

## The Science of Death

In a small town in the *département* of the Tarn in September 1839, the body of Mathieu Dauzats was discovered hanging in the stable of his home in an apparent suicide. Due to rumors of foul play, the local justice of the peace summoned two doctors to perform an autopsy. They determined that the corpse did not display signs consistent with a hanging. They also found that Dauzats's genitals were wounded and bloody, but his clothing was free of blood stains. The medical experts' report suggested that his hanging was staged postmortem, presumably in order to conceal a murder. The investigation revealed familial strife stemming from Mathieu's reluctance to hire a substitute for his twenty-two-year-old son so that Joseph could avoid military service and conscription. The Tarn assize court tried Joseph and Mathieu's wife Catherine Beauté for murder. The jury found both guilty. The day after they were condemned and sentenced to death, they confessed to attacking and killing Mathieu. They had squeezed his genitals until he fainted and then suffocated him until he died. Catherine and Joseph later revealed that they were in an incestuous relationship – the underlying reason for their crime. In 1840, Mathieu Orfila, the eminent professor of legal medicine, published a study on hanging that centered on the Dauzats affair, but the significance for Orfila was the science of the hanging – not the oedipal drama surrounding the murder.<sup>1</sup> Ambroise Tardieu, professor of legal medicine at the medical faculty in Paris, observed that doctors' ability to distinguish between suicide by hanging and homicide could prevent the kinds of miscarriages of

justice that had been seen under the Old Regime, such as the conviction and execution of Jean Calas for the murder of his son who had actually committed suicide.<sup>2</sup>

Revolutionary and post-Revolutionary leaders sought to rely upon medical experts to help uphold laws and bring transgressors of the law to justice, while safeguarding the innocent. The introduction of trials by jury shifted the balance of power in the courtroom from magistrates to ordinary citizens and expanded the role of medicolegal practitioners who presented their findings to both investigating magistrates and jurors. Revolutionaries transformed the field of legal medicine by abolishing venal office holding in 1789 and reestablishing a system of medical and university training with newly appointed chairs in legal medicine at the medical schools in Paris, Strasbourg, and Montpellier in 1794. A subsequent 1803 law specified that medical experts summoned by judges to intervene in legal investigations and trials needed to have the requisite formal educational training in medicine or surgery.<sup>3</sup> French law effectively excluded women from the ranks of court summoned medical experts in the nineteenth century. Male practitioners of legal medicine in Revolutionary and nineteenth-century France presented themselves as guardians of justice who applied their scientific and medical knowledge for the good of society and the state. They also had an expansive view of the scope and functions of legal medicine and commonly defined the field as the application of all knowledge pertaining to medicine and auxiliary sciences to matters pertaining to law, justice, governance, and public administration.

Death investigation was a central aspect of forensic medicine. However, doctors struggled with uncertainty in defining and evaluating signs of death at the same time as popular fears of premature burial and being buried alive abounded. Many doctors shared and stoked these fears. They debated the problem of “apparent death,” or persons seemingly dead but actually alive. Concerns about doctors’ abilities to diagnose death gave rise to debates about the necessity of establishing waiting mortuaries to house bodies until the onset of putrefaction and other measures to prevent persons from being buried prematurely and alive. Verifying death was the first step for doctors conducting autopsies, including those performed at the Paris morgue, where death was on display for public view and entertainment. Medical practitioners

performing autopsies often faced considerable difficulties in distinguishing between homicides, suicides, and natural or accidental deaths and in determining the cause of death. As forensic knowledge became popularized, some criminal offenders attempted with varying degrees of sophistication and success to evade detection by staging homicides as suicides and mutilating, dismembering, or incinerating bodies. Criminal dismemberment and grisly murders captured the cultural imagination. Many causes célèbres and lesser-known trials highlighted the strengths and shortcomings of forensic expertise. As the field gained prominence, it attracted greater scrutiny and calls for reform. Nonetheless, over the course of the nineteenth century, practitioners of forensic medicine projected greater confidence in their abilities to evaluate suspicious or violent deaths, as they sought to increase the visibility and status of their profession.

### **Diagnosing Death**

Dead bodies, or those seemingly dead, generated anxiety and interest among the French public. A preoccupation with the problem of “apparent death” and premature burial initially emerged in the mid-eighteenth century. Some scholars suggest that nineteenth-century physicians did not share their Old Regime predecessors’ uncertainty over the signs of death.<sup>4</sup> However, uncertainty persisted, and popular anxieties about apparent death and premature burial actually intensified in the nineteenth century. This period saw an explosion of medical literature on uncertain signs of death and premature burial. By discounting lay persons’ abilities to interpret uncertain signs of death, doctors sought to expand their roles in verifying death and to advance their profession.<sup>5</sup>

Medical practitioners promoted various means of resuscitation to combat the problem of “apparent death.” In 1790 Jean-Baptiste Desgranges, a physician and surgeon in Lyon, wrote about the uncertainty of signs of death, particularly among drowned persons. He called for more resources and establishments dedicated to the treatment and resuscitation of drowned persons and those presumed dead, including the use of tobacco smoke enemas.<sup>6</sup> This method of treating apparent death typically involved using a tube and bellows to inject tobacco smoke into the rectum. By the late eighteenth century, these

devices were supplied in resuscitation kits for drowning victims at various points along major rivers in Western Europe, including the Thames, Seine, and Rhône. Tobacco smoke enemas remained a common method of resuscitating persons presumed dead in the decades that followed.<sup>7</sup> Medical practitioners advised their use for testing life and apparent death and stimulating respiration through the 1880s, although by that point they had been eclipsed by other means of resuscitation, including chest compressions and mouth to mouth resuscitation.<sup>8</sup>

Revolutionary writers concerned about the problem of apparent death demanded government action. In 1790 the renowned *salonnière* and writer Suzanne Necker published *Premature Burials*, in which she lamented that there were no laws or regulations in France addressing the problem. Necker urged the French state to enlist medical practitioners throughout the country to perform tests in the presence of witnesses to verify that death was “absolute” and then provide a death certificate. Necker also called for the construction of well-ventilated buildings to serve as waiting mortuaries, where a surgeon would perform a variety of tests, including applying friction and a hot iron, on those presumed dead in order to confirm that they were truly deceased. Necker also recommended that the government pay a reward to anyone brought back to life.<sup>9</sup>

The Revolutionary and Napoleonic governments implemented legal reforms concerning the verification of deaths and burials. Revolutionary legislators passed a decree on September 20, 1792 that created the *état civil*, or civil registry, to register the births, marriages, and deaths of all French citizens. It required all deaths, including stillbirths, to be registered by public officials in the civil registry. Corpses that displayed signs of violent death could not be buried until authorities filed an official report; however, this law did not prescribe a role for medical practitioners. This omission was a crucial problem in the minds of those concerned about the problem of apparent death. On October 13, 1800, the Prefect of the Seine declared a simple declaration of death by relatives or neighbors was not sufficient, since uncertain signs of death could mislead them. The Prefect decreed that mayors and municipal officials would appoint *officiers de santé* to verify deaths. In 1806 physicians with more formal medical education replaced *officiers de santé*, and the number of medical practitioners

appointed to verify deaths in Paris grew over the course of the nineteenth century.<sup>10</sup> These measures were restricted to Paris and its environs, but the promulgation of the Civil Code in 1804 brought nationwide change. Article 77 of the Napoleonic Code prohibited the burial of bodies prior to twenty-four hours after the official declaration of death but did not obligate medical practitioners to verify death. However, Article 81 required the involvement of doctors in cases of suspicious or violent deaths and prohibited the burial of the body until authorities drew up a formal report on the state of the corpse. This latter measure implicitly recognized the importance of medical expertise in detecting crime.

Some doctors suggested that the greatest danger surrounding premature burial was not people being buried alive but murders going undetected. In 1818 the physician Jean-Baptiste Monfalcon insisted that doctors must perform an attentive medical examination not only to verify death but also to ensure that a suspicious death resulted in an autopsy. Moreover, he claimed that some inattentive doctors performing autopsies had not first verified death and plunged their scalpels into living persons whom they presumed dead. He noted that doctors could perform a wide variety of tests for life, including placing a candle flame or mirror in front of the mouth or nostrils to check for breathing; using tobacco smoke enemas; applying boiling oil or water, an actual cautery, or blistering agents to the flesh; or resorting to painful surgical procedures. Nonetheless, Monfalcon observed that these tests were not infallible, and some extreme ones, such as a surgeon making an incision into the heart and using his finger to verify that the heart was motionless, were “a great way to kill a man who was still living.”<sup>11</sup> Monfalcon and other medical practitioners agreed that the most certain sign of death was putrefaction.

Beyond this consensus about putrefaction, doctors disagreed about the fallibility of signs of death and the solution to the problem of apparent death. In the early nineteenth century, doctors cast doubt on the diagnostic value of cadaveric rigidity as a certain sign of death, in part due to the anatomist Marie-François-Xavier Bichat’s research on the physiology of death. Some claimed that all signs of death were fallible except putrefaction yet warned that the answer was not for people to keep corpses in their homes until decomposition, which posed a danger to health. They rather demanded the establishment of

waiting mortuaries, modeled after the *Leichenhäuser* constructed in Germany in the early nineteenth century, in cemeteries throughout France to house bodies until the onset of putrefaction. In 1818 Orfila's book on the distinction between real and apparent death identified putrefaction as the surest sign of death but warned of the dangers of waiting until a body was clearly putrefying before burying it. Orfila also rejected the commonly held view that lay persons could easily assess the onset of putrefaction and insisted that only medical practitioners could.<sup>12</sup> Those sharing Orfila's views dismissed the establishment of waiting mortuaries without a full staff of doctors as futile and unnecessary. In 1829 the physician Charles-Chrétien-Henri Marc articulated his own objections to waiting mortuaries, concerning their costs and the problem of personnel who lack medical education and the ability to remain hypervigilant day in, day out after surveilling thousands of corpses. Marc deemed the utility of waiting mortuaries "illusory." He considered other measures adopted or proposed by Germans to prevent premature burial, such as attaching to a corpse's toe a cord leading to a bell that would ring with the slightest movement, misguided as well. Marc and other like-minded physicians insisted that the answer was relying upon doctors to verify death, primarily based on either putrefaction or the use of a "Voltaic pile," the first electric battery, to test muscle spasms or twitches. Marc also lamented that French law did not require doctors or surgeons to verify death and to determine cause of death and that only the city of Paris had adopted a sufficient system of death verification.<sup>13</sup>

During the 1830s, proliferating publications on the subject of apparent death called for a greater role for medical experts in verifying death. C. F. Tacheron, a physician charged with verifying deaths in Paris, expressed grave concerns about crimes going undetected. In 1830, after ten years of service in his position, Tacheron insisted that the Parisian system should be extended throughout France and that the legal verification of death should be confined to physicians who had studied legal medicine and who carefully crafted clear and intelligible reports for magistrates. In French communes where there were no such doctors, he recommended that either *officiers de santé* or midwives perform this function.<sup>14</sup> Prosper Touchard, an *officier de santé*, similarly argued that it was completely unacceptable that mayors instead of medical practitioners verified death in the French countryside.

He demanded immediate change in the name of justice. He declared, “This state of affairs cannot last. It is contrary to common sense, to justice. It is hostile to the preservation of society. It favors murders and poisonings in the countryside by giving hope of impunity, which the inability of those chosen to examine cadavers promises.”<sup>15</sup> The pharmacist and chemist Jean-Sébastien-Eugène Julia de Fontenelle’s 1834 book on uncertain signs of death and the dangers of hasty burials also insisted that France’s system, in which mayors or other civil servants without any medical training verified death, was “absurd,” especially given the difficulties that even the most knowledgeable and well trained medical practitioners had in interpreting uncertain signs of death.<sup>16</sup> In 1834 doctor Alphonse Devergie, who copublished the journal *Annales d’hygiène publique et de médecine légale*, founded in 1829, observed that while medical practitioners could verify death through an external bodily examination, they must open up the cadaver in cases of suspicious deaths in order to identify cause of death and manner of death, whether a homicide, suicide, or accident, or else risk crimes going unpunished.<sup>17</sup>

During this period of keen interest in the subject of apparent death, the Italian physician Pietro Manni donated 1,500 francs to the Academy of Science to award a prize for the best work on the question of apparent death. The Academy held competitions in 1839, 1842, and 1846. On the third occasion, the Academy found a recipient they deemed worthy: the physician Eugène Bouchut. He proposed using the stethoscope, invented by René Laënnec in 1816, to determine death by verifying the absence of a heartbeat. Bouchut later published his findings in a lengthy treatise on the signs of death in 1849. He rejected waiting mortuaries as useless and costly. Rather he proposed extending the system of doctors verifying death in Paris and certain other French cities to the countryside.<sup>18</sup> In 1848 the Academy of Science’s Manni Prize committee published a report praising Bouchut’s work. It also identified the following signs of death as “certain”: the cessation of heartbeat, cadaveric rigidity (rigor mortis), the absence of muscular contractility under the influence of electricity, and general decomposition. The report declared that only doctors could assess these signs, with the exception of putrefaction, and that doctors alone must verify deaths in both cities and the countryside. The committee also concluded that doctors’ assessment of the signs of

death rendered waiting mortuaries useless.<sup>19</sup> However, the committee's report was not the final word on the subject, and debates within and beyond the medical community continued.

Physicians offered novel solutions to the problem of uncertainty in diagnosing death. Some physicians proposed pinching nipples with a tenaculum, a surgical clamp with sharp hooks, or with a special instrument designed expressly for the purpose of verifying death or rousing a person from a state of apparent death.<sup>20</sup> In 1861 Dr. Plouviez proposed acupuncture of the heart with a steel needle as a means of distinguishing real from apparent death, and the Society of Practical Medicine in Paris deemed Plouviez's method an improvement upon Bouchut's.<sup>21</sup> In 1862 Dr. Léon Collongues published a book on a new model of auscultation. He recommended sticking the patient's finger into the doctor's ear in order to detect a buzzing sound if the person were still live.<sup>22</sup> Nevertheless, the prospect of presumably dead bodies not being seen by any doctor or subjected to any of these competing methods distressed those concerned about the problem of apparent death.

Consequently, physicians, social commentators, and some politicians continued to demand legal and policy change. In 1863 doctor Antoine Barrangeard insisted that each city, town, village, and commune needed a system of death verification and certification that involved doctors or death inspectors who were salaried by the French state or the local commune, able to distinguish between real and apparent death, and vigilant about suspicious deaths. Barrangeard warned about cases of greedy heirs, treacherous spouses, or other hateful persons committing horrible murders that were "covered by a thick veil by the lack of the regular inspection of the deceased."<sup>23</sup> Other authors expressed similar warnings, and citizens who were concerned about apparent death wrote to their legislators. As a result, the issues of apparent death, undiscovered murders, and premature burial reached the Senate floor in 1865, 1866, and 1869. During Senate debates in 1866, Cardinal Ferdinand-François-Auguste Donnet, Archbishop of Bordeaux, declared that he was nearly buried alive after a doctor had declared him dead forty years earlier.<sup>24</sup> Political pressure spurred the Ministry of Interior to publish, on December 24, 1866, a circular outlining measures to combat the problem of hasty burials. The circular stipulated that the mayor of



every commune should appoint one or more doctors or surgeons, or *officiers de santé* in their absence, as official death verifiers who would alert authorities about signs of violent death. The Minister of the Interior also identified two signs of death, putrefaction and cadaveric rigidity, as “infallible.”<sup>25</sup>

However, the certainty or fallibility of various signs of death remained highly contested. Wealthy benefactors incentivized prolonged controversy. In 1867 the Marquis d’Ourches donated 20,000 francs to the Academy of Medicine to be awarded for a work identifying an unequivocal sign of death that lay persons could recognize and another 5,000 francs for a reliable method of diagnosing death that required a doctor’s intervention. Another donation in 1874 to the Paris Academy of Sciences established a similar prize, the Prix Dugate.<sup>26</sup> Many leading figures in legal medicine insisted that interpreting the complexities of the numerous, varied signs of death required medical expertise and should not be left to laypersons. Reporting on behalf of the Health Department of the Seine, Devergie proclaimed in 1867, “Declaration of death can only be entrusted to a doctor. Medical science alone has sure means of recognizing the state of real death and distinguishing it from the state of apparent death.”<sup>27</sup> In 1875 Gabriel Tourdes, professor of legal medicine in Strasbourg, dismissed the public’s preoccupation with identifying a single sign of death as misguided and dangerous:

The public demands a single, infallible sign that everyone can perceive as the surest guarantee against the danger of being buried alive. But this guarantee is illusory if the appreciation of the sign is left to a person who is a stranger to the art of medicine. The surest sign may be poorly ascertained. Error is more likely and more serious when the observation concerns only one point.<sup>28</sup>

Tourdes suggested that the medical community was partly to blame for this preoccupation with premature burial by irresponsibly responding to and stoking public fears through circulating often apocryphal stories about apparent death and persons being buried alive. He claimed that the issue of apparent death generated so much medical commentary that “no aspect of medical literature is richer.” Tourdes deemed this body of literature extremely problematic, “since the science is cluttered with uncritically accumulated facts and tales inspired by imagination or by fear.”<sup>29</sup>

The science of apparent death was also gendered, as medical men viewed women as particularly prone to medical conditions that could be mistaken for death. Marc claimed that doctors' verification of death was especially important for women, whose nervous systems were more "excitable" than men's and who were more susceptible to conditions that could simulate death, such as hysteria, hypochondria, catalepsy, syncope or loss of consciousness, lethargy, and heavy blood loss.<sup>30</sup> Doctors maintained that menstrual bleeding could produce loss of consciousness and a state of apparent death. They also observed that pregnancy and childbirth presented even graver dangers and risks. Noting that verifying the absolute loss of life in pregnant women could be quite difficult, Marc cautioned fellow doctors to avoid hastily declaring their death, since a premature or erroneous declaration could result in the death of both the mother and fetus. However, doctors had a short window of time to save the life of the fetus after a woman's death. Marc observed that uncertainty about the signs of death was the only reason for doctors not to extract a fetus immediately. At a time when cesarean sections rarely resulted in preserving the life of both mother and child, doctors widely advocated only performing a cesarean operation after the death of the mother in order to try to save the life of the child. But, these doctors observed that if a woman was in a state of apparent death, the procedure would kill her. Consequently, Marc and others advocated extracting the fetus from a deceased or apparently dead woman without making incisions into her abdomen.<sup>31</sup> Additionally the problem of apparent death at the time of childbirth could afflict not only mothers but also their newborns. Published works on apparent death among newborns proliferated, particularly during the second half of the nineteenth century.<sup>32</sup> Meanwhile, medical men continued to return to the problem of apparent death among women in all stages of the lifecycle and stressed the prevalence of hysteria among women. In 1875, Tourdes claimed that "hysterical syncope" was the most common form of apparent death.<sup>33</sup>

The final years of the nineteenth century saw no shortage of works proposing solutions to the problem of apparent death. Debates about the utility of waiting mortuaries were ongoing. In 1890 Doctor Manni won the Prix Dugate for his simple assertion that the only reliable sign of death was putrefaction. He advocated for the establishment of mortuaries in cemeteries where the presumably deceased could remain

until the onset of putrefaction, which had been a rallying cry among those concerned about apparent death for most of the nineteenth century.<sup>34</sup> The city of Paris established France's first waiting mortuary in Montmartre cemetery in 1890 and its second in Père Lachaise cemetery in 1892. Despite the numerous appeals for these establishments, they ultimately proved to be unpopular and unsuccessful. Some commentators even deemed them a spectacular failure. As Jules Rochard of the Paris Academy of Medicine observed, the Montmartre mortuary received only five bodies over the course of eighteen months, and the Père Lachaise mortuary received only one.<sup>35</sup> Meanwhile physicians continued to propose inventive methods of determining death and resuscitating the "apparently dead." For example, Jean-Baptiste-Vincent Laborde, professor of medicine in Paris, proposed rhythmically pulling the tongue of the presumably deceased for up to three hours, a method which either would resuscitate those in a state of apparent death or would serve as a "sure sign of real death." Laborde developed a tongue-pulling device precisely for this purpose.<sup>36</sup>

While Laborde and other physicians developed novel methods of diagnosing death, other medical practitioners expressed dissatisfaction with the system of verification of death within France. A number of physicians observed that most of France, particularly rural areas, lacked well-established systems of death verification, with the exception of Paris and other major cities. Even large cities lacked enough officially appointed doctors to verify death, particularly in certain neighborhoods. Many communes altogether lacked any doctor appointed for this purpose. Moreover, some medical practitioners issued death certificates without seeing the body. Medical practitioners concerned with deficiencies in the system of death verification warned of the dangers of both premature burial and undetected murders.<sup>37</sup>

Throughout the nineteenth century, physicians discounted lay knowledge and claimed that only skilled medical practitioners could accurately interpret a host of signs, to which they attributed varying degrees of importance and certainty, in order to diagnose death reliably. Physicians advanced this narrative to an anxious public who were hungry for assurances against premature burial. In doing so, medical experts sought to increase the public's faith and confidence in doctors' capacity to assess the signs of death. There was

considerable disagreement over the extent to which fears of premature burial and the problem of “apparent death” were well founded. Many physicians and others who dismissed alarmist claims about the frequency with which persons were buried alive nevertheless insisted that doctors should examine dead bodies prior to burial in order to determine whether foul-play or a murder occurred. Medical experts positioned themselves as indispensable to the administrative and judicial functions of the state and to the public seeking reassurance about the uncertainties surrounding death.

### **Autopsies and the Afterlives of Corpses**

Doctors played essential roles in criminal investigations involving dead bodies. These roles included identifying unknown dead bodies, performing autopsies to determine whether a death was a homicide, and establishing the *corpus delicti*, the body of the crime or the material evidence of the crime. In Paris, the morgue provided a physical space for these activities, and it became a locus of forensic medical practice and teaching. Moreover, as Vanessa Schwartz and Bruno Bertherat’s works have shown, the Paris morgue was also a wildly popular public attraction.<sup>38</sup> The popularity of the Paris morgue was tied to the rising public profile of forensic medicine and the popularization of forensic knowledge. Some men and women sought to put this knowledge to use to cover up their crimes. Doctors faced sometimes formidable challenges in death investigations, particularly in cases in which perpetrators sought to destroy forensic evidence and the bodies of their victims. Nonetheless, leading forensic doctors frequently expressed confidence in their own abilities and in the profession, even in the face of scientifically informed criminal ingenuity.

Conducting postmortem examinations and autopsies were among the most essential tasks of practitioners of forensic medicine. Orfila outlined in his publications and teachings the steps that doctors should take when judicial authorities summoned them in cases of suspicious death. The first step was ensuring that the person was truly dead. If the doctor had any doubt, he should use all means at his disposal to bring the person back to life. Orfila advised doctors, when possible, to go to where the body was located in order to evaluate the conditions there that could shed light on a possible crime and to avoid altering it in

transportation. He also advised doctors to proceed swiftly to the postmortem examination. The examination entailed taking note of external marks on the corpse and the conditions surrounding its discovery before then dissecting the body and conducting the internal examination.<sup>39</sup> Thorough autopsies generally took between one and a half and three hours.<sup>40</sup> Upon the completion of the autopsy, the medical expert composed an official written report responding to the questions posed by the investigating magistrate. Outside of Paris, doctors performed autopsies most often at the site of the body's discovery, as Orfila advised, for example in the woods, in gardens, at inns, along a body of water, or in a home. Domestic settings were the most common site of autopsies in the provinces. Doctors also carried out autopsies in judicial or administrative spaces, workplaces, or medical establishments.<sup>41</sup> Over the course of the nineteenth century in Paris, medical experts performed a rising number of autopsies at the morgue.<sup>42</sup>

The institution of the morgue originated in Paris. The Prefect of Police in Paris founded the morgue in 1804, when it opened its doors to the public so that they may identify the anonymous dead. By the early eighteenth century, the term morgue had come to describe the place in the Grand Châtelet prison, or *basse-geôle*, where dead bodies were displayed for the purposes of identification. The Châtelet prison was demolished in the early nineteenth century, and the morgue opened shortly thereafter in the center of Paris in a new building at the place du Marché-Neuf on the Ile de la Cité. Decades later, Baron Georges Haussmann's transformation and modernization of Paris entailed the demolition of the morgue at the place du Marché-Neuf. In February 1864 the new morgue, four times the size of old, opened behind Notre-Dame Cathedral on the quai de l'Archevêché at the eastern tip of the Ile de la Cité.<sup>43</sup>

The autopsy room was the center of forensic activity at the morgue and was closed to the public. The number of bodies that the morgue received annually more than tripled from the mid-1830s to the mid-1880s, and doctors autopsied a portion of these bodies.<sup>44</sup> In the year 1887, for example, the morgue received 928 human remains and conducted 340 autopsies.<sup>45</sup> Forensic doctors determined that the most common manner of death among adults at the morgue was suicide and the most common cause was drowning.<sup>46</sup> The medical directors, or



FIGURE 1.1 Visitors viewing corpses through the glass in the exhibition room of the Paris morgue. Louis Courtin, “Vue intérieure de la morgue,” lithograph, Musée Carnavalet, Histoire de Paris

*médecins-inspecteurs*, of the morgue used its forensic activities as learning opportunities for medical students. In the 1830s Devergie, the first *médecin-inspecteur* of the morgue, offered “practical lectures” in forensic medicine to medical students twice a week at the morgue. Paul Brouardel, who became the second *médecin-inspecteur* and professor of legal medicine in Paris, began teaching at the morgue in 1877.<sup>47</sup> Late nineteenth-century commentators on the morgue described the institution as a school for legal medicine.<sup>48</sup>

The morgue’s exhibit room, or *salle d’exposition*, was designed to allow large crowds to view through glass windows the bodies displayed on marble slabs (Figure 1.1). Unidentified corpses that arrived at the Paris morgue were displayed nude, with a cloth covering their genitals, for three days in the exhibit room. Their clothes were washed and placed above the body to aid in identification. In 1877 the morgue ended the display of nude bodies and began displaying corpses in the clothes that they had been wearing when found. Cold water dripped on the corpses to slow decay, until the installation of an extensive refrigeration system in 1882 (Figure 1.2). The morgue was open to the

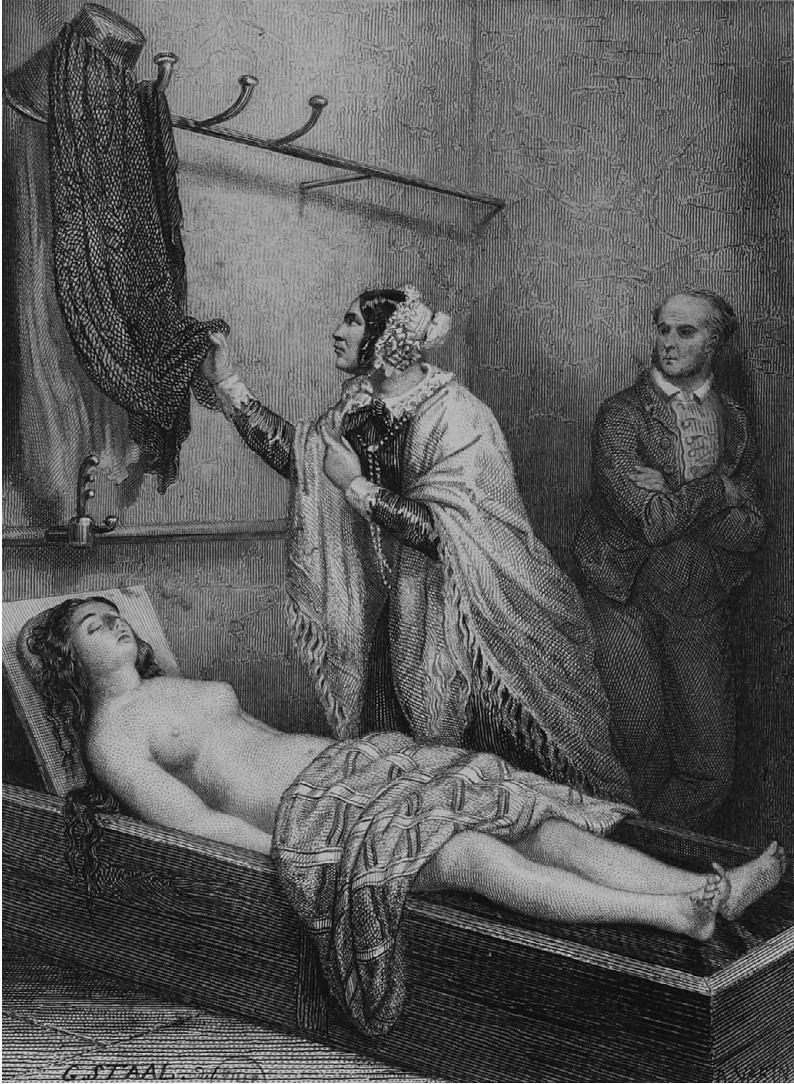


FIGURE 1.2 A body displayed under a dripping faucet at the Paris morgue. Adolphe Varin and Pierre-Gustave Staal, “La Morgue,” engraving, Musée Carnavalet, Histoire de Paris

public seven days a week, year-round, from the morning until the evening. From 1836 to 1871, its hours were 6 am until 8 pm during summer and 7 am until nightfall the rest of the year.<sup>49</sup> In the early nineteenth century about two-thirds of the unidentified corpses at the

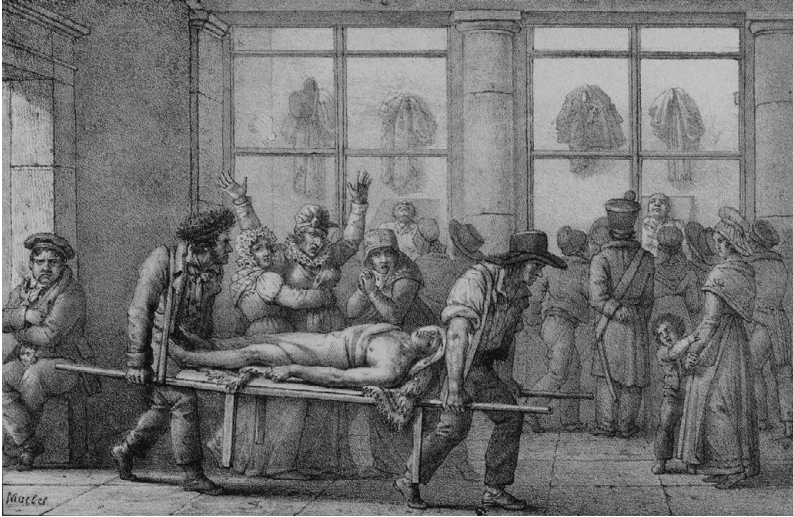


FIGURE 1.3 Visitors at the Paris morgue witnessing the intake of a corpse and viewing bodies displayed on marble slabs. Jean Henri Marlet, “La Morgue,” lithograph, Musée Carnavalet, Histoire de Paris

morgue were eventually identified. Beginning in the 1830s, the proportion increased to roughly three-fourths.<sup>50</sup> However, contemporary descriptions of the morgue and its crowds suggested that the public fascination with the morgue went far beyond concerned persons hoping to identify a body.

The morgue was not only an important site of forensic instruction and death investigation but also a popular public attraction. The prominent forensic doctor Tardieu contributed a description of the morgue for *Paris Guide*, published for visitors to the International Exposition of 1867. Tardieu wrote in the guidebook that every day a “multitude of curious” men, women, and children of all ages viewed the bodies at the morgue, and their varied reactions included “terror and disgust” (Figure 1.3). Tardieu also noted that the throngs of visitors to the morgue not only were interested in viewing victims of crime but also hoped to spot a murderer. Tardieu, other forensic doctors, and social commentators maintained that criminals went to the morgue to view their victims or to overhear what the crowds were saying about their crimes.<sup>51</sup> The morgue attracted Parisians, people from across France, and international visitors. Discussions of the morgue commonly appeared in nineteenth-century Paris guidebooks.



A guidebook for British visitors disdainfully described the morgue's popularity:

A perpetual stream of men, women, and children is running in and out of this horrible exhibition, and there they stand gazing at the hideous objects before them, sometimes uttering exclamations of horror, but usually with great indifference. The lower orders in Paris are fond of theatrical horrors and effects, but still it is not easy to understand how so disgusting and revolting an exhibition can be tolerated in a civilised country.

The guidebook denounced the spectacle of the morgue as "cruel to the dead and destructive of the morals of the living."<sup>52</sup>

Periodicals and the sensationalist press fueled keen public interest in the morgue and violent deaths. Changes associated with industrialization, urbanization, social unrest, and mass culture heightened anxieties about and fascination with the "dangerous classes," the underworld, and crime, particularly violent crime. The sensationalist mass press satisfied popular demand for stories about crime and the criminal underworld.<sup>53</sup> In 1878 Devergie maintained that press coverage of crimes directly contributed to the large crowds at the morgue, where violent deaths were frequently on display. Devergie observed, "We see a large number of curious people flocking to the morgue when the newspapers announce the commission of some crime." He noted that 1,000–1,500 people often waited in line outside of the morgue the day after newspapers reported a violent death.<sup>54</sup>

In November 1876 the discovery of a woman's body cut into pieces floating in the Seine just north of Paris attracted massive crowds to the morgue. Thousands of men, women, and children of all social classes came to view the mutilated body each day during its display. Police estimated that in one hour alone over 5,000 filed through the morgue. Newspapers at the time estimated that the crowd was between 20,000 and 68,000 people each day.<sup>55</sup> The French mass press extensively covered the "affair of the woman cut into pieces," which captured the popular imagination and became alternately known as the Billoir affair, once the woman's lover Sébastien Billoir was charged with murder. On November 8, authorities recovered from the Seine River the woman's head, legs, abdomen, arms, and chest. Later that month she was identified as Jeanne-Marie Le Manach. In December, authorities searched Billoir's home and found her hair and entrails in the cesspit there. Billoir later confessed to murder but insisted that it was

not premeditated. However, his account of events contradicted the findings of the court-appointed medical expert, Georges Bergeron. Billoir claimed that he killed Le Manach by violently kicking her in the stomach one evening; he cut up her body the next day. In contrast, Bergeron reported that she was strangled, lost consciousness, and then was cut while alive; she died due to hemorrhaging. The assize court of the Seine convicted Billoir of murder on March 15, 1877, and he was subsequently executed.<sup>56</sup>

The Billoir affair was part of a string of crimes across France involving murderers who dismembered the bodies of their victims. Several years earlier, workers on the banks of the Seine spotted the body of a man without a head and limbs in March 1867. Three months later another torso was discovered, and the arms, legs, and head of the corpse were also found a few days later. The former butcher Jean-Charles-Alphonse Avinain confessed to the murders and was executed.<sup>57</sup> A decade after the Billoir affair, the dismembered body of Marie Salat was found in Marseille. The Bouches-du-Rhône assize court charged her teenage daughter and her older boyfriend with Salat's murder in July 1877. The president of the court remarked that Billoir's trial undoubtedly inspired the accused to dismember Salat and to mutilate her face with the apparent aim of making her identification more difficult.<sup>58</sup> The following year in 1878, a newspaper reported, "We are in the presence of a new Billoir affair," when human thighs and arms were discovered in a room in the rue Poliveau in Paris and later a trunk containing a woman's head and other body parts was found in Le Mans. Some speculated that the human remains found on the rue Poliveau were the remains from a body dissected in an anatomical amphitheater. The court summoned a chemist to test these remains and this hypothesis. He ruled out this possibility, since the remains did not contain arsenic, the substance used at the time to slow down decomposition in bodies used for dissection. The court also summoned three physicians to examine the body parts found in the trunk at Le Mans. They concluded that the woman had been stabbed in the heart. Authorities determined that Paul Lebiez, a medical student, and his friend Aimé Barré, a notary, had rented the room on the rue Poliveau. The assize court of the Seine tried them for murder. Lebiez and Barré were convicted and executed.<sup>59</sup> The press also linked the Billoir affair to the 1879 trial of Victor Prévost, tried for murdering

a man three years earlier and cutting up his body into over seventy pieces.<sup>60</sup> The presumed intention behind these dismemberments was to make it more difficult to identify the victim, the perpetrator, and the manner and cause of death.

In 1880 Louis Menesclou's efforts to destroy forensic evidence of a presumed sexual assault led the public prosecutor to observe that he "was following the method of Lebiez, Billoir, and Prévost, which seems to be becoming odiously classic in Paris."<sup>61</sup> Authorities arrested Menesclou the day after four-year-old Louise Deu went missing from her parent's home in Paris. Menesclou lived in same building and was found with Louise's forearms in his pockets. Authorities later concluded that Menesclou had sexually assaulted and strangled Louise and then tried to dispose of her body. He had initially hidden her body under his mattress. The next day he began to cut the cadaver into small pieces to burn in his stove. Louise's head was discovered there, and over forty pieces of her body were found elsewhere in Menesclou's room. The public prosecutor's office noted that Menesclou carefully disposed of her genital organs, since these could have provided material proof of a sexual crime. The forensic doctor Brouardel was able to reconstitute nearly all of the cadaver, but her genitals were never recovered.<sup>62</sup> Doctors Brouardel, Lasègue, and Motet conducted a psychiatric examination of Menesclou. They observed that he became extremely animated and indignant when they raised the question of rape. Brouardel acknowledged that it was natural to assume that "so monstrous" a crime could only be the work of an insane person, but the doctors concluded that Menesclou was sane. The assize court of the Seine<sup>63</sup> convicted him and sentenced him to death.<sup>63</sup>

Contemporary commentary on these and other causes célèbres advanced a narrative of medical experts triumphing over criminals' efforts to destroy bodily evidence and elude detection. In 1888 the eminent Lyonnais forensic doctor Alexandre Lacassagne and his student Louis Ravoux both published forensic studies on the practice of murderers cutting up the bodies of their victims. Lacassagne and Ravoux observed that it was not uncommon in infanticide cases for a mother to kill her newborn, cut the body into pieces, and then throw the pieces in a cesspit or more rarely into a furnace or boiling liquid in order to dispose of the body. Lacassagne also maintained that forensic postmortem examinations of bodies cut into pieces took longer but

were not necessarily more burdensome or difficult than forensic examinations of intact bodies. These examinations frequently resulted in the identification of the victim, even those whose heads had been removed or mutilated. However, Lacassagne noted that no one ever correctly identified “the woman of Île-Barbe,” whose remains were found on the bank of the Saône in 1881 and displayed at the morgue of Lyon, which had been established in 1853 on a barge floating on the banks of the Rhône.<sup>64</sup> In contrast, the identification of a woman’s severed head publicly displayed at the Lyon morgue in January 1900 led to the arrest of Luigi Richetto and the identification of four persons whom authorities believed Richetto killed and dismembered between 1893 and 1899 in Lyon.<sup>65</sup> Lacassagne described “a sort of rivalry” and escalating contest between forensic doctors who refined their scientific techniques and criminals who adopted increasingly complicated methods to evade detection. Lacassagne viewed forensic medicine as the victor: “In this struggle, truth and science often have had the upper hand.”<sup>66</sup>

Medical experts sometimes evaluated cases in which perpetrators employed multiple methods of concealing a murder by destroying the body and its evidence. Lacassagne maintained that attempts to incinerate a body after mutilating and cutting it into pieces were relatively rare, but medical experts concluded that the murder of a mother and her four-year-old daughter in Chaumont in April 1893 was one such case. Their bodies had been mutilated, partially dismembered, and burned. Authorities observed that the murderer had removed the victims’ genitals and surmised that a rape of the thirty-eight-year-old woman preceded the murders.<sup>67</sup> Judicial authorities summoned a pharmacist to conduct chemical analyses and three doctors to answer a number of forensic questions, including what were the causes of death and how were the bodies dismembered and burned. The doctors received authorization to conduct experiments on human combustion using three corpses from the Paris morgue of persons who had committed suicide. While the medical experts were unable to identify the substance used to burn the bodies, possibly kerosene, oil, alcohol, or other combustible substance, they determined that the burning lasted at least four hours. After investigating authorities uncovered evidence implicating Eugène-Ernest Durand, the Haute-Marne assize court tried him for the murder of his wife and daughter in December 1893.<sup>68</sup>

Authorities at times asked forensic doctors to determine whether a body had been intentionally set on fire to disguise a murder as an accident, and a contingent of doctors worried that their colleagues would wrongfully conclude murder in cases of spontaneous human combustion. The medical discourse on this theory had originated in 1725, when the court in Rheims acquitted Jean Millet of his wife's murder on the basis of the surgeon Claude-Nicolas Le Cat's insistence that spontaneous combustion was her cause of death.<sup>69</sup> In the early nineteenth century, most doctors who supported the notion, including Orfila, maintained that victims of spontaneous human combustion generally consumed considerable amounts of alcohol and were disproportionately fat, older women. Some doctors claimed that excessive alcohol consumption rendered certain parts of the body flammable and fire more easily consumed fat bodies or body parts where fat accumulated. They also contended that spontaneous combustion generally consumed most of the human body and all organs, but often spared the extremities, such as hands and feet, and did not spread to nearby flammable objects, thus leaving surrounding furniture intact.<sup>70</sup> One adherent of the theory lamented in 1827 that some doctors were not convinced of the existence of spontaneous human combustion. He warned of the harms of "such a skepticism," which could result in doctors mistaking spontaneous combustion for murder.<sup>71</sup> Later polemics over the death of the German Countess of Görlitz in 1847 led to the decline of the theory of spontaneous human combustion. The court in Darmstadt eventually tried the countess's servant Johann Stauff for her murder in 1850, although the medical examiner had attributed the countess's death to spontaneous human combustion. Convincing expert testimony during the trial challenged the theory of spontaneous combustion. The jury convicted Stauff, who later confessed to killing and burning the countess to hide his crime. Many French forensic doctors closely followed the trial, and Tardieu became embroiled in the controversy. While Tardieu contested the theory of spontaneous human combustion, other forensic doctors, such as Devergie, were reluctant to abandon it entirely. Nevertheless, the theory had fallen out of favor among medical men in France and throughout Europe around this time.<sup>72</sup>

In the late nineteenth century, forensic doctors generally expressed confidence in their abilities to answer medicolegal questions in death

investigations, including those involving burned bodies.<sup>73</sup> Despite the eventual medical and scientific consensus that human bodies did not burn without an external source of ignition, Tourdes noted in 1876 that some judicial authorities still asked medical experts in investigations involving burned bodies whether there were indications of spontaneous combustion. More common questions included whether the person was burned while alive or post-mortem, whether the fire caused the person's death, whether the fire was designed to destroy the body of a murder victim, and whether doctors could establish the identity of the cadaver based on remaining anatomical characteristics.<sup>74</sup> Additionally, dentists began to join doctors in assisting authorities' efforts to identify recovered human remains. The field of forensic odontology emerged in the wake of the fire at the Bazar de la Charité in Paris on May 4, 1897, which killed more than 120 persons. Dentists identified many of the severely burned and disfigured victims by their teeth. The following year, Oscar Amoëdo, a Cuban-born dental surgeon and professor of dentistry in Paris, published the first comprehensive treatise on forensic odontology.<sup>75</sup> Forensic specialties proliferated at the turn of the century, and death investigations increasingly relied upon specialized knowledge and training in multiple areas.

Although the scope of the field of forensics expanded over the course of the nineteenth century, corpses remained the central objects of inquiry for practitioners of legal medicine. Dead bodies were the subject of extensive forensic medical research and the focus of investigations of suspicious deaths. While doctors often performed autopsies at the site of the body's discovery, the morgue in Paris became not only the site of an increasing number of autopsies and practical forensic instruction but also a public spectacle and tourist attraction. A periodical in 1892 estimated that one million people visited the morgue annually.<sup>76</sup> Moral concerns surrounding this popularity resulted in the morgue closing its doors to the public in 1907. As forensic medicine gained greater cultural traction, some criminal offenders in Paris and elsewhere sought to mutilate or destroy the bodies of their victims, presumably to avoid detection. Forensic doctors published their findings to celebrate their triumphs over perpetrators, to disseminate expert knowledge, and to establish their authority. As the state increasingly relied on their expert knowledge,

this reliance carried the risk of errors and injustice, which forensic doctors themselves readily acknowledged.

### Forensics on Trial

The rising prominence of legal medicine in both French courts and culture during the nineteenth century also attracted scrutiny and calls for reform. Leading figures in the field were among the most vocal proponents of reform. Their critiques crystallized around a number of key issues concerning systemic shortcomings as well as the incompetence of individual medical practitioners. Proposed medicolegal reforms included disqualifying less-credentialed *officers de santé* from serving as medical experts in the courts, increasing the honorariums for medical experts, creating a special diploma in legal medicine, and adopting official lists of medical experts. As medicolegal expertise played a more and more decisive role in criminal investigations and prosecutions of murder, flawed forensic expertise became an increasingly salient problem.

Some of the problems surrounding the practice of legal medicine stemmed from issues of education and training. In 1824 the doctor and anatomist François Chaussier reflected on how his medical studies under the Old Regime did not impart him with the skills necessary to offer medical expertise in cases of suspected infanticide, murder, and other crimes. He observed, “Despite all my studies, my diligence in taking the most famous professors’ courses, and the clinical visits of the great masters, I still had a lot of work to do to in order to fulfill the new functions entrusted to me.”<sup>77</sup> Around the time that the French Revolution began, Chaussier began studying and conducting research in legal medicine. In 1790 he began teaching legal medicine to medical students studying in Paris. In 1794 the Revolutionary government called upon Chaussier and the chemist Antoine-François Fourcroy to reestablish and reorganize medical education in France, and Chaussier identified the need for a special course in legal medicine to be offered to medical students.<sup>78</sup> Although French medical students thereafter received instruction in legal medicine, they did not necessarily receive practical training. Devergie lamented that forensic medical instruction generally offered “nothing practical.”<sup>79</sup> He had sought to remedy this problem by offering “practical” instruction for medical students at the

Paris morgue. Nonetheless, hands-on experience in forensic medicine, particularly for certain aspects of the field, was often lacking for medical students, whom the courts could summon to serve as medical experts upon the completion of their studies.

There were two tiers of medical education completed by the practitioners who served as medical experts, and the gap between the education and experience of doctors and *officiers de santé* was a source of concern. Doctors acquired the right to practice medicine and surgery throughout France after attending medical school and completing four years of study, five public exams, and a thesis. *Officiers de santé* received training for either three years in medical school, five years in a civil or military hospital, or six years in a sort of apprenticeship under a doctor. They could then practice medicine only in the *département* where they completed their medical training. But, many lacked training in legal medicine specifically. French law did not distinguish between *officiers de santé* and doctors in terms of medical expertise in the courts. Article 44 of the 1808 Code of Criminal Instruction simply required the magistrate conducting the investigative hearing that preceded a criminal trial to summon either one or two doctors or *officiers de santé* in cases of violent or suspicious death to examine the cadaver and produce a written report that answered a number of the magistrate's questions, including those concerning the cause of death. Leading forensic doctors and jurists commonly complained that the inferior qualifications of *officiers de santé* left them ill-equipped to grapple with complex forensic medical matters. For example, in 1817 doctor Charles-Alexandre-Hippolyte-Amable Bertrand criticized the courts for relying upon *officiers de santé* for "even the most complex" forms of forensic expertise, such as challenging poisoning cases.<sup>80</sup> In 1829 Marc complained, "A swarm of ignoramuses, who having practiced the most routine operations of minor surgery, believe themselves equally entitled, under the banal title of *officiers de santé*, to practice courtroom medicine."<sup>81</sup> Some *officiers de santé* themselves expressed concerns about being out of their depth. For example, in 1822 an *officier de santé* whom a justice of the peace called upon to examine the body of a newborn in an advanced state of decomposition refused to conduct the autopsy alone without a doctor present.<sup>82</sup> Nevertheless, the title and status of doctor offered no guarantee of effective forensic medical expertise.



Rising expectations about forensic expertise accentuated the problem of incompetent medical experts. In 1822 Orfila decried the deficiencies in French law, which did not ensure that the doctors or *officiers de santé* whom magistrates summoned were competent. Orfila complained of “the serious disadvantages that result from the latitude left by the law that allows any man exercising the art of healing, however well or badly, to be called to enlighten justice.”<sup>83</sup> In 1835 another doctor lamented that magistrates often called “the first doctor who [was] available or closest to the site of the event,” rather than doctors with more experience and knowledge of forensic medicine.<sup>84</sup> In 1852 Devergie similarly criticized magistrates’ and police commissioners’ choice of medical experts. Sometimes they selected their personal physician or a medical practitioner who was ill-equipped to serve the courts as a medicolegal expert. Devergie complained that many medical practitioners called by the courts had little interest in legal medicine; they neither published their findings nor advanced the field and state of knowledge.<sup>85</sup> Some medical practitioners readily admitted their lack of experience and limited knowledge of forensic medicine. A doctor testifying before the assize court of the Seine-Inférieure in 1855 about the inconsistencies in his autopsy reports explained that he had studied legal medicine only briefly twenty years earlier and was “very ignorant” about its practices.<sup>86</sup> What is more, some medical practitioners were grossly negligent and falsified reports in rare cases. For example, in 1856 two *officiers de santé* who documented an engorged brain in an autopsy report had fabricated the results and never opened the body.<sup>87</sup>

Commentators on forensic medicine stressed the importance of practitioners having both broad and highly specialized knowledge as well as awareness of the limits of their competence and judicial role. During the July Monarchy in 1842, doctor Emile Pereyra declared that practicing forensic medicine required comprehensive medical knowledge and skill: “To be a good forensic doctor today, one must be a good anatomist, a good physiologist, and a good practitioner.”<sup>88</sup> The physician Charles Vibert later observed, “The most extensive scientific erudition is not all it takes to be a good expert.” He continued, “One must know how to apply one’s general medical knowledge to this quite special form of medicine.” Vibert also acknowledged that even highly regarded and skilled forensic doctors were not masters of all domains,

but they were aware of this fact. Vibert stated, “The foremost virtue of a forensic doctor is to know the lacunae in his education and to dare to confess them.”<sup>89</sup> Marc observed that another virtue of a medical expert was impartiality. Marc maintained that medical experts must not take the part of either the prosecution or the defense and must refuse to work with any defense attorneys who wish to misconstrue the forensic evidence. Marc declared, “The forensic doctor is an expert not a lawyer.”<sup>90</sup> Lawyers resoundingly agreed with Marc’s stance. In 1849 Adolphe-Victor Paillard de Vielleneuve, the lawyer and chief editor of the *Gazette des tribunaux*, similarly declared, “The doctor is an expert. He is not a judge.”<sup>91</sup> The medical expert’s role was not to determine whether the accused was guilty or innocent but to establish the medical and scientific facts of the case. Paillard de Vielleneuve complained that experts often exceeded their mandate. The medical expert was neither a lawyer, judge, nor juror, but he needed to clearly convey his findings to these persons who lacked medical knowledge and training. As Paillard de Vielleneuve observed, forensic reports needed to be not only scientifically precise but also clear and “perfectly comprehensible” to lay persons.<sup>92</sup>

Judicial authorities in some *départements* had difficulty securing qualified medical experts, given the sacrifices it often entailed for these practitioners. The difficulties were most pronounced in *départements* with geographically dispersed populations and a shortage of well-trained medical practitioners. Devergie noted that many doctors in such areas were reluctant to travel to examine a dead body when there were people whom they could treat at home.<sup>93</sup> Furthermore, treating their own patients was more remunerative than serving as a medical expert for the courts. The president of the Finistère assize court observed in 1841 that the burdens of practicing legal medicine were greatest for doctors living outside of a departmental capital, since they would have to leave their practice to travel to the court and send their patients to doctors elsewhere. Furthermore, the amount the courts paid for their service was often not even enough to cover their travel costs. The magistrate also maintained that doctors with many patients often managed to avoid serving as medical experts, while young, inexperienced medical practitioners served instead.<sup>94</sup> Some doctors observed that the sacrifices they made to serve as experts also included the continual efforts that they made to stay current in the field.

A doctor in 1840 observed that the maintenance of his personal library alone cost him more than what he earned for his medicolegal expertise. Complaining about his “pecuniary sacrifices,” he asked, “What would it be if I added now the loss of my time, relative to my clientele, and my traveling expenses?”<sup>95</sup> Some reluctant doctors indeed refused to serve as experts and could be subjected to fines.<sup>96</sup>

In some trials, rival medical experts offered contradictory evidence, which offered the promise of serving as a corrective to flawed medicolegal reports but also risked sowing confusion and undermining public confidence in medical experts. Rival doctors’ contradictory evidence could take the form of a medicolegal consultation requested by either magistrates or defense lawyers. These doctors whom magistrates or defense lawyers approached for medicolegal consultations would review the original autopsy or other medicolegal report and offer their own evaluation, either based exclusively on their analysis of the written autopsy report or supplanted by additional experiments or tests that they conducted in order to judge the validity of the findings. Professor of legal medicine François-Emmanuel Fodéré highlighted the limits and risks of these medicolegal consultations, in which doctors did not examine the body in question but merely reviewed a written report. A defense lawyer could call upon a prominent forensic doctor to challenge a sound autopsy report, and this challenge could be scientifically suspect yet successful. Fodéré observed, “The authority of a great name, specious reasoning, and the magic of eloquence” often had a much greater effect on the courts than the factual narration of findings in a report written by someone of lesser stature.<sup>97</sup> Doctors worried about the effects of contradictory medical evidence on impressionable juries. In 1835 a doctor in Poitiers declared that it was “unseemly to have two doctors argue against each other and thus challenge science before judges, jurors, and the public.” These conflicts threatened to reverse the progress of medicolegal expertise in trial courts. Highlighting the influence of medical expertise on judicial verdicts, he observed, “When the doctor gives clear, positive and well-motivated conclusions, they generally serve as the basis for the jury’s declaration.”<sup>98</sup> Contradictory medical evidence risked diminishing jurors’ confidence in medicolegal expertise, which was still fragile.

Nonetheless, forensic expertise played a greater role in the courts during the second half of the nineteenth century, and defense lawyers

increasingly called upon their own medical experts to contest the findings of those summoned by investigating magistrates. In 1864 a public prosecutor in the Alpes-Maritimes complained about defense lawyers employing this strategy in every trial involving forensic expertise. He deemed the practice perfectly legitimate if used to uncover the truth but lamented the irresponsible use of unqualified experts. The prosecutor declared, “Nothing is more saddening for justice than to hear the risky opinions of people without ability who are in search of clients and whose often-impudent words result in a disturbance in the courtroom debate and in the jury.” He warned of the “serious dangers” of this practice, which undermined justice and only served the guilty.<sup>99</sup> Other magistrates and forensic doctors shared these concerns about defense lawyers indiscriminately summoning doctors to challenge sound and carefully conducted forensic expertise.

Throughout the nineteenth century, magistrates and forensic doctors worried about the role of incompetent medicolegal experts in death investigations and demanded reform. One of the most common proposals for reforming forensic expertise called for specially designated and appointed medical experts. For example, in 1832 a magistrate in Brittany proposed that such doctors serve as appointed medical experts for fixed terms and be the only persons authorized to perform autopsies. He believed that this reform would remedy the problem of untrained and incompetent medical experts carrying out this important task.<sup>100</sup> In 1842 a presiding judge in Saint-Brieuc also called for reforms due to the frequency with which “incapable men” produced forensic reports that undermined the pursuit of justice. The jurist implored the Minister of Justice to name in each *arrondissement* certain doctors who would exclusively issue forensic reports and receive a modest annual salary.<sup>101</sup> Complaining about an autopsy report of an inexperienced country surgeon in an 1860 infanticide case, the president of the Finistère assize court called for a special physician dedicated to medicolegal affairs in each *arrondissement*.<sup>102</sup> Some forensic doctors proposed the convocation of a special jury comprised of doctors, pharmacists, and chemists to establish the *corpus delicti*, in other words to establish whether or not a crime had occurred, prior to bringing a case before a grand jury who would then determine whether the evidence against the accused was strong enough for an indictment.<sup>103</sup> Concerned doctors and magistrates

advocated these various structural changes to the judiciary to improve the function of medicolegal expertise in the courts.

Doctors and magistrates proposed additional reforms to remedy problems associated with medicolegal expertise, particularly those stemming from the insufficient education of medical practitioners, legal professionals, and lay persons. Prominent professors of legal medicine insisted upon more practical instruction and training in legal medicine at medical schools. Some forensic doctors and jurists called for legal medicine to be taught in law schools as well so that lawyers and magistrates would have a basic foundational knowledge. By the late nineteenth century, the law faculty in Lyon offered instruction in legal medicine. However, the magistrate Joseph Drioux, who proposed a special diploma in legal medicine, observed that the high degree of uncertainty that characterized the field of forensic medicine made teaching the subject matter challenging.<sup>104</sup> The difficulties in understanding forensic medical knowledge were even greater beyond medical and law schools. A major area of concern was jurors' inability to analyze medicolegal expertise. Accordingly, some forensic physicians published works designed to educate lay audiences and sought to communicate their findings in written medicolegal reports and oral testimony as clearly as possible.

Appeals for medicolegal reform peaked during the 1880s and 1890s. In 1884 Brouardel lamented that doctors often performed autopsies alone and had difficulties writing up their forensic reports during the procedure, which soiled their hands with bodily fluids and was physically exhausting. He complained that most medical practitioners hastily composed their reports afterwards, sometimes days or even a week later, just from memory without notes. He maintained that the majority of autopsy reports from provincial practitioners that he had reviewed revealed that they had never opened the skull. Brouardel insisted that two medical experts should serve in all criminal cases involving forensic expertise. Furthermore, in response to the problem of contradictory findings among medical experts, Brouardel proposed convoking a commission of medical and scientific authorities to settle the issues.<sup>105</sup> Additionally, doctors and jurists insistently called for an increase in the honorariums for medical experts, which had not increased since 1811.<sup>106</sup> Legislators finally raised them in November 1893. As a result, doctors performing a standard autopsy

received twenty-five francs, whereas they had previously received between five and nine francs, depending on whether they were working in a large or small city, a town, or the countryside.<sup>107</sup>

Other reform measures addressed the question of who should serve as medical experts in death investigations and other criminal proceedings. Some jurists and forensic doctors called for summoning specialists according to the nature of the expertise, whether on an ad hoc basis or as fixed-term appointees. During the second half of the nineteenth century, several forensic doctors and magistrates proposed that the courts rely upon lists of doctors competent in legal medicine. During the early Third Republic in the 1870s, the tribunal of the Seine and the appeals court in Paris established semiofficial lists of accredited doctors who could offer medicolegal expertise. Some magistrates and forensic doctors called for the nationwide adoption of official lists of medical experts for *juges d'instruction* and defense lawyers to use exclusively. However, others considered such a system best, or only, suited to large cities.<sup>108</sup>

In November 1893 French legislators passed a law establishing official lists of medicolegal experts for the courts. It restricted these lists to French doctors who had been practicing medicine for at least five years and required all French doctors to obey judicial requests for medicolegal expertise.<sup>109</sup> The prominent forensic doctor Lacassagne complained that this reform did not remedy the problem of doctors serving as medical experts who were unprepared or ill-equipped for the task. Moreover, it excluded potentially knowledgeable doctors, and Lacassagne challenged the decision to exclude doctors who had finished their medical studies more recently. Practicing general medicine for at least five years did not ensure competence in legal medicine, and Lacassagne maintained that some doctors would forget the medicolegal methods and procedures that they learned in medical school by the time that the courts summoned them years later. Furthermore, the uneven geographical distribution of doctors meant that a sole doctor, typically disinterested in the field of legal medicine, had to serve in all medicolegal investigations in some areas in the countryside. Many doctors serving as medical experts, whether in cities or the countryside, lacked sufficient education, experience, or competence and failed to complete all of the steps in a thorough autopsy or erroneously interpreted lesions and cause of death.<sup>110</sup>

Commentators also observed that deficiencies in forensic expertise were responsible for wrongful convictions and for undermining the field of legal medicine. The trial and retrial of Pauline Druaux put this problem in relief. In 1887 the assize court of the Seine-Inférieure tried Druaux for poisoning her husband and brother in Malaunay, outside of Rouen. The two doctors in Rouen who performed the autopsies observed lesions in the men's stomachs and intestines, which they attributed to poisoning. The doctors also found what they suspected to be tiny pieces of cantharides, also known as blister beetles or Spanish flies, in samples of vomit that they examined under a microscope. They theorized that both men had been poisoned with Spanish fly. A professor of chemistry in Rouen analyzed samples of the men's stomachs, kidneys, livers, and intestines but found no trace of any poison. He used the vomit and organ samples in physiological experiments on rats and other animals, which did not demonstrate any signs of poisoning. Nonetheless, the medicolegal report concluded that the men had been poisoned, probably by cantharides. The jury convicted Druaux on the basis of the experts' suspicions of poisoning and the "moral proofs" against her. Prosecutors portrayed her a "dissolute," "perverse," drunken, and adulterous woman whose husband caught her in flagrante delicto with another man a few days before his death. While Druaux was serving her sentence of a life of hard labor, new occupants in her former residence became ill with the same symptoms as her late husband and brother, including vertigo and loss of consciousness. One woman died. People began speculating that emissions of carbon monoxide from the neighboring lime kiln were responsible. Once it was shut down, these afflictions stopped. The public and the press thus concluded that Druaux was innocent. Consequently, the assize court of Amiens retried Druaux in 1896. During this trial, reports from an engineer and architect from Rouen and three medical experts from Paris all supported this theory. Lamenting that the doctors from Rouen had never analyzed the victims' blood or lungs, Brouardel maintained that a simple ten-minute blood analysis could have prevented the ordeals that followed. The court acquitted Druaux and provided her with an indemnity of forty thousand francs.<sup>111</sup> This case and other *fin-de-siècle* causes célèbres involving problematic forensics provoked public outcry and outrage among leading forensic

doctors about the manner in which some medical practitioners conducted autopsies.

Nonetheless, many appeals for medicolegal reform went unheeded. These calls for reform included the creation of a permanent commission of prominent forensic doctors, chemists, magistrates, and lawyers to examine forensic reports in all criminal cases and the prohibition of any unapproved medicolegal reports. Some commentators expressed concerns that this system would cause the wheels of justice to grind to a halt. They instead advocated other reforms, such as further increasing the honorariums for medical experts and creating a special diploma in legal medicine.<sup>112</sup> In 1898 the lawyer and politician Jean Cruppi raised the issue of medicolegal reform in the Chamber of Deputies. He proposed establishing a system in which each appeals court in France would annually compile a list of medical experts, based partly on the recommendations of faculty at the medical schools. The investigating magistrate would select one or more experts, and the accused would be entitled to select the same number of medical experts from this list. The state would pay all of these experts to work and draft a report together. Cruppi proposed that an additional medical expert arbitrate cases in which the medical experts had opposing viewpoints. The Society of Legal Medicine of France, which had been founded in 1868, extensively debated and critiqued the proposed law, which many forensic doctors predicted would generate constant disputes among medical experts and be costly for the state.<sup>113</sup> Cruppi's proposal proved divisive, and the question of reform remained unresolved.

Throughout the nineteenth century, frustrated doctors, lawyers, magistrates, and lawmakers cried out about flaws in the practice of legal medicine in France. While a chorus of voices demanded reforms, a consensus never coalesced around which reforms, aside from increased honorariums, should be implemented to remedy these problems. Demands for reforming medicolegal expertise were in some respects a testament to the gains that medical men had made in the legal arena. While more and more doctors examined dead bodies and carried out various medicolegal duties, their presence in the courts and public discourse grew. Their greater influence heightened the problem of flawed forensic evidence, an issue affecting not just death investigation and autopsy reports but all facets of legal medicine.



In sum, medical men capitalized upon public fear and fascination with dead bodies to stake out greater professional territory in the late eighteenth and nineteenth centuries. Many doctors sought to expand their roles in verifying death, ascertaining its cause, and performing autopsies in cases of suspicious deaths whether on site or at the Paris morgue, where corpses were on public display. A far greater proportion of doctors had basic knowledge and training in legal medicine by the end of the nineteenth century than at its beginning, although many medical practitioners' hands-on experience and practical training in the field remained limited. Some doctors displayed discomfort or a lack of confidence in diagnosing death, distinguishing between various manners and causes of death, or performing medicolegal duties that exceeded the limits of their knowledge or training. Flawed autopsy reports were a lightning rod for criticism; at the same time, the forensic autopsy had become indispensable to the state's investigations of suspicious deaths. Doctors and magistrates worried about medical incompetence in death investigations and the dangers of contradictory forensic evidence. They expressed serious concerns that medical experts' erroneous findings could result in miscarriages of justice. The growing influence of forensic medicine in the courts lent a sense of urgency to demands for medicolegal reform. The most insistent calls for reform came from within the medical and legal professions; these calls intensified in the late nineteenth century.

But, many of the most ardent proponents for medicolegal reform were also the staunchest champions of legal medicine. In 1880 the lawyer and magistrate Charles Desmaze expressed his utmost confidence in legal medicine. Extolling the "utility and necessity of legal medicine," Desmaze claimed that it reduced crime: "As forensic medicine progresses, criminals are fewer." Considering forensic medicine indispensable to the pursuit of justice, Desmaze declared that forensic medical expertise saved the innocent and revealed the guilty.<sup>114</sup> Many other forensic doctors also emphasized the triumph of science and justice, while at the same time acknowledging the difficulties that practitioners of forensic medicine confronted in death investigations during this period. While doctors often advanced a similar triumphant narrative concerning poisoning cases, poison presented unique and vexing challenges.