

From Sacrilege to Privilege: The Tale of Body Procurement for Anatomical Dissection in the United States

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ABSTRACT

Anatomical dissection remains an integral part of most medical schools' curricula, and in order to meet their educational needs, schools turn to a mixture of donated and unclaimed bodies. However, the procurement of bodies for anatomical dissection has not always been a simple task. The history of the cadaver supply in the United States, as in many other countries, is a story of crime, punishment, and legal dilemmas. The method by which medical schools obtain cadavers has affected not only anatomists and medical students, but all members of society. Methods of procurement through the centuries have been able to change only along with concurrent changes in societal perceptions of death and dissection. An appreciation of this history and these societal changes may benefit students in their struggles to come to terms with how their cadavers were obtained and how society has granted them the privilege to dissect a fellow human's body.

INTRODUCTION

The study of anatomy has traditionally been viewed purely as a rigorous learning experience, a rite of passage that strengthened the mind and determined who was rightfully a medical student. In the twentieth century, however, many educators began to view human dissection as an emotional learning experience in addition to being a practical tool. Students were encouraged to think not only intellectually, but emotionally. This was particularly true in the last three decades of the 20th century. Memorial services at the end of anatomy courses began in the United Kingdom in 1965 and in the United States in the 1970s, with the goal of heightening students' sensitivity toward their cadavers (Warner and Rizzolo 2006). Cadavers were occasionally referred to by their names, and student inquiry into the lives of their cadavers was encouraged as appropriate and healthy.

In this setting, it is natural for students to wonder not only about how their cadavers died, but also about how they were procured after death. Did these people choose to donate their bodies to science? Or were they poor or neglected, and had no one to claim them and provide burials? Such natural curiosity has only been intensified in recent years with the scandals that surrounded the Body World exhibit and similar productions. While few students ever find out a full account of how their individual cadavers were procured, the history of body procurement for medical dissection is a story that has grabbed the attention of historians, physicians, and students alike.

DISSECTION—THE ULTIMATE CAPITAL PUNISHMENT

Society's perception of death and dissection has changed dramatically since the first recorded dissections of human bodies by Herophilus around 300 B.C.E. These early dissections were carried out publicly, as were the limited dissections carried out during the Middle Ages. In the 17th and 18th centuries, anatomical theaters were set up in many European cities in order to educate doctors and students, but they were public spectacles with little educational value (Korf and Wicht 2004). Because anatomical dissection was associated with great dishonor, the only legal source of cadavers at the time was the corpses of the executed. Legislators took advantage of this public perception by using the threat of dissection as a deterrent to committing serious crimes. High-level crimes became "punishable by dissection" when anatomical dissection became a part of the sentence of capital punishment, as in the Murder Act of 1752 England (Hildebrandt 2008). To this day in the United States, the only federal law relating to the cadaver supply was passed in 1790; it permitted federal judges to add dissection to a death sentence for murder. At times, the threat of dissection was also used to discourage less heinous, but equally disruptive, crimes such as dueling. A 1784 Massachusetts law stated that a slain duelist would either be buried in a public place without a coffin or given to a surgeon for dissection (Tward and Patterson 2002).

Many offenders and their families considered anatomical dissection to be more frightening and undignified than the capital punishment itself. People viewed dissection as a desecration of the corpse and believed that it would impede resurrection and deny the survival of identity after death. While execution was a threat to one's life, dissection was an assault on one's soul. Being doubly sentenced (to execution and to dissection) was a punishment far worse than execution alone.

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(Halperin 2007). In this way, anatomical dissection was practiced for a mixture of medical and punitive purposes (Hildebrandt 2008).

“NIGHT DOCTORS”—THE GRAVE-ROBBING ERA

Until the 18th century in Europe and the United States, the use of executed criminals' bodies for dissection fulfilled the needs of both the court system and the anatomists. Not only was there a legal method to acquire cadavers, but this method may have assisted in preventing crimes. However, as the study of anatomy grew in popularity, the number of executed criminals was not nearly enough to meet the needs of medical schools and surgeons. In the United States, the pressing demand is likely to have begun around 1745, when the first formal course in anatomy was taught at the University of Pennsylvania (Tward and Patterson 2002).

To meet the growing demand, the practice of robbing the graves of freshly buried persons became rampant in the 18th and 19th centuries. If the soil was soft and the grave shallow, a thief with a partner could exhume a body in less than an hour. Most bodies were stolen between November and March, when medical schools were in session and the cold helped preserve the corpses. The corpses were transported, often by wagon, for sale to local anatomy professors. As professors would accept only bodies that had not badly decomposed, ten days was usually the limit between death and burial (Halperin 2007). As grave-robbing provided a fairly easy way to make money, the perpetrators ranged from professional thieves to tavern owners to employees at the medical schools themselves. At times, even medical students or doctors themselves robbed graves (Garment et al. 2007; Halperin 2007).

The public was well aware of the practice of grave-robbing. They often referred to the perpetrators as “night doctors,” “sack-um-up men,” or “body snatchers,” while the anatomy professors called them by the more dignified term “resurrectionists.” British and American Victorian literature even makes reference to grave-robbing for dissection, for example in Charles Dickens's *Tale of Two Cities* in 1859 and Mark Twain's *Adventures of Tom Sawyer* in 1876 (Halperin 2007).

On some occasions, the temptation to make a quick buck by selling cadavers to anatomy labs was so great that grave-robbers even resorted to murder. In 1827, William Burke and William Hare were so impressed by the profit they made from selling a body to the local laboratory that they conspired and murdered 16 other people at their lodge, until they were caught. Ironically, Burke was executed, dissected, and put on public display (Tward and Patterson 2002).

Several methods were used to guard against grave-rob-

bing. Some cemeteries placed iron cages, called mort-safes, around fresh graves, while others stored corpses in vaults until the bodies decomposed to the point that they were safe from robbers. More commonly, a guard was hired, or family members took turns, to watch over the graves for the first few nights after burial. The graves most likely to be robbed were those of the poor or unprotected members of society, such as African Americans. Such graves often had worse security and were buried with less care. For the most part, society looked the other way with regard to grave-robbing, provided that the bodies continued to be procured mostly from the poor and marginalized segments of society (Halperin 2007).

Public outcry was much greater when the corpse of a white or prominent member of society was stolen. On one occasion at the Ohio Medical College, visitors to the anatomy lab discovered the body of U.S. Senator John Scott Harrison, son of President William Henry Harrison. The visitors were Senator Harrison's son and nephew. The most famous of such events was the New York Resurrection Riot in 1788 (also known as the Doctors' Riot). Supposedly, a doctor working in the anatomy lab at New York Hospital waved the arm of a cadaver at a young boy looking in the window. The boy went home and told his father, who went to the graveyard of New York's Trinity Church to visit the grave of the boy's recently buried mother, only to find that the grave had been robbed. This report spread and people started to accuse the local physicians and anatomists. The outcry was so great that a mob sacked New York Hospital on April 13, 1788. Medical students were grabbed and beaten, and the mob took four students captive until they were rescued by the local sheriff. The following day, the riots continued as the mob searched the city for doctors, medical students, and cadavers. Three to four hundred men stormed down Broadway toward the city jail, intent on capturing the medical students who were being held there for the students' own protection. When the mob grew to 5,000 people, Governor George Clinton called in the militia. By the time the mob was stopped, three rioters and three militiamen had been killed, and many others wounded. In response to the riot, New York passed its first law against grave-robbing in 1789 and at the same time allowed judges to sentence dissection to those being hanged for arson and burglary in addition to murder. Nevertheless, as the law did not provide a sufficient legal method for medical schools to obtain their cadavers, schools continued acquiring bodies illegally and grave-robbers continued their trade (Halperin 2007; Tward and Patterson 2002).

LEGAL ADJUSTMENTS: THE ANATOMY ACTS

By the end of the 18th century, U.S. state governments began to realize that a dramatic legal change would be necessary to effectively end the practice of grave-robbing. Until medical schools had a good alternative source

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of cadavers, there would always be a market for illegally obtained bodies. Massachusetts was the first state to enact laws, in 1830 and 1833, allowing unclaimed bodies to be used for dissection. Over the course of the next decades, many other states followed suit, legislating that unclaimed bodies of people who died in hospitals, asylums, and prisons would be allocated to that state's medical schools for the purpose of anatomical dissection. Due to these laws, the price of illegally obtained corpses declined, making grave-robbing neither profitable nor practical (Garment et al. 2007). The laws were acclaimed both by medical schools and by local governments, which were previously responsible for burying unclaimed bodies. Proponents were also enthusiastic about the idea that criminals (not just the executed) and paupers, who were considered a burden to society during their lives, could now offer some compensation by benefiting future medical training and knowledge.

Modern critics have pointed out, however, that under the new laws, the same marginalized part of the population was being subjected to dissection, while the majority of the population still viewed dissection negatively (Halperin 2007). This sentiment is seen in some of the detailed exceptions to the anatomy laws. Several states forbade dissection of the unclaimed bodies of travelers, presumably allowing for the time it might take for a traveler's family to get in contact with the government. At the same time, they stipulated that this exception did not apply "to that class commonly known and designated as tramps." Other states exempted the unclaimed bodies of soldiers from being dissected, as they had already served society during their lifetime. So the anatomy acts solved the problem of grave-robbing, but they did little to change society's perception of dissection (Garment et al. 2007).

BODY DONATION AND THE CHANGE IN THE SOCIETAL VIEW OF DEATH AND DISSECTION

At the turn of the 20th century, most Americans disapproved of dissection, and voluntary body donations were quite rare. There were religious objections to dissection, and it was now associated with unclaimed bodies, and therefore, a mark of poverty. There were a few notable exceptions. A wealthy citizen named Thomas Orne, a prosperous horse dealer who donated his body in 1899, according to local newspapers, had no concern that the donation of his body would signify that he lacked the means for a proper burial. In addition, citizens with unknown medical ailments sometimes wished to donate their bodies in order to aid those with similar diseases. The bodies of suicides could be dissected while still in prime condition. Still, such occurrences made headlines precisely because they were the exceptions. In 1912, 200 New York physicians publicly pledged to donate their bodies after death in an effort to remove the stigma associated with dissection (Garment et al. 2007).

While these efforts to promote a positive view of body donation and dissection may have helped in minor ways, public opinion was more dramatically affected by the exposure of the corrupt funeral industry in the middle of the 20th century. In the mid-19th century, when the United States was still generally rural, many funerals were small affairs arranged by the deceased's family. As urbanization progressed, crowded cities led to the birth of funeral homes, which ultimately led to fancier coffins, open caskets, and expensive funeral rituals. In 1951, Bill Davidson wrote an article, "The High Cost of Dying," in which he noted that over the previous 122 years, while the cost of living had increased by 347 percent, the cost of dying had increased 10,000 percent. In 1961, Roul Tunley's article "Can You Afford to Die?" said that the country's annual funeral costs were much higher than its annual hospital costs. Around the same time, Jessica Mitford's book *The American Way of Death* detailed the scams and price-fixing practices of the funeral industry. In order to avoid the high costs charged by the funeral industry, Mitford recommended that people donate their bodies to science, and her book's appendix even listed medical schools that would accept donated bodies (Mitford 1963). Ironically, such exposés did not remove the stigma associated with dissection, but rather undercut the notion that a proper burial was a respectable practice. While the fear of dissection discouraged donation, the fear of being victimized by underhanded funeral directors made people reconsider body donation (Garment et al. 2007).

THE UNIFORM ANATOMICAL GIFT ACT

Even while efforts were being made to improve societal attitudes toward dissection and donation, the actual act of donation remained a complicated matter in the middle of the 20th century. Over the years, a confusing conglomeration of anatomy acts, common laws, and state statutes made body donation a legally complicated matter. Noting this difficulty, along with increased societal interest in body donation, the National Conference of the Commissioners on Uniform State Laws approved the Uniform Anatomical Gift Act (UAGA) in 1968. The UAGA officially made body donation a right, morally based on free choice and volunteerism. A second act was signed in 1987 and served to clarify the donation process further. Together, these two acts, often still referred to as the UAGA, clarified ambiguous laws regarding donation and tried to standardize laws among states. Perhaps even more significantly, the UAGA established the human body as property, a new privilege that allowed for a donor's wishes to be honored in court even if his or her next of kin objected to the donation after death. Within four years, 48 states had adopted the UAGA, and today every state has some form of the law (Jones and Whitaker 2009; Garment et al. 2007). However, even with these advances, the legal rights of a person over his or her own body postmortem remain ambiguous.

CONCLUSION

Despite the successful promotion of body donation and the UAGA, medical schools' high demand for cadavers still requires many schools to use unclaimed bodies, particularly in states with multiple medical schools. While many schools have incorporated computer-based learning tools into their courses on anatomy, these tools are still viewed as a supplement to dissection, not a substitute for it (Garment et al. 2007). Understandably, many students view the use of unclaimed bodies as a less-than-ideal situation in comparison to willed donations. Students are much more comfortable believing that the person, when alive, had authorized his or her own dissection, rather than it being authorized by the medical establishment (Jones and Whitaker 2009). A fuller knowledge of the history of body procurement may, it is hoped, allow students to appreciate the legal and ethical progress that society has achieved in order to make anatomical dissection a respectable act for both donor and recipient. There was a time when anatomical dissection was possible only when either the donor or the recipients had committed a crime. In our times, that same act is viewed as a privilege.

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