

## ENVISIONING THE LETHAL CHAMBER

The history of the gas chamber is a story of the twentieth century.

But an earlier event that would subsequently figure into its evolution occurred one day in 1846, when a French physiologist, Claude Bernard, was in his laboratory studying the properties of carbon monoxide (CO), a colorless, odorless, and tasteless gas that would eventually be recognized as the product of the incomplete combustion of carbon-containing compounds. By that time the substance was already suspected of somehow being responsible for many accidental deaths, but nothing was known about the *mechanism* of its poisoning. Bernard therefore set out to explore its mysterious lethality by means of scientific experiment.

Bernard forced a dog to breathe carbon monoxide until it was dead, and immediately afterward opened the creature's body to examine the result. The Frenchman observed the blood of the lifeless canine spilling onto the table. As he examined the state of the organs and the fluids, what instantly attracted his attention was that all of the blood appeared crimson. Bernard later repeated this experiment on rabbits, birds, and frogs, always finding the same general crimson coloration of the blood.

A decade later Bernard conducted additional experiments with the gas in his laboratory-turned-killing chamber, carefully recording each of his actions as he proceeded. In one instance he passed a stream of hydrogen through the crimson venous blood taken from an animal poisoned by carbon monoxide, but he could not displace the oxygen

in the dead creature's venous blood. What could have happened to the oxygen in the blood, he wondered?

Bernard continued with other experiments designed to determine the manner in which the carbon monoxide could have made the oxygen disappear. Since gases displace one another, he naturally thought that the carbon monoxide could have displaced the oxygen and driven it from the blood. In order to confirm this, he tried to place the blood in controlled conditions, which would permit him to recover the displaced oxygen. He then studied the action of carbon monoxide on the blood by *artificial poisoning*. To do this he took a quantity of arterial blood from a healthy animal and placed it under mercury in a test tube containing carbon monoxide. He then agitated the entire setup in order to poison the blood while protecting it from contact with the outside air. After a period of time he looked to see if the air in the test tube that was in contact with the poisoned blood had been modified, and he determined that it was notably enriched with oxygen, at the same time that the proportion of carbon monoxide was diminished. It appeared to Bernard after repeating these experiments under the same conditions that there had been a simple exchange, volume for volume, between the carbon monoxide and the oxygen in the blood. But the carbon monoxide that had displaced the oxygen in the blood remained fixed in the blood corpuscles and could no longer be displaced by oxygen or any other gas, so that death occurred by the death of the blood corpuscles, or, to put it another way, by the cessation of the exercise of their physiological property that is essential to life.<sup>1</sup> Not long after performing one of these experiments, Bernard's health suddenly deteriorated, perhaps, in part, as a consequence of the poison carbon monoxide gas to which he was exposed during his morbid experiments.

Bernard's fate was all too common among early research chemists, who often made a practice of smelling, tasting, and otherwise coming into close contact with the gases they were studying. Such a premature death had also befallen another great explorer of deadly gases, Carl Wilhelm Scheele, the Swedish chemist and pharmacist who had perished after tasting too much of his hydrogen cyanide in mercury.<sup>2</sup>

Both Scheele and Bernard had focused their attention on the effect of gases *on the blood*—work that later would become central to understanding the lethal power of the gas chamber. Following in their footsteps, other scientists explored the effects of still more gases, conducting various experiments on small animals to test each gas's peculiar lethality.

By the mid-nineteenth century, several scientists were seriously exploring the lethal effects of all kinds of substances. As Bernard was conducting his initial experiments with carbon monoxide, others were discovering the properties of carbon dioxide—CO<sub>2</sub>—a heavy, odorless, colorless gas formed during respiration and during the decomposition of organic substances. In 1874 CO<sub>2</sub> was pumped into a chamber in the London pound to asphyxiate dogs, though not with very neat results, until the method was improved by inserting the animal into a chamber that had already been filled with the gas, at which time the killing was achieved with commendable humanity, according to the newspapers.<sup>3</sup>

In 1884 Sir Benjamin Ward Richardson, a British pioneer in anesthesiology, delivered a lecture to London's Society of Arts entitled "On the Painless Extinction of Life in the Lower Animals," in which he traced the history of gases and vapors that could be used to carry out the humane slaughter of dogs and cats. Richardson designed a wood-and-glass container, large enough to hold a Saint Bernard or several smaller animals, which was connected to a slender tank full of carbonic acid gas and a heating apparatus. At the time, unwanted horses, dogs, and other animals were a pressing social problem, seen as contributing to disease and other maladies, and animal euthanasia seemed to offer many benefits. Gases were already on everyone's mind, particularly in London, the world's largest city at the time and known for its filthy fog and foul vapors that belched forth from hundreds of thousands of coal-burning chimneys and steam engines. In one four-month stretch alone, the winter of 1879 to 1880, an estimated three thousand people perished from aggravated lung conditions, as the daytime air became so dark that pedestrians stumbled to their death in the Thames.<sup>4</sup> Residents coughed and choked in a sulfurous haze. It was precisely then and there, amid such foul pollution, that notions of a lethal gas chamber assumed greater currency, and "humane societies" throughout Europe adopted Richardson's lethal chamber to remove unwanted animals.<sup>5</sup> Scientists tested carbon dioxide as a possible cure to the animal overpopulation problem, oblivious to the fact that its use would only make the air worse for everyone.

At first such use was reserved for small animals, who were "put to sleep" behind closed doors, away from inquiring eyes, but soon many prominent eugenicists openly remarked about what others had only privately imagined: why not try it out on humans?<sup>6</sup> Writing at the dawn of the twentieth century, H. G. Wells often mentioned "lethal chambers for the insane" and mused that the "swarms of black, brown, and dirty-

white, and yellow people . . . have to go.”<sup>7</sup> Another British eugenicist of that time, Robert Rentoul, called for “degenerates” convicted of murder to be executed in a “lethal chamber.”<sup>8</sup> The novelist D. H. Lawrence gave “three cheers for the inventors of poison gas,” saying, “If I had my way, I would build a lethal chamber as big as the Crystal Palace, with a military band playing softly, and a Cinematograph working brightly, and then I’d go out in back streets and main streets and bring them all in, all the sick . . . the maimed; I would lead them gently, and they would smile me a weary thanks.”<sup>9</sup> The dramatist George Bernard Shaw also favored mass use of the lethal chamber.<sup>10</sup> Such talk became so prevalent that some commentators even began using the noun as a verb, saying so-and-so ought to be “lethal chambered.”

Yet although *eugenics* (“good birth”) and *euthanasia* (“good death”) were closely interrelated in language and thought, not all eugenics advocates supported euthanasia. Debates about the morality of eliminating mental defectives and other types of the “unfit” widened some major schisms within the eugenics movement. In the meantime, however, notions of using a lethal chamber for large-scale euthanasia nevertheless had become part of the public discourse.<sup>11</sup>

Another significant development in the discussion that would turn into the eugenics movement was set in motion in July 1874, when a frail and chronically ill gentleman from New York City, Richard Louis Dugdale, visited a dingy local jail in New York’s Hudson Valley as a volunteer inspector for the New York Prison Association. Dugdale was shocked to learn that six persons under four family names, all of them blood relatives to some degree, were incarcerated in the same Ulster County institution, and that of twenty-nine males who were their “immediate blood relations,” seventeen had been arrested and fifteen were convicted of various crimes. He decided to examine the family in order to determine how they had come to be so criminal. The sheriff directed Dugdale to two longtime residents of the area, one of them an eighty-four-year-old former town physician who obligingly provided detailed personal information about the prisoners’ kin, most of whom were his former patients. The researcher also culled data from local poorhouse records, court and prison files, and interviews with local residents, which he wrote up in the *Boston Medical and Surgical Journal* and in a little book on the subject, *The Jukes: A Study in Crime, Pauperism, Disease, and Heredity*, which was published by G. P. Putnam’s Sons in 1877.

In his book he claimed that the six prisoners “belonged to a long

lineage, reaching back to the early colonists, and had intermarried so slightly with the emigrant population of the old world that they may be called a strictly American family. They had lived in the same locality for generations, and were so despised by the reputable community that their family name *had come to be used generically as a term of reproach.*" Dugdale said he had traced the family's Hudson Valley roots back seven generations to a colonial frontiersman named Max, a descendant of the early Dutch settlers who lived in the backwoods as a "hunter and fisher, a hard drinker, jolly and companionable, averse to steady toil." His genealogical research indicated that different branches of the family had experienced characteristic types of failure. One branch that appeared to have produced an inordinate number of criminals was traced back to a woman "founder," Margaret, whom Dugdale called the "Mother of Criminals," who had married one of Max's sons. Presenting large genealogical charts and descriptions of each family member, each listed only by first name or code, Dugdale concluded that of 709 Jukes or persons married to Jukes, more than 200 had been on relief and 64 ended up in the poorhouse, indicating a tendency that was several times greater than that of other New Yorkers. Eighteen had kept brothels, 128 had been prostitutes, and more than 76 were convicted criminals. The author estimated their social problems had cost the public, through relief, medical care, police arrests, and imprisonment, a total of \$1,308,000 (about \$20.9 million in today's dollars)—a figure that astounded and appalled many taxpayers.

Dugdale's strange study was hailed as a landmark work in social science, in part because he had conducted extensive field research to attempt to address the question of whether hereditary or environmental factors were more responsible for pauperism, crime, and other social maladies. Although the author did not definitively ascribe the Jukes' social pathology solely to heredity, and had left open the possibility that what they had actually inherited was a common environment, subsequent writers used Dugdale's book to buttress their claims about biological or innate inferiority. The study made the Jukes the most notorious and despised clan in the world, but few persons outside Ulster County knew their true identity because Dugdale had used a pseudonymous surname. Although he had explained the name that he had chosen—it was derived from the slang "to juke," which referred to the erratic nesting behavior of chickens, which deposited their eggs wherever it was convenient—some readers may have also thought the name sounded like "Jews."

Forty years after Dugdale's study first appeared, a field worker employed by the Eugenics Record Office in Cold Spring Harbor, New York, Arthur H. Estabrook, conducted a follow-up study using Dugdale's original records and code sheet. In it, Estabrook claimed to have traced 1,402 additional members of the Jukes clan and found that they were as "unredeemed" and as plagued by "feeble-mindedness, indolence, licentiousness, and dishonesty" as their predecessors. Dugdale's report, the Estabrook update, and other related works all helped to build an empirical foundation for views about "degenerate" classes and what needed to be done about them. It would not be for many more decades that people would begin to expose the studies' methodological flaws.<sup>12</sup>

Eugenics rapidly caught on all over the Western world, including the United States. America had only recently ended its practice of slavery, and it continued to treat blacks as second-class citizens. It was also still cleaning up from its policies of genocide, relocation, imprisonment, and ethnic cleansing directed against the Native Americans. Eugenics dovetailed readily with other already established American notions such as manifest destiny, racial segregation, and a reliance on capital punishment.

Max Weber characterized the modern state as monopolizing the means of legitimate physical violence in the enforcement of its order. Coincidentally, discussions in the United States regarding eugenics, euthanasia, and the lethal chamber occurred just as the modern state was taking over the execution process from local powers that heretofore had entrusted their hangings to lynch mobs or the local sheriff.<sup>13</sup> Prior to 1900, lynching was more common than official execution as the predominant mode of the death penalty in the United States, claiming more lives over the course of American history than legal capital punishment. Of 3,224 Americans lynched between 1889 and 1918, 702 were white and 2,522 were black; many of those killed were strung up for such crimes as talking boldly to a white man or eyeing a white girl, and all of them were killed without the benefit of due process.<sup>14</sup> During the same period, 1,080 convicted defendants were officially put to death under state authority, of which slightly fewer than half were white.<sup>15</sup>

In New York, one way that the consolidation of state power was manifested involved a sweeping change in the entire manner of official executions. In 1885 a new governor, David B. Hill, rode into office, saying, "The present mode of executing criminals by hanging has come

down to us from the dark age and it may well be questioned whether the science of the present day cannot provide a means for taking the life of such as are condemned to die in a less barbarous manner.”<sup>16</sup> Determined to find a better method of execution, he appointed to study the matter a blue-ribbon commission consisting of a prominent lawyer, a physician, and a descendant of one of the signers of the Declaration of Independence who was counsel to the Society for the Prevention of Cruelty to Animals. The commission circulated a questionnaire asking respondents if they favored a substitute to hanging, and added that the following options had been proposed: 1) electricity; 2) Prussic acid (also known as hydrogen cyanide, hydrocyanic acid, or HCN) or other poison; 3) the guillotine; 4) the garrote. For further assistance the commission called on the New York Medico-Legal Society, an influential body of medical and legal experts involved in shaping medical jurisprudence. In 1878 the society had hosted a lecture by Professor J. H. Packard of Philadelphia, who recommended that hanging be replaced by the most painless method available, which he claimed was sulfuric oxide gas, administered by means of the lethal chamber.<sup>17</sup> (Sulfuric dioxide was the gas Napoleon’s army allegedly used to murder captive slaves in Haiti.)

As the commission went about its task, Dr. J. Mount Bleyer, a New York physician and self-proclaimed opponent of the death penalty, emerged as one of the New York Medico-Legal Society’s most energetic advocates of chemical execution. Bleyer carefully assessed a number of never-before-administered alternatives to hanging, including lethal injection, electrocution, and the lethal chamber, but his proposal that a hypodermic needle might be used to inject a fatal dose of morphine did not go over well with other members of the medical community. The notion of utilizing an electrical device received much more favorable reception, in part because it was viewed as a more powerful deterrent to crime. He also proposed that a large dose of chloroform might be held over the condemned prisoner’s mouth and nostrils, but this, too, was rejected because it was considered to seem like a mercy killing or euthanasia rather than capital punishment. Besides, it might prove difficult to administer to a struggling convict, and also, to be effective it would require that the execution be carried out on an empty stomach, and some thought this violated the time-honored custom of allowing the condemned to enjoy a last meal of his choice.<sup>18</sup>

In addition to Bleyer, other members of the medical community also weighed in. One of these was Allan McLane Hamilton, M.D.,

a prominent alienist and forensic specialist and a direct descendant (and biographer) of Alexander Hamilton whose work treating nervous diseases had led him to experiment with a number of innovative approaches, including electro-therapeutics and the use of nitrous oxide. Hamilton, who had also studied criminals' brains and attended numerous executions and autopsies, favored the lethal chamber. He proposed sentencing a prisoner to be put to death during a certain week, without specifying the precise date. Unbeknownst to the condemned, the condemned prisoner's cell would be "hermetically sealed" and fitted with pipes leading to a furnace or engine. Carbon dioxide or carbon monoxide could then be pumped in while he was asleep. The unsuspecting convict would never awaken, thereby being spared the fear and pain of an ordinary execution. The witnesses would also avoid the usual distasteful public spectacle, and yet justice would be done.<sup>19</sup>

One New Yorker who liked Hamilton's idea of using lethal gas instead of electrocution was J. Sloat Fassett, a Republican state senator from Elmira who had studied at the University of Heidelberg in Germany (and who later would serve as a congressman and secretary of the Republican National Committee).<sup>20</sup> Fassett was among those who favored gas execution. But Hamilton's idea didn't catch on initially, in part because not everyone was convinced that gas technology was up to the task yet. As a result, the commission rejected the proposal for the lethal chamber in favor of electrocution, although the place in the prison where the executions were carried out came to be called the "death chamber" rather than the gallows.<sup>21</sup>

New York wasn't the only state to consider gas executions. In 1886 the Medical Society of Allegheny County, Pennsylvania, completed its own study of death-penalty methods by concluding that the "most humane method is to extinguish the life of the criminal sentenced to death by the use of gas." It contended that "the gas chamber will be at once more effective, cheaper, and less repugnant to the gentler sentiments than the electric chair."<sup>22</sup> Henry M. Boies, a penologist for the Pennsylvania Board of Public Charities, went further by saying that it was "established beyond controversy that criminals and paupers, both, are degenerate; the imperfect, knotty, knurly, worm-eaten, half-rotten fruit of the race." Society, he said, needed to take a multifaceted approach that included preventive and reformatory measures. In his view, "The 'unfit,' the abnormal, the sharks, the devil-fish, and other monsters, ought not to be liberated to destroy, and multiply, but must be confined and secluded until they are exterminated."<sup>23</sup>



Such calls were taken seriously, and some sought to make them a reality. In 1899 W. Duncan McKim, a prominent New York physician and eugenics advocate, argued, “The surest, the simplest, the kindest, and most humane means for preventing reproduction among those whom we deem unworthy of this high privilege [of human reproduction], is a gentle, painless death.” McKim aimed his plan at “the *very* weak and the *very* vicious, *who fall into the hands of the State, for maintenance, reformation, or punishment*”—idiots, imbeciles, most epileptics, insane or incorrigible criminals, and a few other classes. To eliminate them, he recommended the use of carbonic acid gas (also known as carbon dioxide, the gas that had been widely used to euthanize animals).<sup>24</sup> At the time, McKim’s view was widely shared in the United States; *The Nation* magazine of November 1, 1900, recommended his work to “all good citizens interested in human progress.” But still, gas executions remained just an idea whose time hadn’t come.

By 1916 the public discourse regarding the lethal chamber seemed to have entered a new phase. Much of the talk about it increasingly straddled the boundaries governing “putting stray animals to sleep,” sterilization, and other forms of birth control, and the moral imperative of devising “humane methods” to execute criminals and “euthanize” mental defectives and other members of the “unfit” classes. Americans seemed to have become more comfortable with lethal-chamber technology. In 1915 the Society for the Prevention of Cruelty to Animals in New York City announced that it had eliminated 276,683 animals; during the first three weeks of that year alone, responding in part to reports that germs from infected animals might lead to infantile paralysis, it gassed an astonishing 72,000 cats and 8,000 dogs.<sup>25</sup>

But removing unwanted animals was one thing; addressing the human being was another matter. Popular anxiety about class, immigration, and race mixing came together in 1916 when the blue-blood American conservationist and eugenicist (and director of the Bronx Zoo) Madison Grant brought out his popular book *The Passing of the Great Race: The Racial Basis of European History*, a work that would exert considerable influence over the next twenty-five years, particularly in Germany. “Mistaken regard for what are believed to be divine laws,” he wrote, “and a sentimental belief in the sanctity of human life tend to prevent both the elimination of defective infants and the sterilization of such adults as are themselves of no value to the community.” Instead, Grant insisted, the “laws of nature require the obliteration of the unfit”—the extermination of defectives—because

“human life is valuable only when it is of use to the community or race.”<sup>26</sup>

In his popular book, the most explicit statement of racist ideology ever published in the United States, Grant’s hatred for democracy and the immigration of “inferior peoples” knew no bounds. He expressed special disdain for “the Polish Jew . . . with his dwarf stature, peculiar mentality and ruthless concentration on self-interest.” According to Grant, “a cross between any of the three European races and a Jew is a Jew.” But Jews were not his only targets. His categories of inferiority extended to other races as well—indeed, to anyone who did not meet his definition of white Anglo-Saxon.<sup>27</sup>

Grant’s views were widely shared among a hard core of leading eugenicists such as the biologist and American eugenics organizer Charles Davenport and Lothrop Stoddard, the Boston Brahmin political scientist and leading anti-Bolshevik who labeled the Jew as “the cause of world unrest.” Many such ideas also enjoyed support among many liberals, such as the government chemist and Pure Food and Drug Act pioneer Dr. Harvey W. Wiley, birth control advocate Margaret Sanger, and civil rights lawyer Clarence Darrow, who said it was *just* to “chloroform unfit children . . . [and] show them the same mercy that is shown beasts that are no longer fit to live.”<sup>28</sup> William J. Robinson, a New York urologist and leading authority on birth control, eugenics, and marriage, wrote that the best solution would be for society to “gently chloroform” the children of the unfit or “give them a dose of potassium cyanide.” Robinson also insisted that splitting hairs about any of their “individual rights” should never be allowed to trump the preservation of the race. “It is the acme of stupidity,” he wrote, “to talk in such cases of individual liberty, of the rights of the individual. Such individuals have no rights. They have no right in the first instance to be born, but having been born, they have no right to propagate their kind.”<sup>29</sup>

Grant’s views helped provide more of a political foundation for the lethal chamber. Across the country his friend Paul Popenoe, the leader of California’s powerful eugenics movement, also endorsed the lethal chamber as a sensible response to society’s woes. “From an historical point of view,” he wrote in his popular text *Applied Eugenics* (1918), “the first method which presents itself is execution. . . . Its value in keeping up the standard of the race should not be underestimated.”<sup>30</sup>

In 1916, the same year that Grant’s book appeared, Allan McLane Hamilton released a memoir in which he recounted having witnessed

a grisly double execution in Sing Sing prison's famous electric chair several years earlier. The first inmate, he wrote, had been "a degenerate Italian" who was quickly reduced to "a limp thing," although a convulsion had caused the prisoner's right hand to "coincidentally" raise the crucifix he had been clutching. The second condemned convict was a burly German who had strangled his wife in a fit of jealousy. The execution did not go as smoothly, for it required the warden to order a second jolt, thereby causing the "distressingly perceptible and horrid" smell of burning flesh to permeate the execution chamber. "It was not long," wrote Hamilton, "before my nervous system and stomach rebelled and I hurried to the cool outer air and left Sing Sing as soon as I could." The famous physician said that for years afterward, he remained haunted by the brutality of the electrical execution he had witnessed, adding that it made him wish that the more humane alternative of gas had been used instead.<sup>31</sup>

Hamilton's words arrived just as humankind was experiencing another impetus for the realization of early visions of the lethal chamber. That new crucible was the battlefield of modern war.