially as kids. It’s easier to delight in knocking things down and blowing stuff up. Watch kids in a park and you see them throw rocks at birds to get a whole cloud of them to scatter. But to lure animals in and teach them to take food from your hand or to obey commands, that’s a slower process. Part of the whole enculturation and socialization process is learning that it’s also cool and empowering to build something. To do something constructive.”

Charles Siebert, a contributing writer, is the author, most recently, of “The Wauchula Woods Accord: Toward a New Understanding of Animals.”