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Do the Dead Have Interests? Policy Issues for Research After Life

Dorothy Nelkin† and Lori Andrews‡

The importance of establishing rights in a dead body has been, and will continue to be, magnified by scientific advancements. The recent explosion of research and information concerning biotechnology has created a market place in which human tissues are routinely sold to and by scientists, physicians and others. The human body is a valuable resource.¹

I. INTRODUCTION

The body of the nineteenth century philosopher Jeremy Bentham is on display in a glass cage at University College, London.² Bentham applied his utilitarian perspectives to the body by suggesting that corpses, including his own, would be of greater use to society stuffed and displayed as an “auto-icon” rather than simply buried away.³ Preserved, exhibited and studied, the corpse, he said, could serve “moral, political, honorific, dehonorable, money-saving, money getting, commemorative, genealogical, architectural, theatrical, and phrenological” ends.⁴

But the corpse is more than a utilitarian object; it is an ambiguous entity—subject to conflicting beliefs and contradictory representations.⁵ It has sacred meaning. We maintain burial grounds as sacred places and celebrate national holidays to commemorate the dead. And every religious faith has beliefs pertaining to

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¹ *Brotherton v. Cleveland*, 923 F.2d 477, 481 (4th Cir. 1991) (citation omitted).

² See HARVEY RACHLIN, *LUCY'S BONES, SACRED STONES, AND EINSTEIN'S BRAIN: THE REMARKABLE STORIES BEHIND THE GREAT OBJECTS AND ARTIFACTS OF HISTORY, FROM ANTIQUITY TO THE MODERN ERA* 206 (1996).

³ See *id.* at 203–04.

⁴ *Id.* at 205 (quoting Jeremy Bentham).

⁵ See generally GARY LADERMAN, *THE SACRED REMAINS: AMERICAN ATTITUDES TOWARDS DEATH, 1799–1883* (1996) (discussing shifts in American attitudes toward death in two main time periods, the American Revolution and the Civil War).

the treatment of corpses. Laws have recognized the corpse's instrumental value as an object for scientific study, clinical teaching and commercial gain, but they have also accommodated the desire to respect remains.

Scientific studies in biotechnology have placed increased value on the body as a source of research material, yet because of the ambiguous status of the corpse, the use of human tissue from the dead for research or medical training remains controversial. Disputes reflect the striking differences between scientific or utilitarian perspectives and the body's social meaning. These differences are becoming increasingly important as a variety of technological developments from genetic testing⁶ to modern scanning techniques⁷ have enhanced the research value of corpses.

In this Article, we assess historical controversies involving anatomy and dissection, describe four categories of cases, interpret the interests and social values involved when corpses become the focus of competing claims and suggest policy considerations for dealing with research on the dead.

II. HISTORICAL CONTROVERSIES OVER RESEARCH ON THE DEAD

Research and clinical uses of deceased individuals' bodies have been controversial since the early days of anatomical dissection when the process of fragmenting the body evoked Dantesque visions of Hell. The issue of integrity and continuity in the next life dominated the medieval discourse on the body. "[S]alvation is wholeness, hell is decay and partition."⁸ Because the body's integrity was thought to be necessary for salvation in the afterlife, many people did not want their corpses subjected to autopsy and research. Certain religious groups maintain this perspective today.⁹

During the Renaissance, these views clashed with the growing culture of inquiry. The dead body became increasingly valuable as an object for research through dissection (Vesalius), anatomical studies (Leonardo da Vinci) and autopsy to

⁶ See *infra* note 32 and accompanying text.

⁷ Scanning technologies have also created new opportunities for analyzing dead bodies for research purposes. See *Body Voyage*, COMPUTER LIFE, June 1, 1997, at 110, available in 1997 WL 8920243. A detailed three-dimensional atlas of the human body is on the internet. See Tom Standa, *Anatomy Computers Are Killing Off the Cadaver*, DAILY TELEGRAPH (London), Feb. 12, 1998, at 8. In proper historical tradition, the digital images were taken from the cadaver of a 39-year-old executed prisoner, Joseph Paul Jernigan, who had consented to have his body used for science. See *Body Voyage*, *supra*, at 110; Lawrence J. Magid, *Beauty Is Only Skin Deep: Icky Stuff Is Deeper*, L.A. TIMES, Sept. 29, 1997, at D4. After his death by lethal injection in Texas, x-ray images were made of the body which was then frozen, sliced into 1871 sections, and photographed once again—to be immortalized in cyberspace. See Ted Anthony, *Dead Killer Becomes Online Body of Knowledge*, L.A. TIMES, Jan. 7, 1996, at A4, available in LEXIS, News Library, Lat File. Dissected into seven gigabytes, Jernigan can be downloaded from the Internet and the images of his body are available throughout the world. See *id.* Jernigan's body—young, nontraumatized—was a boon for scientists, see *id.* (stating that "most people who die—either by old age or violence—don't leave prime human specimens behind"), but others expressed a vague sense of discomfort about a body, frozen, sliced and dissected into gigabytes. See, e.g., Magid, *supra*, at D4 (describing the idea as "macabre" and "ghoulish"). Their reservations about the treatment of Jernigan's body recalled earlier disputes over the sources of research cadavers from prisoners and the poor. See, e.g., Laura-Hill M. Patton, Note, *A Call for Common Sense: Organ Donation and the Executed Prisoner*, 3 VA. J. SOC. POL'Y & L. 387, 391-92 (1996).

⁸ CAROLINE WALKER BYNUM, *THE RESURRECTION OF THE BODY* 114 (1995).

⁹ See Nadine Strossen, *Religion and Politics: A Reply to Justice Antonin Scalia*, 24 FORDHAM URB. L.J. 427, 472 (1997).

improve clinical understanding (Rudolf Virchow).¹⁰ By the early nineteenth century, the corpse was well integrated in clinical thought, and the anatomical findings revealed by autopsies became the basis for both medical understanding and the development of the science of pathology.¹¹

Still, the practice of autopsy remained controversial. The public considered the dissecting of a dead body to train medical students a degrading and sacrilegious practice, an act inflicted as punishment on executed criminals or other marginal or powerless persons.¹² Body snatching from black and almshouse graveyards was rampant in nineteenth century America. “[D]issection remained a humiliation imposed on social outcasts,”¹³ notes historian David Humphrey. Though valued as medically informative, it also reduced the body to “the status of ‘anatomical material,’ a neutral object of study and manipulation.”¹⁴

Body snatching became a lucrative practice. Because bodies were in short supply, they became valuable commodities—as historian Michael Sappol described them, “object[s] of exchange whose value fluctuated according to the law of supply and demand.”¹⁵ Anatomy departments paid between ten and thirty-five dollars for a body, more than the weekly wage of a skilled worker at that time.¹⁶ Bodies were obtained in devious ways—through grave robbing¹⁷ and even the murder of beggars.¹⁸ As described by historian Ruth Richardson, corpses were “quarried”; “Parts extracted were sold to those who could use them, such as dentists and wigmakers, and to those who assisted medical research and study, such as articulators of bones for medical skeletons, and medical-specimen makers. Profits were to be made at every stage.”¹⁹

The practice of body snatching continued until anatomy laws—passed in various states throughout the nineteenth century—eased the shortage by allowing medical schools to use the bodies of executed murderers and the unclaimed dead.²⁰ These

¹⁰ See Rolla B. Hill & Robert E. Anderson, *The Evolving Purposes of the Autopsy: Twenty-First-Century Values from an Eighteenth-Century Procedure*, 32 PERSP. BIOLOGY & MED. 223, 223–24 (1989).

¹¹ In his classic 1801 anatomy textbook, Xavier Bichat wrote: “[Y]ou have taken notes at patients’ bedsides . . . and all is confusion for you in the symptoms which, refusing to yield up their meaning, offer you a succession of incoherent phenomena. Open up a few corpses: you will dissipate at once the darkness that observation alone could not dissipate.” 1 XAVIER BICHAT, ANATOMIE GÉNÉRALE at xcix (1801), quoted in MICHEL FOUCAULT, THE BIRTH OF THE CLINIC: AN ARCHAEOLOGY OF MEDICAL PERCEPTION 126 (A.M. Sheridan Smith trans., Pantheon Books 1973).

¹² See David Humphrey, *Dissection and Discrimination: The Social Origins of Cadavers in America*, 49 BULL. N.Y. ACAD. MED. 819, 819 (1973).

¹³ *Id.* at 824.

¹⁴ Michael Sappol, *The Cultural Politics of Anatomy in 19th Century America: Death, Dissection, and Embodied Social Identity* 526 (1997) (unpublished Ph.D. thesis, Columbia University) (on file with author) (stating further that “[d]issectors increasingly sought to forestall any identification with the body as a person, any identification that would evoke an emotional response in the anatomical student or the laity, even one so distancing as mockery”).

¹⁵ *Id.* at 528.

¹⁶ See *id.* at 526.

¹⁷ See *id.*

¹⁸ See Ruth Richardson, *Fearful Symmetry, Corpses for Anatomy: Organs for Transplantation*, in ORGAN TRANSPLANTATION: MEANINGS AND REALITIES 66, 82 (Stuart J. Youngner et al. eds., 1996).

¹⁹ *Id.*

²⁰ The first anatomy law was passed in Massachusetts in 1828. See *id.* at 74.

laws regularized the practice of dissection, reassuring law-abiding middle and upper class individuals that *their* bodies would not be involved.²¹ But throughout the nineteenth century, writes Sappol, people remained sensitive to the dangers of commercialization, insisting that the body remain “sequestered from the market economy, from any calculus advantage or disadvantage.”²²

Objections to dissection in the nineteenth century focused on both the instrumental and the commercial calculus, “the claim of science and the claim of the mart.”²³ An article in *Harpers* in 1854 captured the dilemma: “Science may prove, ever so clearly, that there is nothing there but carbon, and oxygen, and lime, . . . but all this can never eradicate the sentiment we are considering. It enters too deeply into our laws of thinking, our laws of speech, our most interior moral and religious emotions.”²⁴

Disputes over the sources of cadavers for science and medicine reemerged after World War I, when surgical requirements brought about by war casualties greatly increased the need for surgeons trained in anatomy.²⁵ The bodies of servicemen killed in the war were ideal subjects for training physicians, but the bodies’ ownership was contested.²⁶ While the medical profession sought bodies on which to practice, families wanted them returned.²⁷ To appease the families, doctors assured that they would give the cadavers reverential treatment and would return all removed body parts to their “shell.”²⁸ But in fact, “insufficient care was taken to ensure that separated parts of an individual’s body were returned to the correct shell.”²⁹

The practice of autopsy continued as an essential part of medical education, but, as experimentation became the preferred mode of discovery, the information revealed by autopsy seemed to possess less compelling value to researchers, and interest in research on corpses dramatically declined.³⁰ The rising importance of molecular diagnostics in the 1990s, however, augmented the value of tissue from the dead.³¹ Today, dead bodies serve a variety of research purposes. Pathologists argue

²¹ But anatomists were apparently comfortable with using the bodies of those who were socially devalued. An anatomist at the University of Michigan reassured the trustees that “better people” could rest easy. See Humphrey, *supra* note 12, at 822.

²² Sappol, *supra* note 14, at 196.

²³ *Id.* (quotations omitted).

²⁴ Editorial, 8 HARPER’S NEW MONTHLY MAGAZINE 690, 690 (1853–1854).

²⁵ See JOANNA BOURKE, DISMEMBERING THE MALE: MEN’S BODIES, BRITAIN, AND THE GREAT WAR 217 (1996).

²⁶ *See id.*

²⁷ *See id.* at 211.

²⁸ *See id.* at 219.

²⁹ *Id.*

³⁰ See Hill & Anderson, *supra* note 10, at 226; see also Tom McNamee, *Experts Afraid Autopsies Are a Dying Tradition*, CHI. SUN-TIMES, Nov. 16, 1997, at 12, available in 1997 WL 6379286 (noting that over the past “three decades, the number of autopsies performed has declined from 41% of all hospital deaths nationwide to 10%”).

³¹ See Wayne W. Grody, *Molecular Pathology, Informed Consent, and the Paraffin Block*, 4 DIAGNOSTIC MOLECULAR PATHOLOGY 155, 155–56 (1995) (documenting technological advances that make actual tissue samples even more valuable); Hill & Anderson, *supra* note 10, at 228 (stating that not only the medical profession and medical science but all of society benefits from the performance of autopsies).

that analysis of tissues using molecular methods is helping them to understand many diseases.³²

The historical disputes over dissection reflected several concerns about the violation of body integrity involved in cutting corpses, the collection and use of bodies without the consent or authorization of families and the “snatching” of bodies for profit. Concerns about body integrity, unauthorized collection and commercial exploitation remain in our historical memory. Today, dead bodies serve a variety of research purposes. Some research, such as studies requiring genetic material, can be accomplished with consenting, living volunteers.³³ But other investigations can be more easily accomplished on dead bodies, such as teaching medical students intubation techniques.³⁴ And some studies require the use of corpses.³⁵ Researchers at the Body Farm at the University of Tennessee, for example, bury donated bodies or leave them by the side of the road.³⁶ By determining how deteriorated and insect-ridden an abandoned corpse is at a particular time, they can advise medical examiners how to best estimate the time of death.³⁷

Today, old tensions have taken on new dimensions as the commercial potential of human tissue has captured the entrepreneurial imagination—as market interests provide incentives to treat tissue, blood and other body parts as valuable, collectible commodities.³⁸ A close look at four types of cases reveals their legal, personal and social dimensions. Disputes today raise several legal questions: Should pathologists or other researchers be able to take tissue from the dead when there has been no consent? If an autopsy has been authorized, does this imply permission to take body tissue for research? Once research is completed, how should the body and its parts be treated? These narrow questions often have ambiguous legal answers. To de-

³² See Chester Herman & David Schwartz, *Pathology and Laboratory Medicine*, 275 JAMA 1839, 1839 (1996) (arguing that because the availability of archived tissue specimens can provide a link between the emerging infections of today and the idiopathic illnesses of yesterday, the autopsy is the most important quality assurance indicator for the treatment of the sickest patients).

³³ For example, research on the existence of a breast cancer gene mutation could be done in corpses, but, more commonly, it is done on living volunteers. See, e.g., Steve Sternberg, *When Cancer's a Family Affair, Challenge Is to Isolate Genetic Link, Develop a Test*, ATLANTA J. & CONST., Jan. 8, 1994, at E1 (noting the progress made in locating the gene responsible for breast cancer by studying the chromosomes of families with a history of breast cancer).

³⁴ See James P. Orlowski et al., *The Ethics of Using Newly Dead Patients for Teaching and Practicing Intubation Techniques*, 319 NEW ENG. J. MED. 439, 440–41 (1988); see also D. Gary Benfield et al., *Teaching Intubation Skills Using Newly Deceased Infants*, 265 JAMA 2360, 2362 (1991) (noting the inadequacies of using mannequins or animals for teaching intubation techniques). When techniques such as intubation cause serious harm to a living individual, it could be argued that the research intervention should be developed first on deceased individuals. However, even in those instances, criticisms arise if the consent of the next of kin is not obtained. See Orlowski, *supra*, at 440–41.

³⁵ See Robert Gannon, *The Body Farm*, 251 POPULAR SCI. 77, 77 (1997).

³⁶ See *id.* at 78.

³⁷ See *id.* at 77.

³⁸ See Philippe Ducor, *The Legal Status of Human Materials*, 44 DRAKE L. REV. 195, 196 (1996) (discussing how medical technology has allowed for the transfer and processing of body parts and other products of human origin in a manner typical of banal commodities). See generally George J. Annas, *Outrageous Fortune: Selling Other People's Cells*, HASTINGS CENTER REP., Nov./Dec. 1990, at 36 (discussing the California Supreme Court case, *Moore v. Regents of the University of California*, 793 P.2d 479 (Cal. 1990), which involved doctors making a substantial profit from cells originally removed from a patient's body allegedly without the patient's knowledge of the cells' potential commercial uses).

velop an appropriate policy framework, it is necessary to understand the social values that underlie disputes.

III. CONTROVERSIES ABOUT RESEARCH ON THE DEAD

A. CASE I: CELEBRITY RESEARCH WITHOUT CONSENT—THE CASE OF EINSTEIN'S BRAIN

Albert Einstein died of a ruptured abdominal aortic aneurysm on April 18, 1955, and his body was cremated.³⁹ The scattering of ashes took place at a location and time that was not publicized because Einstein had indicated he did not want a shrine, memorial, statue or museum.⁴⁰ He used to say, "I want to be cremated so that people won't come to worship at my bones."⁴¹ Nor did he want to be studied.⁴² Einstein's family assumed that his entire body had been cremated,⁴³ but his wishes had not been respected.⁴⁴ Dr. Thomas Stoltz Harvey, the pathologist at Princeton Hospital who conducted Einstein's autopsy, removed and kept his brain.⁴⁵ Without any previous consent from Einstein, he arranged for it to be sliced and embedded in celloidin, so that he could examine the pieces under the microscope.⁴⁶ Harvey stored the sections in cardboard boxes and larger pieces in glass jars.⁴⁷ He controlled access to the brain tissue, giving pieces to about twelve scientists who hoped to discover its unique qualities.⁴⁸ Einstein's brain yielded little interesting scientific information, but the way it was handled yielded many questions about informed consent, respect for preferences and the control over tissue samples.

Would Einstein have consented to the study of his brain? Harvey insists that, "He being the scientist that he was, I think he would have agreed to the study of his brain."⁴⁹ But there is much evidence to dispute this contention. Einstein's papers contain no mention of a desire to donate his brain for research.⁵⁰ He did not choose

³⁹ See Jonathan Freedland, *In the Name of Science*, GUARDIAN WEEKEND PAGE, Dec. 17, 1994, at T10, available in 1994 WL 9728006.

⁴⁰ See Gina Maranto, *Einstein's Brain*, DISCOVER, May 1985, at 28, 29.

⁴¹ Freedland, *supra* note 39, at T10 (quoting Abraham Pais, Einstein's friend and biographer).

⁴² See *id.*

⁴³ See *Osgood File* (CBS radio broadcast, Aug. 21, 1995), available in 1995 WL 2961323 (Charles Osgood's interview with Dr. Thomas Stoltz Harvey). The family's wishes were that the whole body be cremated. See RACHLIN, *supra* note 2, at 329. After learning the nature of Harvey's proposed study, the family gave permission for him to proceed on the condition that the results be reported in scientific journals and that no attempts to sensationalize the findings be made. See *id.* at 330.

⁴⁴ See Freedland, *supra* note 39, at T10.

⁴⁵ See *id.*

⁴⁶ See RACHLIN, *supra* note 2, at 330-31. Harvey Rachlin refers to these slide specimens as "an exciting scientific treasure." *Id.* at 331.

⁴⁷ See *id.* at 333.

⁴⁸ See Michael Paterniti, *Driving Mr. Albert*, HARPER'S, Oct. 1997, at 35, 39.

⁴⁹ *Osgood File*, *supra* note 43. Harvey also suggested that another rationale for the autopsy was that "particularly since Einstein was German and in Germany back then autopsies were routine." Scott LaFee, *Einstein's Mind: His Brain Sits on a Shelf. Largely Unsought by the World*, SAN DIEGO UNION-TRIB., May 17, 1995, at E1 (quoting Dr. Thomas Harvey). However, Einstein viewed himself as an American citizen for the last 15 years of his life. See Ray Monk, *The Adulation of Einstein*, SUNDAY TELEGRAPH (London), May 19, 1996, at 15, available in LEXIS, World Library, Txtline File.

⁵⁰ See Maranto, *supra* note 40, at 32.

to donate his body to science, as others such as Bentham⁵¹ and Sir William Osler⁵² had done.⁵³ Instead he chose to have his body cremated, which would preclude scientific study. He took elaborate precautions to protect his image, bequeathing the right to license it to Hebrew University.⁵⁴ If he had wanted his brain used, it is likely he would have taken similar precautions to assure that its uses coincided with his wishes. Harvey's claim to know what Einstein would have wanted is particularly weak, given that he had ample opportunity to obtain consent. He had personally collected and analyzed Einstein's blood during his lifetime, yet did not get permission to study his brain.

Although Harvey took Einstein's brain for research purposes, he possessed it for over forty years without using it for meaningful research. In the 1980s, Marian Diamond, a neuroanatomist at the University of California at Berkeley, saw a picture in a science magazine of Einstein's brain tissue in a cardboard box next to Harvey's desk and, after some difficulty, convinced Harvey to give her some tissue to study.⁵⁵ He sent her the tissue in a mayonnaise jar.⁵⁶ Diamond found that Einstein's brain had a greater glial/neuron ratio than did eleven controls,⁵⁷ and published a study, including Harvey as a co-author as a courtesy for providing the tissue.⁵⁸ But Diamond was quick to point out her study's limitations, including the small sample size and the fact that she had no other geniuses' brains for comparative examination.⁵⁹

Finally, in 1996, forty-one years after he had taken the brain, Harvey published an article about it. Along with co-author Britt Anderson of the University of Alabama Department of Neurology, he asserted that, "[s]tudying the brain of a genius can play a small and titillating role in the quest to identify these neurobiological features [that affect intelligence]."⁶⁰ They compared Einstein's brain to five controls and concluded that Einstein's brain was within the average range in weight, but below the mean for men his age.⁶¹

Neither Diamond's nor Harvey's research had sufficient controls or measures to determine whether Einstein's particular brain morphology was related to his intellectual capability. In fact, other researchers questioned the appropriateness of trying to learn about genius through a physical study of the brain. Dr. Janice Stevens of the neuropsychiatry branch of the National Institute of Mental Health pointed out,

⁵¹ See RACHLIN, *supra* note 2, at 203–07; C.F.A. Marmoy, *The 'Auto-Icon' of Jeremy Bentham at University College, London*, 2 MED. HIST. 77, 77 (1958); Ruth Richardson & Brian Hurwitz, *Jeremy Bentham's Self Image: An Exemplary Bequest for Dissection*, 295 BRIT. MED. J. 195, 195 (1987).

⁵² See Alvin E. Rodin & Jack D. Key, *Osler's Brain and Related Mental Matters*, 83 S. MED. J. 207, 207 (1990) (documenting how nineteenth-century scholar and scientist, Sir William Osler requested the donation of his brain to science).

⁵³ See LaFee, *supra* note 49, at E1 (discussing how Einstein left no known written bequest donating his brain to science).

⁵⁴ See Richard O'Mara, *Equated with Genius*, BALTIMORE SUN, Mar. 16, 1996, at 1D.

⁵⁵ See Maranto, *supra* note 40, at 30, 34.

⁵⁶ See RACHLIN, *supra* note 2, at 332.

⁵⁷ See Marian C. Diamond et al., *On the Brain of a Scientist: Albert Einstein*, 88 EXPERIMENTAL NEUROLOGY 198, 201 (1985).

⁵⁸ However, Harvey did not participate in the research. See Harrison, *supra* note 42, at 6.

⁵⁹ See RACHLIN, *supra* note 2, at 333; Maranto, *supra* note 40, at 32.

⁶⁰ Britt Anderson & Thomas Harvey, *Alterations in Cortical Thickness and Neuronal Density in the Frontal Cortex of Albert Einstein*, 210 NEUROSCI. LETTERS 161, 161 (1996).

⁶¹ See *id.* at 161, 163.

"Many idiots have big brains loaded with glial cells."⁶² Physicist Banesh Hoffman, Einstein's biographer and former assistant, also criticized the idea of studying the physical brain.⁶³ So too did Robert Schulman, director of the Einstein papers at Princeton University: "He'd think it was ridiculous that people were chopping up his mind to see where his power came from."⁶⁴

Other "celebrities" have also been subjected to research after their death. In recent years, the *New England Journal of Medicine* has published articles on Karen Ann Quinlan's brain⁶⁵ and Hubert Humphrey's cancerous bladder.⁶⁶ Some celebrities have been disinterred to probe their genetic make-up or to solve the "mysteries" surrounding their life or death.⁶⁷ In February 1994, the Federal Bureau of Investigation tested the hair relics of George Washington, after establishing their authenticity by comparing them with living relatives.⁶⁸ It is unclear from reports what type of testing researchers performed. Some researchers suggested testing Washington's samples to determine the cause of his health problems, including possible infertility.⁶⁹ Along the same vein, researchers proposed genetic testing for Marfan's syndrome on samples of Abraham Lincoln's hair, bone chips and blood stains stored at the National Museum of Health and Medicine, affiliated with the Armed Forces Institute of Pathology.⁷⁰ Marfan's syndrome is characterized by weaknesses in bones, joints, eyes and the heart.⁷¹ Marfan patients are often tall with long limbs, fueling speculations that Lincoln had the condition.⁷² Due to the finite supply of Lincoln's DNA, administrators at the National Museum of History and Medicine decided to delay the study, pending improvements in DNA test techniques and more knowledge about the genetic cause of Marfan's syndrome.⁷³ But many other deceased historical figures—from statesmen to outlaws—are being considered as subjects for research.

⁶² See Don Colburn, *Studying the 20th Century's Most Esteemed Brain*, RECORD, Mar. 11, 1985, at B3, available in LEXIS, News Library, Arcnws File (quoting Dr. Janice Stevens).

⁶³ See Maranto, *supra* note 40, at 33.

⁶⁴ Freedland, *supra* note 39, at T10 (quoting Schulman).

⁶⁵ E.g., Hanna C. Kinney et al., *Neuropathological Findings in the Brain of Karen Ann Quinlan: The Role of the Thalamus in the Persistent Vegetative State*, 330 NEW ENG. J. MED. 1469 (1994).

⁶⁶ E.g., Ralph Hruban et al., *Brief Report, Molecular Biology and the Early Detection of Carcinoma of the Bladder—The Case of Hubert H. Humphrey*, 330 NEW ENG. J. MED. 1276 (1994).

⁶⁷ For example, the body thought to be Butch Cassidy was disinterred to establish its authenticity. See *NOVA: Wanted: Butch and Sundance* (PBS television broadcast, Oct. 12, 1993).

⁶⁸ See Associated Press, *FBI Studies Hair Samples for Washington's DNA*, ROCKY MOUNTAIN NEWS, Feb. 18, 1994, available in 1994 WL 6700303.

⁶⁹ See *id.*

⁷⁰ See Warren E. Leary, *Panel Backs DNA Tests on Lincoln's Tissue*, N.Y. TIMES, May 3, 1991, at B9.

⁷¹ See Warren E. Leary, *Committee Urges Delay in Cloning Lincoln's Genes*, N.Y. TIMES, Apr. 16, 1992, at B6.

⁷² See *id.*

⁷³ See *id.*; Larry Thompson, *Experts Discourage Test of Lincoln Genes*, WASH. POST, Apr. 16, 1992, at A14. In the initial proposal, the genetic "[t]esting would require destruction of tiny amounts of the samples to recover the . . . DNA, which could then be cloned to produce quantities sufficient for research." Warren E. Leary, *A Search for Lincoln's DNA*, N.Y. TIMES, Feb. 10, 1991, at A1. In May 1991, a committee assembled by the National Museum of Health and Medicine approved attempts to clone Abraham Lincoln's genes for DNA testing. See Leary, *supra* note 70, at B9. The decision to clone Lincoln's DNA provoked heated debates within the scientific community. See Will Dunham, *Plan to Clone Lincoln's DNA Draws Criticism*, UNITED PRESS INT'L, May 6, 1991, available in LEXIS, News Library, Arcnws File. Researchers then decided to clone Lincoln's

B. CASE II: GROUP RESEARCH WITHOUT CONSENT — THE CASE OF NATIVE AMERICAN REMAINS

Einstein's corpse was a target for research due to his personal characteristics.⁷⁴ In other instances, corpses are of interest in studies of group characteristics. Native American corpses in particular have long been a focus of research. Anthropologists and archaeologists of the eighteenth century looked on Native Americans as "noble savages," unspoiled examples of what mankind must have been like in its earliest days, before the Biblical Fall.⁷⁵ They were "material" providing scientists with "valuable clues" to past cultures.⁷⁶ In 1793, Thomas Jefferson, the father of American archaeology, endorsed burial excavation claiming he had the right to systematically excavate and remove the remains of over 1000 known Native American graves on his plantation by "virtue of a higher order called science."⁷⁷ Scientists of the time were primarily interested in Native American burial goods, but human remains were inevitably and "incidentally" excavated.⁷⁸

During the 1830s, two new "scientific" disciplines, craniology and phrenology, found uses for these incidental human remains.⁷⁹ Researchers used the excavated bodies of Native Americans in attempts to categorize humans ethnically and to estimate intelligence based on the size and shape of crania.⁸⁰ The largest Indian crania study involved the study of the Native Americans killed at the Sand Creek massacre

existing DNA to create more of it, allowing them to pursue the research on Marfan's syndrome. *See id.* In 1992, however, an expert panel convened by the National Museum of Health and Medicine recommended that researchers delay the cloning until genetic techniques improved. *See Leary, supra* note 71, at B6. The panel feared that the cloning would destroy all of the preserved material, precluding future uses. *See id.* Future tests may be possible using a technique known as polymerase chain reaction. *See* Richard A. Marini, *Polymerase Chain Reaction*, *POPULAR SCI.*, May 1992, at 99, 99. This technique could create a sufficient DNA sample size to conduct the study by amplifying the inadequate samples. *See id.* The study was still pending in late 1997. *See* David N. Leff, *First Steps on Long Road to Gene Therapy for Marfan's Syndrome Aortic Aneurysms*, *BIOWORLD TODAY*, Oct. 20, 1997, available in LEXIS, News Library, Curnws File.

⁷⁴ *See* Maranto, *supra* note 40, at 34 (stating that it is no surprise that neurobiologists want to study Einstein's brain because he was the premier scientist of this century).

⁷⁵ *See* JANE MCINTOSH, *THE PRACTICAL ARCHAEOLOGIST: HOW WE KNOW WHAT WE KNOW ABOUT THE PAST* 11 (1986); *see also* VINE DELORIA, JR., *RED EARTH, WHITE LIES: NATIVE AMERICANS AND THE MYTH OF SCIENTIFIC FACT* 18-20 (1995) (discussing the placement of Native Americans in the science-spirituality dichotomy); BRUCE G. TRIGGER, *A HISTORY OF ARCHAEOLOGICAL THOUGHT* 104 (1989) (discussing white America's biological explanation of the Native Americans' inferiority).

⁷⁶ *See* Gary D. Stumpf, *A Federal Land Management Perspective on Repatriation*, 24 *ARIZ. ST. L.J.* 303, 305 (1992).

⁷⁷ *See* James Riding In, *Without Ethics and Morality: Historical Overview of Imperial Archaeology and American Indians*, 24 *ARIZ. ST. L.J.* 11, 15 (1992) (quoting JOHN C. GREENE, *AMERICAN SCIENCE IN THE AGE OF JEFFERSON* at xiii (1984)).

⁷⁸ *See* John B. Winski, *There Are Skeletons in the Closet: The Repatriation of Native American Human Remains and Burial Objects*, 34 *ARIZ. L. REV.* 187, 192 (1992). Additionally, the skeletal remains which were incidentally excavated received disrespectful treatment. *See id.* They were stored in boxes and treated as "relics or fossils," or were turned over for scientific research. *See id.* *See generally* DOUGLAS H. UBELAKER, *HUMAN SKELETAL REMAINS—EXCAVATION, ANALYSIS, INTERPRETATION: ALDINE MANUALS ON ARCHAEOLOGY* (1978) (exploring scientific studies of aboriginal tribes, including osteological studies of sex, age, diet, disease and migration patterns).

⁷⁹ *See* Riding In, *supra* note 77, at 17; Winski, *supra* note 78, at 191.

⁸⁰ *See* Riding In, *supra* note 77, at 17; *see also* Winski, *supra* note 78, at 191 (noting that intelligence rankings were given to each race based on the measurements of crania).

whose bodies were "donated" by the U.S. Army.⁸¹ Furthermore, in 1868 the U.S. Surgeon General instituted his own crania study and ordered that all troops stationed near Native American burial sites fulfill their patriotic duties and collect and contribute more specimens for research purposes.⁸² These craniological and phrenological studies were used to support theories that all non-whites were intellectually and morally inferior.⁸³ They were ultimately discredited, but researchers continued to view Native American remains as objects of curiosity.⁸⁴

Responding to the growing interests in Native American skeletal remains⁸⁵ among both scientists and art and antiquities dealers, in 1906 the federal government passed the American Antiquities Preservation Act (Antiquities Act) which legally converted all Native American burial sites, funerary objects and human remains into "objects of antiquity" and "archaeological resources" and thus federal property.⁸⁶ Legal permits were required to excavate human remains for research purposes.⁸⁷ When the 1906 Act was found to be unconstitutionally vague,⁸⁸ the federal government in 1979 passed the Archaeological Resource Protection Act, reinforcing the legal construction of Native American human and funerary remains as archaeological resources and federal property.⁸⁹ Scientists have begun to use DNA techniques on Native American remains, as a source of information about tribal migration patterns,⁹⁰ as

⁸¹ See Riding In, *supra* note 77, at 19.

⁸² See *id.* at 19–20. In fact, it is thought that all of the remains collected by the Surgeon General's crania study are now part of the Smithsonian's collection. See *id.* at 23.

⁸³ See *id.* at 17–18; see also DELORIA, *supra* note 75, at 19 (discussing the primitive belief that human cranial capacity illustrated the intelligence of different races). Vine Deloria writes:

Indians were hardly on their reservations before government employees began robbing graves at night to sever skulls from freshly buried bodies for eastern scientists to measure in an attempt to prove a wholly spurious scientific theory. Indeed, it may have been that Indians were unnecessarily slaughtered in battles, since it was a custom to simply ship bodies of Indians killed by the army to eastern laboratories for use in various experiments. . . . Even today, dark rumors continue to circulate concerning the use of Indians by the Indian Health Service to test experimental drugs. Some years ago there were real questions concerning the number of Indian women being sterilized at government clinics without their knowledge or consent.

Id.

⁸⁴ See H.R. REP. NO. 101-877, at 10 (1990), reprinted in 1990 U.S.C.C.A.N. 4367, 4369.

⁸⁵ See Leonard D. DuBoff, *Protecting Native American Cultures*, OR. ST. B. BULL., Nov. 1992, at 9, 9–10.

⁸⁶ See 16 U.S.C. §§ 431–433, 470(d) (1994); see also Patty Gerstenblith, *Identity and Cultural Property: The Protection of Cultural Property in the United States*, 75 B.U. L. REV. 559, 577–79 (1995) (describing how the President has the authority to designate anything situated on lands owned or controlled by the federal government as a national monument).

⁸⁷ See 16 U.S.C. § 432.

⁸⁸ See *United States v. Diaz*, 499 F.2d 113, 115 (9th Cir. 1974).

⁸⁹ See 16 U.S.C. §§ 470aa–470ii. Specific examples of "archaeological resources" cited in the Act are human graves and skeletal material. See *id.* § 470bb(1).

⁹⁰ See Matt Crenson, *Tracking the First Americans: DNA Gives Clues on Timing, Patterns of Ancient Migrations*, DALLAS MORNING NEWS, Jan. 11, 1993, at 6D, available in LEXIS, News Library, Arcnws File. See generally FRANK W. EDDY, *ARCHAEOLOGY, A CULTURAL-EVOLUTIONARY APPROACH* 6–7 (1991) (discussing the objectives of anthropological archeology); Lewis R. Binford, *Archaeological Perspectives*, in *NEW PERSPECTIVES IN ARCHAEOLOGY* 5, 12 (Sally R. Binford & Lewis R. Binford eds., 1968) (noting that a major goal of archaeology is the "reconstruction of the lifeways of extinct peoples").

well as "relations between diet, disease, ecology, and social arrangements" affecting mankind.⁹¹

The continuing research upset living Native Americans, including the descendants of those people whose bodies were the objects of research. They were concerned about religious issues and exploitation. According to James Riding In, "Many Indians assert that disinterment stops the spiritual journey of the dead, causing the affected spirits to wander aimlessly in limbo. These affected spirits can wreak havoc among the living, bringing sickness, emotional distress, and even death."⁹² Their objections also reflected sensitivities about past oppression. Why, they asked, were Native American remains more scientifically valuable than those of white Americans? Why was skeletal research necessary, proper or beneficial? Native Americans regarded the research on their ancestral skeletal remains as just another example of discrimination by "racist state laws" that "deprive them of equal burial rights."⁹³ They were also offended by the use of remains to study tribal migration. Native American genesis stories are based not on tribal migration, but on spirits rising from the earth.⁹⁴ Tribes tend to adhere to creationist theories and reject science as just another type of religion.⁹⁵ As an officer of the Lakota tribe stated when he argued for the repatriation of skeletal remains that were slotted to become archaeological material, "We never asked science to make a determination as to our origins."⁹⁶ In addition, Native Americans worry that such research will be used to deny them access to land on the basis of historical tribal claims.⁹⁷

Recognizing the importance of Native American interests, the federal government passed the National Museum of the American Indian Act in 1989,⁹⁸ and the

⁹¹ See John E. Peterson, *Dance of the Dead: A Legal Tango for Control of Native American Skeletal Remains*, 15 AM. INDIAN L. REV. 115, 117 (1990); see also Stumpf, *supra* note 76, at 305 (discussing how archaeologists regard material remains with which they work as irreplaceable clues to the past).

⁹² Riding In, *supra* note 77, at 13.

⁹³ See *id.* at 26.

⁹⁴ See George Johnson, *Indian Tribes' Creationists Thwart Archaeologists*, N.Y. TIMES, Oct. 22, 1991, at A1; see also DELORIA, *supra* note 75, at 39 (discussing how, although some Native American genesis stories involve migration, the majority of the stories involve spiritual creation); Bill Dietrich, *Skeleton Leads to Bones of Contention: Science Collides with Tribal Beliefs*, ARIZ. REPUBLIC, Sept. 1, 1996, at A28, available in 1996 WL 7734492 (noting that critics of American Indian skeletal investigations reject the tribal migration theory); Leslie Alan Horvitz, *Indians and Anthropologists are Battling Over Old Bones*, INSIGHT, Nov. 18, 1996, at 40, 40-41 (discussing the fact that because many tribes reject scientific theories of evolution and migration and embrace their own spiritual beliefs about creation, the chances of compromise between the scientists and the Native Americans are slim).

⁹⁵ See Horvitz, *supra* note 94, at 40; Johnson, *supra* note 94, at A1.

⁹⁶ Johnson, *supra* note 94, at A1 (quoting Sebastian LeBeau, repatriation officer for the Cheyenne River Sioux, a Lakota tribe based in Eagle Butte, South Dakota).

⁹⁷ See DELORIA, *supra* note 75, at 84.

⁹⁸ Pub. L. No. 101-185, 103 Stat. 1336 (1989) (codified as amended at 20 U.S.C. § 80q (1994)). This Act applied only to items held by the Smithsonian Institute, which housed the largest collection of Native American skeletal remains and inventory. See H.R. REP. NO. 101-340(I), at 9 (1989), reprinted in 1989 U.S.C.A.N. 776, 777. The law required the Smithsonian to repatriate its Native American remains and grave goods to requesting tribes who could present a preponderance of evidence showing they were familiarly related to the remains. See *id.* at 24 (section-by-section analysis of the Act).

Native American Graves Protection and Repatriation Act (NAGPRA) in 1990.⁹⁹ These acts enabled requesting Native Americans to reclaim cultural items¹⁰⁰ and family related skeletal remains¹⁰¹ discovered on federal or tribal land from all federally funded institutions and museums.

Researchers seeking access to Native American remains have challenged the constitutionality of NAGPRA. At issue in a pending case are human remains unearthed in 1996 near Kennewick, Washington.¹⁰² The remains of a skeleton, nicknamed the "Kennewick Man,"¹⁰³ startled researchers because initial radiocarbon dating indicated the skeleton was at least 9000 years old,¹⁰⁴ and was in fact Caucoid, not Native American.¹⁰⁵ If true, this would validate the belief held by many archaeologists that "some early Native American inhabitants came from European stock, migrating over a land bridge across the Bering Sea."¹⁰⁶ The Army Corps of Engineers took custody of Kennewick Man and determined that, in accordance with NAGPRA, the remains should be returned to the Umatilla tribe, a culturally affiliated tribe, for repatriation without further scientific study.¹⁰⁷ However, a group of scientists filed suit to halt the repatriation and "demanded a detailed scientific study to determine the origins of the man,"¹⁰⁸ which they viewed as "a rare discovery of national and international significance."¹⁰⁹ They claimed that NAGPRA violates their

⁹⁹ See Pub. L. No. 101-601, 104 Stat. 3048 (1990) (codified at 25 U.S.C. §§ 3001-3013 (1994)).

¹⁰⁰ See Sarah Harding, *Justifying Repatriation of Native American Cultural Property*, 72 IND. L.J. 723, 723 (1997)

¹⁰¹ See H.R. REP. NO. 101-340(I), at 9.

¹⁰² See *Bonnichsen v. U.S. Dep't of the Army*, 969 F. Supp. 614, 617 (1997). The court granted the Army Corps of Engineers' motions to dismiss the scientists' § 1983 claim. *See id.* at 625. However, the scientists were allowed to argue that the government's decision was "arbitrary and capricious" under the Administrative Procedure Act and that the Native American Graves Protection and Repatriation Act (NAGPRA) was unconstitutional. *See id.* at 626.

¹⁰³ *See id.* at 617. These remains are also referred to as the "Richland Man." *See id.*

¹⁰⁴ *See id.*

¹⁰⁵ *See* Dietrich, *supra* note 94, at A28.

¹⁰⁶ Peter R. Afrasiabi, Note, *Property Rights in Ancient Human Skeletal Remains*, 70 S. CAL. L. REV. 805, 805 (1997).

¹⁰⁷ *See* *Bonnichsen*, 969 F. Supp. at 617-18. The Umatilla Indian tribe claimed the remains and expressed their intent to repatriate the remains before any further scientific research could be conducted. *See* Afrasiabi, *supra* note 106, at 805; *see also* Memorandum in Opposition to Defendants' Motion to Dismiss at 2, *Bonnichsen* (No. 96-1481-JE) (copy on file with author).

¹⁰⁸ *Bonnichsen*, 969 F. Supp. at 618. The Asatru Folk Assembly, described by their Complaint as a church "that represents Asatru, one of the major indigenous, pre-Christian, European religions," also filed suit asking the court to compel the Corps of Engineers to allow further scientific testing of the remains in order to determine whether the remains are Native or non-Native. *See id.* The Asatru contend that if in fact Kennewick Man is non-Native, they request custody of the remains "for study and 'for eventual reburial in accordance with native European belief.'" *Id.* at 618-19. The Asatru and *Bonnichsen* claims were joined for the purposes of these hearings. *See id.* at 619.

¹⁰⁹ *Id.* at 618. These scientists include Robson *Bonnichsen*, an archaeologist at Oregon State University, who in 1994 discovered through DNA analysis that hairs found at burial sites in Oregon, Montana, Nebraska and Nevada were at least 10,000 years old. *See* Afrasiabi, *supra* note 106, at 817. A tribe has since claimed these hairs pursuant to NAGPRA and they will be repatriated. *See id.* Two other scientist plaintiffs, Douglas W. Owsley, a forensic anthropologist at the Smithsonian, and Richard L. Jantz, a professor of anthropology at the University of Tennessee in Knoxville, have developed a computerized, "specialized protocol for measuring and documenting human skeletal remains" which "permits various comparisons to be made between modern and ancient populations which would not otherwise be possible." Complaint at 3, *Bonnichsen* (No. 96-1481-JE) (copy on file with author).

“right” to scientific inquiry.¹¹⁰

C. CASE III: HOW BROAD IS CONSENT FOR AUTOPSY? A COLD WAR LEGACY

Just as the bodies of celebrities and members of distinct groups have been the subject of research, so too have the bodies of ordinary citizens. Researchers study the manner in which people died, the diseases they experienced or the toxins to which they were exposed. In December 1958, Cecil Kelley, a thirty-eight-year-old lab worker at the Los Alamos National Laboratory¹¹¹ “was exposed to a lethal dose of radiation when a stock of plutonium accidentally reached critical mass.”¹¹² At the request of the laboratory, his widow, Doris, consented to an autopsy in order to ascertain the cause of death.¹¹³ The body was later sent to her in a sealed casket and buried.¹¹⁴

Doris Kelley thought little more about the details of her husband’s death until 1993,¹¹⁵ when the *Albuquerque Tribune* published an investigative report on the human radiation experiments.¹¹⁶ Laboratory documents were made public and sent to Doris when the “documents [were] requested by the Tribune under the Freedom of Information Act.”¹¹⁷ Doris discovered from laboratory records that scientists had removed four kilograms of organs, bones and tissue from her husband’s body without her knowledge or consent.¹¹⁸ She and her daughter, Katie Kelley Mareau, sought damages for suffering and for violation of their civil rights.¹¹⁹ They believed that Cecil’s tissue was taken not only to learn more about the effects of radiation, but also to develop information that the laboratory could use to defend itself in potential litigation.¹²⁰ Their lawyer is seeking to have the lawsuit certified as a class action on behalf of thousands of families whose relatives were the subject of radiation experiments.¹²¹

There are many such families. In the late 1950s, Los Alamos had formed a “Human Tissue Analysis Project” to study the health effects of radiation on nuclear workers.¹²² They collected and stored tissue samples from 1520 corpses from twenty-seven states—all people who had been exposed to radiation from nuclear

¹¹⁰ See Complaint at 9, *Bonnichsen* (No. 96-1481-JE).

¹¹¹ See Scripps Howard, *U.S. Consults Family on Karen Silkwood’s Remains*, PLAIN DEALER (Albuquerque), Feb. 24, 1994, at 8A.

¹¹² Philip Cohen, *Los Alamos Faces ‘Bodysnatch’ Lawsuit*, NEW SCIENTIST, Nov. 2, 1996, at 10, 10.

¹¹³ See *id.*

¹¹⁴ See *id.*

¹¹⁵ See *id.*

¹¹⁶ See Ed Asher & Dennis Domrzalski, *Body-Parts Testing Done Without Knowledge, Consent of Kin*, ALBUQUERQUE TRIB., June 10, 1995, at A11, available in LEXIS, Regnws Library, Albtb File (detailing the practice of taking tissue samples from all corpses in Los Alamos without consent from relatives). The 1993 report “The Plutonium Experiment” won a Pulitzer Prize. See Ed Asher, *Los Alamos Did Illegal Body Tests, Worker’s Widow Alleges in Lawsuit*, ALBUQUERQUE TRIB., Oct. 16, 1996, at A1, available in LEXIS, Regnws Library, Albtb File.

¹¹⁷ Asher, *supra* note 116, at A1. The Freedom of Information Act can be found at 5 U.S.C. § 552 (1994 & Supp II 1996).

¹¹⁸ See Cohen, *supra* note 112, at 10.

¹¹⁹ See *id.*

¹²⁰ See *id.*

¹²¹ See *id.*

¹²² See *id.*

weapons facilities.¹²³ Through analysis of this tissue, they sought to find out whether the estimates of the doses the workers had received while alive were in fact accurate.¹²⁴ Later, in 1968, the U.S. Department of Energy (DOE) established the U.S. Transuranium and Uranium Registry which maintains 20,000 tissue samples and residues taken from the remains of 700 current and former workers at nuclear weapons sites or from people who lived near the sites.¹²⁵ Many of these tissue samples were obtained from local coroners.¹²⁶ Families were not notified.¹²⁷

During the Cold War, a top secret Atomic Energy Commission (AEC) biophysics program, called "Project Sunshine," collected hundreds of cadavers in order to analyze the effect of exposure to Strontium-90 from hydrogen bomb fallout.¹²⁸ But, as in the nineteenth century, bodies were in short supply.¹²⁹ AEC Commissioner Willard Libby complained about the problem of finding human bones for these tests.¹³⁰ "[I]f anybody knows how to do a good job of body snatching, they would be serving their country," he said.¹³¹ Project Sunshine hired a law firm to look at the legal status of body snatching and found that it was indeed illegal.¹³² But in 1955 and 1956, the project was able to obtain about thirty to forty bodies each month in New York City—mainly unclaimed bodies from examiners' offices and medical schools.¹³³

Project Sunshine focused on the effects of fallout, but other experiments focused on the effects of accidents on the bodies of nuclear plant workers such as Cecil Kelley.¹³⁴ The purpose was to obtain data on long-term plutonium accumulation, to collect information on the effects of high doses of radiation and to compare the high doses from a criticality accident with data obtained from past cases of radiation exposure.¹³⁵ This research took place at weapons plants throughout the United States and the Kelleys were not the only family to sue. On May 20, 1985, Larry Hicks, a thirty-three-year-old employee of a DOE plant, National Lead, woke up feeling weak and experienced an irregular heartbeat.¹³⁶ He was admitted to a coronary unit and died.¹³⁷ His physician felt that workplace exposure to "black oxide" might have caused his death.¹³⁸ A representative of National Lead suggested that the autopsy be

¹²³ See *id.*

¹²⁴ See *id.*

¹²⁵ See Mark Jewell, *Irradiated Body Parts Held for Research: Many Tissues Acquired from Nuclear Workers*, SEATTLE TIMES, Oct. 16, 1996, at B1, available in 1994 WL 3654632; John Nolan, *U.S. Agents Called 'Body Snatchers' for Taking Workers' Tissues*, NEWS TRIB. (Washington), Oct. 9, 1994, at A14, available in 1994 WL 4649878.

¹²⁶ See Jewell, *supra* note 125, at B1.

¹²⁷ See *id.*

¹²⁸ See Laurie Garrett, *Gathering Bodies: U.S. Collected Specimens in '50s for Radiation Tests*, NEWSDAY (New York), June 25, 1995, at A5, available in 1995 WL 6659445.

¹²⁹ See *id.*

¹³⁰ See *id.*

¹³¹ *Id.* (quoting records released by the Advisory Committee on Human Radiation Experiments).

¹³² See *id.*

¹³³ See *id.*

¹³⁴ See Cohen, *supra* note 112, at 10.

¹³⁵ See *id.*

¹³⁶ See *Hicks v. NLO, Inc.*, 631 F. Supp. 1207, 1208 (S.D. Ohio 1986).

¹³⁷ See *id.*

¹³⁸ See *id.*

performed by physicians at the U.S. Uranium Registry,¹³⁹ in a program run by the Hartford Environmental Health Foundation (HEHF) for the DOE.¹⁴⁰ Earlier, HEHF had contacted National Lead employees asking them to donate their tissue for research on their death, but Hicks apparently had not agreed to participate in such research.¹⁴¹ Consequently, when the coroner gave HEHF access to Larry Hicks' body, his widow sued National Lead and HEHF, claiming that they had conspired to obtain organs and tissue samples for research without consent¹⁴²—that they were, in effect, body snatching.

Among the corpses obtained during the Cold War was that of Karen Silkwood—a worker at the Kerr McGee fuel rod processing plant in Crescent, Oklahoma, and also an anti-nuclear activist.¹⁴³ Silkwood died in 1974 at the age of twenty-eight in a fatal car crash as she was driving to meet a *New York Times* reporter to talk about the plant's violation of safety standards.¹⁴⁴ After the accident, Los Alamos scientists flew to Oklahoma City.¹⁴⁵ They obtained permission from the medical examiner for an autopsy to ascertain the cause of death and to cremate the body.¹⁴⁶ But, without his permission, they preserved some organs—including her reproductive organs—before reducing the rest of her body to ashes.¹⁴⁷

In 1994, twenty years after the fatal accident, the head of the Human Studies Project team approached Silkwood's father for permission to analyze his daughter's stored tissue. The request, stated in cold administrative language:

“The analysis of Karen Silkwood's tissue produced 113 separate samples. These consisted of small flasks with solvent and small dissolved amounts of tissue. . . .

“This repository will maintain the samples identified only with a numerical case number for possible future research unless Silkwood's next-of-kin objects. In this case the repository can continue to store them, but not allow access to them without the next of kin's permission.”¹⁴⁸

Bill Silkwood regarded this request as “ghoulish,” as “more than hypocritical.”¹⁴⁹ He had never consented to the storage of his daughter's organs, only to an autopsy.¹⁵⁰ “They stole those organs. . . . If they've got all those organs, from her brain on down to her womb, why weren't we told about it? They're a bunch of

¹³⁹ *See id.*

¹⁴⁰ *See id.* at 1208 n.3.

¹⁴¹ *See id.*

¹⁴² *See id.* at 1209.

¹⁴³ *See* Laura Tolley, *Karen Silkwood Case Returns to Haunt Parents*, L.A. TIMES, Apr. 24, 1994, at B3, available in 1994 WL 2158199.

¹⁴⁴ *See id.* Her father, Bill Silkwood, and activists in the anti-nuclear movement contended that she had been forced off the road. *See id.* This allegation became the theme of a popular film. SILKWOOD (ABC Motion Picture 1983).

¹⁴⁵ *See* Scripps Howard, *supra* note 111, at 8A.

¹⁴⁶ *See id.*

¹⁴⁷ *See id.*

¹⁴⁸ *Id.* (quoting letter sent to Bill Silkwood by Alan McMillan, head of the Los Alamos National Laboratory's Human Studies Project Team).

¹⁴⁹ *See id.*

¹⁵⁰ *See id.*

ghouls.”¹⁵¹ He did not want the samples destroyed through research, “They’ve destroyed enough already.”¹⁵²

D. CASE IV: TREATMENT OF BODIES AFTER RESEARCH—THE BENNETT CASE

The cavalier attitude of some scientists toward corpses and toward the families of the deceased sometimes extends to their treatment of bodies on completion of the research. Robert Bennett, Jr.’s sixty-one-year-old mother, Lorraine, died of cancer in 1992, and her body was donated to the University of California, Los Angeles (UCLA) for research and medical education purposes.¹⁵³ The school had promised to give her a decent burial once they completed the investigations.¹⁵⁴ Instead, her body ended up in the trash.¹⁵⁵ Bennett brought a class action suit against UCLA, charging that as many as 18,000 bodies were wrongfully cremated with laboratory animals and dumped in garbage bins.¹⁵⁶ The problem came to light when a box supposedly containing only human ashes broke open, revealing broken syringes, used gauze and other garbage.¹⁵⁷ The contractor who had been hired to dispose of the ashes alerted state health officials.¹⁵⁸ Bennett’s lawsuit charges the university with breach of contract, negligence and fraud.¹⁵⁹

Such causes of action would seem to be in keeping with precedents allowing relatives to sue for negligent handling of corpses by an individual who has lawful authority over the body.¹⁶⁰ Even third parties who have no family relationships or contractual relationships to a decedent have duties with respect to the corpse. They are obliged, for example, not to mutilate it.¹⁶¹ As a 1908 case put it:

Respect for the dead is an instinct that none may violate. The democracy of death is superior to the edicts of kings. . . . It was her [the wife’s] right, old as time, as broad as humanity, and as deep as the heart of man, that his mortal remains should be treated with due respect.¹⁶²

IV. THE SOCIAL VALUES AT STAKE

The cases we have described suggest the utilitarian value of dead bodies for research or, simply, the satisfaction of scientific curiosity. But are all research uses of dead bodies appropriate? Ruth Macklin, testifying before a New York State Sen-

¹⁵¹ *Id.* (quoting Bill Silkwood).

¹⁵² *Id.*

¹⁵³ See Scott Lindlaw, *UCLA Medical School Sued in Body Disposal*, CHATTANOOGA FREE PRESS, Nov. 3, 1996, at C4, available in LEXIS, News Library, Chfrpr File.

¹⁵⁴ See *id.*

¹⁵⁵ See *id.*

¹⁵⁶ See *id.*

¹⁵⁷ See *id.*

¹⁵⁸ See *id.*

¹⁵⁹ See *id.*

¹⁶⁰ See *Whitehair v. Highland Memory Gardens, Inc.*, 327 S.E.2d 438, 439 (W. Va. 1985).

¹⁶¹ See *Morrow v. Southern Ry. Co.*, 195 S.E. 383, 385 (N.C. 1938); *Kyles v. Southern Ry. Co.*, 61 S.E. 278, 280 (N.C. 1908).

¹⁶² *Kyles*, 61 S.E. at 281.

ate legislative committee, asserted, "The dead have no interests."¹⁶³ But dead bodies do have significant value to individuals and families, who claim the right of consent. Their taking may violate personal or religious beliefs and social understandings.

In addition, cavalier attitudes toward the dead may ultimately damage the research enterprise. A basic tenet of research law and ethics is that research should not be undertaken without consent.¹⁶⁴ The research goals of advancing scientific understanding and curing diseases are laudable, but research is not a matter of conscription. People can refuse to participate in research, even if it involves no risk to them and enormous potential benefit to the community.¹⁶⁵ With respect to federally funded research, the protections of human subjects are codified in federal regulations.¹⁶⁶ But because a dead person is not considered to be a human subject, these research protections do not apply. Instead, the rights of an individual (and his or her family members) to control what is done to the body after death is a matter of state law.¹⁶⁷ To assess the appropriateness of state provisions, it is necessary to look beyond the scientific values of tissue to understand the values at stake in disputes over research on the dead.

A. INDIVIDUAL VALUES

Some individuals do not want research done on their bodies after death. Some may object to physical intervention on their bodies.¹⁶⁸ Others may object to the type of information generated by the research, or to a particular line of research inquiry, or to a particular type of researcher, such as a for-profit biotechnician.¹⁶⁹ Still others may be concerned that the information obtained from the research will affect their relatives or members of their ethnic or racial group.¹⁷⁰

Some individuals may prefer to take their secrets to their grave. Parents of a child who has a normal external appearance, but who has a genetic abnormality, may be particularly resistant to disclosure of the child's condition, both before and after

¹⁶³ Testimony in the New York State Legislature, October, 1997.

¹⁶⁴ The Nuremberg Code states, "The voluntary consent of the human subject is absolutely essential." *The Nuremberg Code, reprinted in THE NAZI DOCTORS AND THE NUREMBERG CODE: HUMAN RIGHTS IN HUMAN EXPERIMENTATION 2* (George J. Annas & Michael A. Grodin eds., 1992).

¹⁶⁵ See 45 C.F.R. § 46.116(a)(8) (1997) (requiring that informed consent, oral or written, notifies a research participant that his participation is voluntary, refusal to participate does not result in penalty and he may discontinue participation at any time without loss of benefits).

¹⁶⁶ *Id.* §§ 46.101–409.

¹⁶⁷ See Michael H. Scarmon, Note, *Brotherton v. Cleveland: Property Rights in the Human Body—Are the Goods Oft Interred with Their Bones?*, 37 S.D. L. REV. 429, 446–47 (1992) (discussing cases in various states that have analyzed claims with regard to cadavers based on property rights, using state law as a source of those rights). This is also manifested, for example, in states' adoption of the Uniform Anatomical Gift Act (UAGA) (amended 1987), 8A U.L.A. 19 (1993 & Supp. 1997). See also Ania M. Frankowska, *Fetal Tissue Transplants: A Proposal to Amend the Uniform Anatomical Gift Act*, 1989 U. ILL. L. REV. 1095, 1106, which discusses how all 50 states have adopted the UAGA.

¹⁶⁸ Cf. Lori B. Andrews, *My Body, My Property*, HASTINGS CENTER REP., Oct. 1986, at 28, 30 (noting that "[i]n a Gallup poll, 20% of respondents said they would not donate organs because they did not like the idea of being cut up after they died").

¹⁶⁹ See Philip R. Reilly et al., *Ethical Issues in Genetic Research: Disclosure and Informed Consent*, 15 NATURE GENETICS 16, 19 (1997).

¹⁷⁰ Cf. *id.* (discussing biological information (i.e., nonpaternity) as an issue that should be raised with potential subjects because disclosure of such information may reveal things about the participant or his family he may not want to know).

the child's death.¹⁷¹ Some persons may not want their tissue used—even without their names attached—for research on race and I.Q., race and crime, or gender and mathematical ability—because the research that links genetics with crime, intelligence or other behaviors could label and stigmatize their group.¹⁷² Recently passed statutes in some states recognize such objections by protecting people's control over their genetic material. In Florida, for example, a person's genetic material may not be tested without consent.¹⁷³ Twenty-six other states give people varying degrees of control over what is done with their genetic material or the results of testing it.¹⁷⁴ In recent legislative enactments, however, at least five states have carved out research exceptions to these laws.¹⁷⁵

Other people may object to their tissue being patented or their body being used by a for-profit enterprise.¹⁷⁶ In 1951, a thirty-one-year-old black woman, Henrietta Lacks, died of ovarian cancer.¹⁷⁷ Without the knowledge or consent of Lacks or her family, her tissue was taken and made into a cell line that has been extremely valuable for research and is still sold today.¹⁷⁸ In a recent interview, her husband said, "As far as them selling my wife's cells without my knowledge and making a profit—I don't like that at all. They are exploiting both of us."¹⁷⁹ In addition, some people may have political or ideological objections to certain research or researchers. It is unlikely, for example, that Silkwood would have consented to the DOE research on her remains given her activist stance against the nuclear industry.¹⁸⁰

Unauthorized taking of body tissue from the dead can also violate the religious beliefs of tissue sources.¹⁸¹ In the Orthodox Jewish community, the body must be

¹⁷¹ Cf. Sonia M. Suter, Note, *Whose Genes Are These Anyway? Familial Conflicts over Access to Genetic Information*, 91 MICH. L. REV. 1854, 1867 (1993) (noting that a mother who has a daughter with testicular feminization syndrome, in which a person develops as a woman but remains genetically male, may refuse to tell her sisters of the risk to their daughters of inheriting the syndrome because of the associated social stigma).

¹⁷² See Daniel J. Kevles & Leroy Hood, *Reflections, in THE CODE OF CODES: SCIENTIFIC AND SOCIAL ISSUES IN THE HUMAN GENOME PROJECT* 300, 326–27 (Daniel J. Kevles & Leroy Hood eds., 1992) (highlighting the social stigma that has devolved from the linkage of genes with behavior); see also T.H. Cushing, *Should There Be Genetic Testing in Insurance Risk Classification?*, 60 DEF. COUNS. J. 249, 260–61 (1993) (discussing the possibility that genetic testing could lead to discrimination of certain ethnic, racial and gender groups). For instance, the early eugenics movement stigmatized immigrants from eastern and southern Europe by declaring that their genetic composition predisposed them to inferior intelligence, criminality, alcoholism and prostitution. See *id.*; see also Dorothy E. Roberts, *The Nature of Blacks' Skepticism About Genetic Testing*, 27 SETON HALL L. REV. 971, 979 (1997) (discussing African American's cultural resistance to and skepticism about genetic testing due to fears of discrimination).

¹⁷³ See FLA. STAT. ANN. § 760.40(2)(a) (West 1997).

¹⁷⁴ See JENNIFER NORD, NATIONAL CONFERENCE OF STATE LEGISLATURES, *GENETIC TESTING: THE INSURANCE INDUSTRY, THE RESEARCH COMMUNITY, AND INDIVIDUAL RIGHTS* 1–5 (1997).

¹⁷⁵ These states are Georgia, Louisiana, Nevada, New York, Oregon and Texas. See GA. CODE ANN. § 33-54-6 (1996); LA. REV. STAT. ANN. § 22:213.7(D)(4) (West Supp. 1998); NEV. REV. STAT. § 629.151(4) (1997); N.Y. CIV. RIGHTS LAW § 79-1(4)(a) (McKinney Supp. 1997–1998); OR. REV. STAT. § 659.715(1)–(2) (1997); TEX. REV. CIV. STAT. ANN. art. 9031 § 3(d)(2) (West Supp. 1998).

¹⁷⁶ See Reilly et al., *supra* note 169, at 18–19.

¹⁷⁷ See Harriet A. Washington, *Henrietta Lacks—An Unsung Hero*, EMERGE, Oct. 1994, at 24, 24.

¹⁷⁸ See *id.*

¹⁷⁹ *Id.*

¹⁸⁰ See Tolley, *supra* note 143, at B3.

¹⁸¹ See, e.g., *Lott v. State*, 225 N.Y.S.2d 434, 436–37 (Ct. Cl. 1962) (recognizing that patients' religious beliefs should be taken into consideration in determining what is proper handling of their bodies after their death).

buried whole.¹⁸² If a person's leg is amputated during his or her life, arrangements are made to store that body part for burial with the individual after death.¹⁸³ Family members of Orthodox Jewish decedents have sought to enjoin the performance of autopsies.¹⁸⁴ Rabbis apparently asked Harvey for Einstein's brain so that it could be buried, allowing the scientist to rest in peace.¹⁸⁵ Orthodox Jewish individuals and Native Americans are not the only people to have religious and cultural ideas about the handling of the dead. Laws in every state express our cultural concerns over proper treatment of remains.¹⁸⁶ Many states recognize "[t]he right to have the body in the condition in which it was left by death, without mutilation."¹⁸⁷

The American legal system recognizes the psychological benefits to living individuals of having a say about what will happen to their property and their bodies after they die.¹⁸⁸ That is the basis of the estates laws and organ donor laws. The Uniform Anatomical Gift Act of 1987 (UAGA), requires, prior to death, the patient's permission, before organs or tissue can be taken for transplant or research purposes.¹⁸⁹ If a patient's wishes are not known, family members can consent on his or her behalf.¹⁹⁰ But if wishes *are* known, the relatives' wishes cannot overrule them.¹⁹¹ Along those lines, serial killer Jeffrey Dahmer wanted to be cremated.¹⁹²

¹⁸² See MAURICE LAMM, *THE JEWISH WAY IN DEATH AND MOURNING* 10 (1969) (explaining that Jewish tradition maintains that man was created in the image of God, and therefore in death the body should retain the unity of that image). If parts are removed, they must be returned and buried with the body. See *Kohn v. United States*, 591 F. Supp. 568, 573 (E.D.N.Y. 1984) (citing Fred Rosner, *Autopsy in Jewish Law and the Israeli Autopsy Controversy*, in *JEWISH BIOETHICS* 331, 332, 335, 338 (Fred Rosner & J. David Bleich eds., 1979)).

¹⁸³ In fact, when Menorah Gardens and Funeral Chapels in Florida lost an amputated leg of an Orthodox Jewish woman, it paid a \$1.25 million lawsuit settlement to her daughter. See Henry Fitzgerald, Jr., *Woman Awarded \$1.25 Million in Suit*, *SUN-SENTINEL* (Ft. Lauderdale), May 16, 1997, at B1, available in 1997 WL 3104029. "Orthodox Jews believe that at the end of time, not only will a person's soul be resurrected, but the body as well. . . . It's important that the whole body, including blood, be buried." *Id.*

¹⁸⁴ See, e.g., *Wilensky v. Greco*, 344 N.Y.S.2d 77, 78 (Sup. Ct. 1973) (enjoining coroner from performing autopsy on automobile accident victim whose parents were Orthodox Jews for whom the procedure was "repugnant to their religious beliefs").

¹⁸⁵ See Freedland, *supra* note 39, at T10.

¹⁸⁶ See Oliver Metzger, Note, *Making the Doctrine of Res Extra Commercium Visible in United States Law*, 74 *TEX. L. REV.* 615, 643 (stating that every state has some measure of legal protection for graves); see also Marla K. Clark, Note, *Solving the Kidney Shortage Crisis Through the Use of Non-Heart-Beating Cadaveric Donors: Legal Endorsement of Perfusion as a Standard Procedure*, 70 *IND. L.J.* 929, 939 (1995) (stating how the Uniform Anatomical Gift Act §§ 1-17 (amended 1987), 8A *U.L.A.* 29 (1993 & Supp. 1997), "adopted in some form by every state, and other statutes governing the disposition of dead bodies have unwittingly strengthened [the] notion of a property interest in cadavers").

¹⁸⁷ E.g., *Infield v. Cope*, 270 P.2d 716, 719 (N.M. 1954).

¹⁸⁸ See Andrews, *supra* note 168, at 30.

¹⁸⁹ See UNIF. ANATOMICAL GIFT ACT § 2 (amended 1987), 8A *U.L.A.* 33-34 (1993).

¹⁹⁰ See *id.* § 3(a), at 40.

¹⁹¹ See *id.* § 3(b)(2), at 41.

¹⁹² See Richard P. Jones, *Judge Rejects Dahmer Brain Study: He Orders It Cremated, Ruling in Favor of Serial Killer's Father*, *MILWAUKEE J.-SENTINEL*, Dec. 13, 1995, at 1, available in 1995 WL 12846028.

His mother wanted his brain donated for research.¹⁹³ A judge held that Dahmer's wishes for cremation took priority.¹⁹⁴

B. HARM TO FAMILY MEMBERS

Clyde Snow, a forensic anthropologist who has done many DNA tests on dead bodies, reminded the public that "Bones may be my business, but they're other people's families."¹⁹⁵ Sometimes the decedents' families object to their study. In 1993, Wesley Allan Dodd was hanged in Washington State for the murder of three children.¹⁹⁶ As the first prisoner to be hanged since 1965,¹⁹⁷ his sentence was controversial.¹⁹⁸ But the hanging did not end the controversy; for his body became the focus of competing claims. A physician wanted to analyze his brain and his blood to discover if there were neurological or genetic abnormalities.¹⁹⁹ Death penalty opponents wanted access to the body for an investigation that might show that hanging was cruel and unusual punishment.²⁰⁰ The family allowed researchers to study his blood, but rejected the study of his brain.²⁰¹ Their lawyer said, "They wanted to see him cremated as a whole person."²⁰²

The emotional impact on relatives of mistreatment of cadavers is widely recognized. In *Lott v. State*, an Orthodox Jewish woman, Rose Lott, and an Italian-American woman, Mary Tumminelli, both died in Brooklyn State Hospital on the same day; the hospital mixed up the bodies, erroneously giving them to the wrong undertakers.²⁰³ This resulted in Tumminelli's body being prepared for an Orthodox Jewish burial, and Lott's body being embalmed, made up with cosmetics and placed in a coffin with a crucifix and rosary according to the rites of the Roman Catholic faith.²⁰⁴ The court awarded families of both women damages for their mental suffering as a result of the treatment of the bodies.²⁰⁵ Another case similarly pointed out, "Physical mutilation of remains may be expected to distress the next of kin. But where they believe that the treatment will affect the afterlife of the deceased, the impact inevitably is greater."²⁰⁶

¹⁹³ See *Dahmer Family Split over Use of Brain*, N.Y. TIMES, Aug. 3, 1995, at A22; Jones, *supra* note 192, at 1.

¹⁹⁴ *In re Estate of Jeffrey L. Dahmer*, No. 94 PR 175 (Wis. Cir. Ct. Dec. 14, 1995) (order releasing the brain of Jeffrey Dahmer to his father, Lionel Dahmer) (on file with author); Jones, *supra* note 192, at 1.

¹⁹⁵ *NOVA*, *supra*, note 67.

¹⁹⁶ See Deeann Glamser, *Killer's Brain Causes Clash*, USA TODAY, Jan. 6, 1993, at 3A.

¹⁹⁷ See *id.*

¹⁹⁸ See *id.*

¹⁹⁹ See *id.*

²⁰⁰ See *id.*

²⁰¹ See Peter Lewis et al., *Doctor Says Dodd Felt No Pain—Neck Ligaments Tore, Then He Strangled*, SEATTLE TIMES, Jan. 6, 1993, at C1, available in LEXIS, News Library, Majpap File.

²⁰² Kate Shatzkin et al., *Dodd Autopsy Fuels Both Sides of Debate over Hanging*, SEATTLE TIMES, Jan. 7, 1993, at G1, available in LEXIS, News Library, Majpap File (quoting the Western State Hospital Medical Director, Dr. Jerry Dennis, who asked the family for Wesley Dodd's brain for research).

²⁰³ 225 N.Y.S.2d 434, 435 (Ct. Cl. 1962).

²⁰⁴ See *id.* at 435–36.

²⁰⁵ See *id.* at 437 (awarding each family \$1000).

²⁰⁶ *Kohn v. United States*, 591 F. Supp. 568, 573 (E.D.N.Y. 1984).

When the decedent's religious and personal interests are not respected, or when the body is treated without respect, family members may suffer emotional distress as a result.²⁰⁷ Christina Arnaud died in her sleep from sudden infant death syndrome (SIDS).²⁰⁸ Since Louisiana is one of four states that requires autopsies of infants who die from that condition, her body was delivered to Dr. Charles B. Odom, the deputy coroner of the Parish of Lafayette, Louisiana.²⁰⁹ Before undertaking the authorized autopsy, Odom performed research on Christina's body.²¹⁰ He held her body by her feet and dropped it head-first onto the concrete lab floor.²¹¹ Then he x-rayed her skull and recorded the results.²¹² He had previously performed this same study with the body of another infant, Kendall Felix.²¹³

Odom's interest in this particular study followed from a professional dispute in which he was involved.²¹⁴ While Chief Medical Examiner of Honolulu, he concluded through autopsy that a child had accidentally been dropped.²¹⁵ Another forensic pathologist argued that the infant died of intentional abuse.²¹⁶ Dr. Odom was gathering data in his Louisiana study so that he could testify before a Hawaiian grand jury.²¹⁷ But imagine the harm to the family, first losing a child to SIDS, then learning that their daughter's body had been crushed by being dropped, head-first, on cement.

Family members may also have direct personal interests in the research conducted on their deceased relatives. The parents of serial killers might be concerned about stigma. But other family members might be harmed by research on their kin. Genetic analysis of the tissue from relatives can reveal information about the health status and predispositions of family members.²¹⁸ One researcher tried unsuccessfully to test Einstein's brain tissue to see if he had a genetic mutation that predisposed him to an aneurysm.²¹⁹ His findings could have led to genetic discrimination against Einstein's surviving relatives.²²⁰ Unless the decedent had in life expressed a contrary

²⁰⁷ See Andrews, *supra* note 168, at 29 (stating that people have an interest in their extracorporeal body parts, but a protection of that interest "now tenuously rests on precarious doctrines that protect people from emotional distress").

²⁰⁸ See Arnaud v. Odom, 870 F.2d 304, 305 (5th Cir. 1989).

²⁰⁹ See *id.* Arizona, California, Louisiana and Ohio all statutorily compel autopsies in suspected cases of sudden infant death syndrome. See ARIZ. REV. STAT. ANN. § 11-597 (West 1997); CAL. GOV'T CODE § 27491.41 (West Supp. 1998); LA. REV. STAT. ANN. § 33:1563(C) (West 1988); OHIO REV. CODE ANN. § 313.121 (Anderson Supp. 1996).

²¹⁰ See Arnaud, 870 F.2d at 306.

²¹¹ See *id.*

²¹² See *id.*

²¹³ See *id.*

²¹⁴ See *id.* at 305-06.

²¹⁵ See *id.* at 306.

²¹⁶ See *id.*

²¹⁷ See *id.*

²¹⁸ See Theresa E. Morelli, *Genetic Discrimination by Insurers: Legal Protections Needed from Abuse of Biotechnology*, HEALTHSPAN, Sept. 1992, at 8, 8.

²¹⁹ See Scott McCartney, *Believing Einstein's Brain Matters, Doctors Keep the Remains*, ASIAN WALL ST. J., May 6, 1994, at 1, available in 1994 WL-WSJA 2009122. The DNA in the particular sample was too degraded to provide a definitive answer. See *id.*

²²⁰ Genetic testing on deceased individuals can also disrupt family relationships. Einstein's adopted granddaughter, Evelyn, asked a New Jersey physician, Dr. Charles Boyd, to use genetic testing to determine if she was actually Einstein's illegitimate daughter. See *Einstein's Brain*,

desire, relatives have a right under the UAGA to refuse to consent to research on their kin's body.²²¹ In addition, many courts recognize a quasi-property right in a dead body that the deceased's next of kin can exercise to further the individual's previous wishes. For example in *Brotherton v. Cleveland*, the court, considering a widow's claim concerning the removal of her dead husband's corneas without consent, acknowledged her property-like interest in his dead body.²²² She had a right to stop the use of his corneas because she felt he would not have wanted them donated for transplantation purposes.²²³

C. COMPROMISING POLITICAL BELIEFS

As Bill Silkwood recognized, the cadaver has significant political meaning. In an analysis of debates over the repatriation of the fragmented remains of Atomic bomb victims to Japan, Susan Lindee shows that body fragments are not only a source of scientific information but also "a diplomatic commodity, a classified secret, a spoil of war, and an instantiation of the effectiveness of American democracy and American Science."²²⁴ Body parts held for twenty-six years as state secrets at the Armed Forces Institute of Pathology were repatriated after 1965²²⁵ and became caught up in international debates over the legality and morality of the use of the Atomic bomb. The body parts—acquired, processed, preserved, managed, classified and controlled—became objects just like the organs from Kelley and Silkwood and the brains of Einstein and the serial killers. Even when they have no ritual meaning, body parts have potential to reveal a scientific "truth," and, as Lindee shows, this "truth"²²⁶ provides the records for historical interpretation.²²⁷

The political value of bodies also underlies disputes over black burial grounds which have long been especially vulnerable to body snatching. In 1788 the black community in Kings County, New York, called for a ban on medical students "making a merchandise of human bones."²²⁸ Over 200 years later, African Americans in New York City objected to the analysis of bones from black burial grounds by white researchers, for they recognized the political value of these bones as sources of information about the history of early black communities, their work and their illnesses.²²⁹ They, like Native Americans reacting to research on remains, anticipated that the interpretations drawn from remains would reflect social stereotypes.²³⁰

ECONOMIST, Apr. 2, 1994, at 82, 82. To undertake the genetic comparison, Boyd obtained a piece of Einstein's brain from Harvey. *See id.*

²²¹ *See* UNIF. ANATOMICAL GIFT ACT § 3 (amended 1987), 8A U.L.A. 40-41 (1993).

²²² *See* *Brotherton v. Cleveland*, 923 F.2d 477, 482 (4th Cir. 1991).

²²³ *See id.* at 478, 482.

²²⁴ M. Susan Lindee, *The Repatriation of Atomic Bomb Victim Body Parts to Japan: Natural Objects and Diplomacy*, OSIRIS (forthcoming 1999).

²²⁵ *See id.*

²²⁶ *See id.*

²²⁷ *See id.*

²²⁸ Sappol, *supra* note 14, at 147.

²²⁹ *See* Karen Cook, *Bones of Contention*, VILLAGE VOICE, May 4, 1993, at 23.

²³⁰ *See id.*

D. HARM TO THE RESEARCH ENTERPRISE

When researchers take and use tissue from corpses without consent, the research enterprise itself may be harmed. It can hardly be claimed that letting Harvey decide what was done to Einstein's brain led to the best possible research. Harvey was not an expert in neuropathology.²³¹ He had not published any scientific studies prior to, or in the forty years after, Einstein's death.²³² By 1988, Harvey had lost his medical license²³³ and subsequently obtained a job as a factory worker making advertising display stands.²³⁴ With no medical affiliation, he reportedly sliced off snippets of the brain on his kitchen breadboard.²³⁵

Disputes over the disinterment of Native American remains for research purposes have suggested that these remains are often not well used. Like Einstein's brain, the Native American bones had in many cases been shoved in boxes, not even catalogued, let alone used in research.²³⁶ Says Steven Moore:

I think that it's arrogance in the extreme to say that those sites have scientific value and should be exploited for their scientific value when the legacy is 300,000 human remains in cardboard boxes. I think that, as a professional community, you've destroyed your credibility in my eyes to say that future sites that are going to be exposed have unique scientific value if you've done little more than place the bones in cardboard boxes in basements.²³⁷

Following protests, the NAGPRA was passed, requiring remains to be returned to descendants.²³⁸ Researchers have decried this law, saying it will stop valuable research,²³⁹ but others refute this argument by pointing to evidence proving that in the decades when researchers and museums had custody of the remains, they did not use them to the best research advantage.²⁴⁰

²³¹ See Freedland, *supra* note 39, at T10.

²³² See *id.*

²³³ See *id.*

²³⁴ See LaFee, *supra* note 49, at E1.

²³⁵ See Nancy Banks-Smith, *The Man with No Brain*, GUARDIAN, April 2, 1994, at 26.

²³⁶ See Margaret Bowman, *The Reburial of Native American Skeletal Remains: Approaches to the Resolution of a Conflict*, 13 HARV. ENVTL. L. REV. 147, 152 (1989) (citing PROCEEDINGS: CONFERENCE ON REBURIAL ISSUES 3-15 (Polly Quick ed., 1985) (transcript of conference held at the Newberry Library, Chicago, on June 14-15, 1985) (comments of Steven Moore)).

²³⁷ PROCEEDINGS: CONFERENCE ON REBURIAL ISSUES, *supra* note 236, at 25.

²³⁸ See 25 U.S.C. § 3005 (1994).

²³⁹ See, e.g., Afrasiabi, *supra* note 106, at 807 (arguing that remains should not be "repatriated if they would thereby be lost to science and humankind forever").

²⁴⁰ See 136 CONG. REC. H10,985, H10,988 (daily ed. Oct. 22, 1990) (statement of Rep. Campbell) (stating that "thousands upon thousands of native American human remains and sacred objects are housed in museums and Federal agencies across the country[,] . . . kept in boxes, crates, and small wooden file drawers, tagged and numbered"); Riding In, *supra* note 77, at 28 (arguing that "[I]ndians continue to be victims of a practice that is without scientific or moral justification. . . . Many scientists now agree that there are no overriding reasons to retain collections of recent Indian remains. Little research is done on these collections, and little new has been learned from them" (quoting Lawrence Rosen, *Give American Indian Remains Back to Tribes*, N.Y. TIMES, Nov. 15, 1988, at 30A)); see also Jack F. Trope & Walter R. Echo-Hawk, *The Native American Graves Protection and Repatriation Act: Background and Legislative History*, 24 ARIZ. ST. L.J. 35, 41 (1992) (stating how at the turn of the century, "[s]cientific means were not always used by museum collecting expeditions . . . which can better be described, in some instances, as 'fervid rip-and-run operations'"). See generally S. REP. NO. 104-350 (1996), reprinted in 1996 U.S.C.A.A.N. 3802

V. POLICY CONSIDERATIONS

The disputes we describe highlight the differences between the instrumental perspectives of science and social and cultural concerns. Some of these concerns follow from personal or religious beliefs, others from political ideologies. They are becoming increasingly important as body tissue from the dead assumes growing value in biotechnology research.

Legal constraints regarding research on the dead may seem limited. Yet a vast body of legal precedents—generally overlooked by researchers and sometimes ignored by courts—could be used to avert what happened in the cases we discussed. The taking of tissue without consent, even purportedly for research purposes, violates statutes and common law principles about appropriate respect for dead bodies.²⁴¹ It violates principles of giving next of kin authority to make decisions that best approximate those the deceased would have made.²⁴² As an Ohio court pointed out, “Abuse of dead bodies . . . has received extraordinary treatment in the courts.”²⁴³ And courts acknowledge that research can constitute abuse.²⁴⁴

Courts currently vary in the protections they provide against nonconsensual research on the dead. Some states recognize a right of relatives to receive the body “in the same condition it was in when death intervened.”²⁴⁵ Even an autopsy, when done without proper authority, is considered an actionable “mutilation.”²⁴⁶ Thus, in Case I, the taking of Einstein’s brain without permission could have been actionable. And, in Case II, the NAGPRA allows decedents to recover their ancestors’ remains from researchers and to reinter them. The violation of the person’s religious or personal beliefs by removing body parts or interfering with cremation or burial is clearly actionable.

In certain cases, relatives have property or quasi-property rights in the body.²⁴⁷ The Supreme Court of Appeals of West Virginia defined the quasi-property right in the following terms:

(calling for amendments to the National Museum of American Indian Act of 1989 so that it imposes on the Smithsonian Institution the same artifact identification and repatriation requirements as those mandated by NAGPRA).

²⁴¹ See *supra* text accompanying notes 221–23.

²⁴² See *supra* text accompanying notes 164–94.

²⁴³ *Carney v. Knollwood Cemetery Ass’n*, 514 N.E.2d 430, 433 (Ohio Ct. App. 1986).

²⁴⁴ See, e.g., *Hassard v. Lehane*, 128 N.Y.S. 161, 162–63 (N.Y. 1911) (holding that a mother had a cause of action for “wrongful and unlawful dissection” and “wrongful and unlawful removal and detention of parts of the remains” against a coroner who removed, dissected and kept her dead son’s spleen simply because it was enlarged).

²⁴⁵ E.g., *Foley v. Phelps*, 37 N.Y.S. 471, 473–74 (App. Div. 1896) (holding that a widow is entitled to the possession of her deceased husband’s body in the same condition as when death occurred, for the purpose of proper care and burial).

²⁴⁶ See *Grawunder v. Beth Israel Hosp. Ass’n*, 272 N.Y.S. 171, 176 (App. Div. 1934), *aff’d*, 195 N.E. 221 (N.Y. 1935) (mem.); *Gurganious v. Simpson*, 213 N.C. 613, 614 (1938).

²⁴⁷ See, e.g., *Whaley v. County of Tuscola*, 58 F.3d 1111, 1115 (6th Cir. 1995) (holding that next of kin have a constitutionally protected property interest in the dead body of a relative and have a right to refuse the removal of corneas or eyeballs of decedent); *Brotherton v. Cleveland*, 923 F.2d 477, 482 (6th Cir. 1991) (holding that widow and children may have a protected property interest in decedent’s body and the removal of the corneas for transplantation without consent presents a valid due process claim); *Fuller v. Marx*, 724 F.2d 717, 719 (8th Cir. 1984) (holding that widow had quasi-property right in the dead body, which was satisfied when husband’s body returned in acceptable condition, even though some organs had been removed). *But see* *State v. Powell*, 497 So. 2d 1188, 1193 (Fla. 1986) (holding that next of kin have only a limited right to possess the dead body

The quasi-property rights of the survivors include the right to custody of the body; to receive it in the condition in which it was left, without mutilation; to have the body treated with decent respect, without outrage or indignity thereto; and to bury or otherwise dispose of the body without interference.²⁴⁸

The emotional distress of relatives was also at issue in *Christensen v. Superior Court*, a 1991 class action against mortuaries, funeral homes and crematoriums that had handled as many as 16,000 bodies.²⁴⁹ Without consent, these institutions had harvested organs from brains to uteri.²⁵⁰ The court held that “the next of kin, while not in the full proprietary sense ‘owning’ the body of the deceased have property rights in the body which will be protected, and for a violation of which they are entitled to indemnification.”²⁵¹ Not only were the crematory services liable for the emotional distress of relatives, but so was the purchasing entity since “it knew or should have known that the crematories had not complied with the laws of the state which prohibit removal and sale of human organs absent the consent of the decedent or statutory rights holder.”²⁵² By buying the organs, presumably for sale in research, it encouraged or induced the unlawful conduct. Such cases give clear legal protection to relatives for the emotional harm that comes from disturbance of their loved one’s corpse.

The overwhelming protection given dead bodies from disturbance is subject to one exception—state-mandated autopsies for the narrow purpose of determining cause of death.²⁵³ Most state statutes controlling autopsies dictate that coroners may order or conduct an autopsy only in instances where justice requires it.²⁵⁴ “The compelling interest of the state in knowing when death may have resulted from a criminal act or other acts that might affect the health and well being of its citizens outweigh[s] the interest[s]” of family members or the decedent who oppose an autopsy on ethical, religious or philosophical grounds.²⁵⁵

Medical curiosity alone is not a sufficient reason for an autopsy. As a New York case pointed out, “The desire of the Medical Examiner to perform an autopsy merely to determine whether the decedent died by reason of injury to one vital organ

for burial, not a property right in the remains and statute authorizing removal of corneas during autopsy is constitutional).

²⁴⁸ *Whitehair v. Highland Memory Gardens, Inc.*, 327 S.E.2d 438, 441 (W. Va. 1985).

²⁴⁹ 820 P.2d 181, 184–85 & n.5 (Cal. 1991).

²⁵⁰ See *id.* at 185. For a more detailed description of the parts, see *Christensen v. Superior Court*, 271 Cal. Rptr. 360, 364–65 (Ct. App. 1990). The suit also alleged that the bodies had been cremated disrespectfully by burning 30 to 40 together at one time, mixing up the ashes. See *id.* at 365–66.

²⁵¹ *Christensen*, 820 P.2d at 193 (citing *O’Donnel v. Slack*, 55 P. 906, 907 (Cal. 1899)).

²⁵² *Id.* at 194.

²⁵³ See Theodore Silver, *The Case for a Post-Mortem Organ Draft and a Proposed Model Organ Draft Act*, 68 B.U. L. REV. 681, 691 & n.40 (1988).

²⁵⁴ See 18 AM. JUR. 2D *Coroners* § 10 (1985), which states that:

Ordinarily, the right of the coroner to perform an autopsy is restricted to cases where death is supposed to have been caused by violent or unlawful means, although under some statutes it may exist where death results from casualty, or where death results in a suspicious, unusual, or unnatural manner and when the decedent was in apparent good health.

However, even in these situations, an “autopsy cannot be justified in the interest of science.” *Id.*

²⁵⁵ *Id.*

as opposed to another" is insufficient.²⁵⁶ Private physicians have even less right to satisfy their medical curiosity. In a turn-of-the-century case, a physician performed an autopsy because "the decedent had a greatly enlarged spleen and it was an interesting case."²⁵⁷ He removed the heart and spleen, cut them into numerous pieces and preserved them.²⁵⁸ The court held that even if the autopsy had been justified, that would provide no authority for the physician to remove and retain organs against the will of the person entitled to the corpse.²⁵⁹

When an autopsy violates religious beliefs, the need for the autopsy must be compelling. Six states have enacted statutes that provide that autopsies can never be performed when they are contrary to the decedent's, or his next of kin's, wishes absent a "compelling public necessity."²⁶⁰ Court cases have protected religious beliefs. In *Begay v. State*, the decedent's sisters and brother brought suit for emotional distress because the state did not handle the body "according to traditional Navajo religious beliefs."²⁶¹ The State of New Mexico had performed an autopsy on the decedent because his body had scratches on his face and his wallet was missing.²⁶² The coroner had decided the New Mexico statute requiring autopsies in all cases of suspicious death was applicable and did not obtain consent from the decedent's next of kin.²⁶³ Although the lower court dismissed the suit for failure to state a cause of action,²⁶⁴ the appellate court held that the plaintiffs' had alleged a cause of action for emotional distress and remanded the suit.²⁶⁵

In a 1979 case, a judge permanently enjoined the court medical examiner from conducting an autopsy on the plaintiff's mother and directed the examiner to return the remains for burial.²⁶⁶ The mother had been struck by a motor vehicle while crossing a street.²⁶⁷ She was an Orthodox Jew, who observed the Orthodox tradition that prohibits dissection of the body.²⁶⁸ The court stated: "An autopsy cannot re-

²⁵⁶ *Weberman v. Zugibe*, 394 N.Y.S.2d 371, 372 (Sup. Ct. 1977). In that case, the decedent had been struck by a car and her family sued to enjoin performance of an autopsy for religious reasons. *See id.* at 372; *see also* *Atkins v. Medical Exam'r*, 418 N.Y.S.2d 839, 841 (Sup. Ct. 1979) (holding that "where there is not criminal activity or suspicion of foul play, there is no sound reason to permit an invasion of deep seated religious beliefs").

²⁵⁷ *Hassard v. Lehane*, 128 N.Y.S. 161, 162 (App. Div. 1911).

²⁵⁸ *See id.*

²⁵⁹ *See id.* at 164.

²⁶⁰ *See* CAL. GOV'T CODE § 2749.43 (West 1996); MD. CODE ANN., EST. & TRUSTS § 5-310 (1996); N.J. STAT. ANN. § 52:17B-88.2 (West 1997); N.Y. PUB. HEALTH LAW § 4210-c (McKinney 1996); OHIO REV. CODE ANN. § 313.13.1 (Anderson 1997); R.I. GEN. LAWS § 23-4-4-1 (1996).

²⁶¹ 723 P.2d 252, 255 (N.M. Ct. App. 1985).

²⁶² *See id.*

²⁶³ *See id.*

²⁶⁴ *See id.* at 254.

²⁶⁵ *See id.*

²⁶⁶ *See* *Atkins v. Medical Exam'r*, 418 N.Y.S.2d 839, 840-41 (Sup. Ct. 1979). In a very similar case six years earlier, in *Wilensky v. Greco*, the Supreme Court of Orange County, New York, also enjoined the county coroner from performing an autopsy on an Orthodox Jewish man. *See* *Wilensky v. Greco*, 344 N.Y.S.2d 77, 78 (Sup. Ct. 1973). As in *Atkins*, the court ruled that the purpose of the autopsy, to determine the manner of death, was so obvious in the case of a man killed in a car accident that the state could not justify overriding the religious beliefs of the decedent or his family. *See id.* Thus, the autopsy was not performed and the coroner was directed to return the body to the plaintiff. *See id.*

²⁶⁷ *See* *Atkins*, 418 N.Y.S.2d at 810.

²⁶⁸ *See id.* at 841.

store her moral being. It should not be countenanced to destroy her eternal life. The grief which follows the shadow of death must not be compounded by the indignity of transgression against sacred belief."²⁶⁹ Because there was no criminal activity or suspicion of foul play connected to the death of the woman, "there [was] no sound reason to permit an invasion of deep-seated religious beliefs to merely satisfy curiosity as to the cause of death."²⁷⁰

In *Hicks v. NLO, Inc.*, the coroner's delegation to HEHF of the testing necessary to determine the cause of death was held to be proper.²⁷¹ However, the research done on the tissue from Kelley and Silkwood clearly went beyond that necessary to determine cause of death. So, in Case III, there could be a common law tort right on the part of relatives to damages for unauthorized, unrelated research.

In *Kohn v. United States*, a New York district court held that the parents of a serviceman killed by another serviceman were entitled to \$210,000 in damages because the United States's handling of the body violated the Jewish plaintiffs' religious beliefs.²⁷² The Army—without notice to the family and without their consent—performed an autopsy on the body of the serviceman, removed certain body parts to be retained "indefinitely,"²⁷³ and then cremated some of the body parts.²⁷⁴ The plaintiffs sued the United States for emotional distress resulting not only from the autopsy itself, but also from the fact that the United States cremated some body parts and retained certain organs.²⁷⁵ The court held that even though the autopsy itself was not actionable, the parents could recover emotional distress damages for the removal and cremation of body parts.²⁷⁶ The court recognized that "[p]hysical mutilation of the remains may be expected to distress the next of kin."²⁷⁷ The cases which recognize relatives' interests in how the corpse of their loved one is handled and which require proper treatment of the corpse after a legitimate intervention has occurred could serve as precedents to address the harm in Case IV, where bodies donated for research were allegedly handled improperly after the research had ended.

Over a century of legal precedents recognize the rights of the deceased to be left alone except in instances where autopsy is necessary to protect the public by providing evidence of a crime's commission.²⁷⁸ But the research value of cadaver tissue has increased as the uses that can be made of the body expand. While most state statutes provide that autopsies are to be limited only to inquiry necessary for determining the cause of death,²⁷⁹ and are to be performed in the "customary and

²⁶⁹ See *id.*

²⁷⁰ *Id.*; see also *Weberman v. Zugibe*, 394 N.Y.S.2d 371, 372 (Sup. Ct. 1977) (holding that an autopsy may not be performed over the religious, ethical or philosophical objections of a decedent's family, absent a showing of genuine necessity).

²⁷¹ 631 F. Supp. 1207, 1210 (S.D. Ohio 1986).

²⁷² 591 F. Supp. 568, 575 (E.D.N.Y. 1984).

²⁷³ See *id.* at 573.

²⁷⁴ See *id.*

²⁷⁵ See *id.*

²⁷⁶ See *id.* at 572-73.

²⁷⁷ See *id.* at 573. The court also stated that "[t]he United States similarly cannot excuse the retention indefinitely of those parts of the body that have not been cremated. To say that a practice is 'accepted' is not to justify it." *Id.*

²⁷⁸ See *supra* notes 253-78 and accompanying text.

²⁷⁹ See James O. Pearson, Jr., Annotation, *Liability for Wrongful Autopsy*, 18 A.L.R. 4th 858, 893, § 11(b) (1996).

usual" manner,²⁸⁰ fourteen states and the District of Columbia allow the retention without consent for research purposes of tissues that are removed as a result of autopsies.²⁸¹ And seventeen state statutes allow the removal and retention of corneas and/or pituitary glands without consent if they are to be used for research and/or manufacturing drugs.²⁸² Minnesota has gone the furthest with a statute stating that

²⁸⁰ See *id.* at 891, § 11(a).

²⁸¹ See ARIZ. REV. STAT. ANN. § 11-597(B) (West 1997) (requiring autopsies in cases of "sudden and unexplained infant death" and allowing the examiner to retain tissue samples for research purposes as long as the parent of the infant does not object to the removal, and it is not likely to result in any visible disfigurement); CAL. GOV'T CODE § 27491.41(e)-(g) (West 1997) (requiring autopsies in cases of sudden unexplained infant death, and allowing the removal and retention of tissues for research purposes without consent of the parent if the removal will not result in any "visible disfigurement," and if the research is approved by the State Committee for the Protection of Human Subjects); *id.* § 27491.45(a) (stating that the coroner has the right to retain tissues that may be necessary for scientific investigation and to distribute the tissues for "training, educational, and research purposes" in cases where the decedent did not die in a state hospital and the next of kin has consented); D.C. CODE ANN. § 2-1605(a)-(c) (1997) (stating that the Medical Examiner's Office may retain "the corneal tissues, and the aortic and pulmonary heart valves" from autopsied bodies which are suitable for transplantation or medical research as long as the medical examiner does not know the decedent or his next of kin objects to the practice); FLA. STAT. ANN. § 872.04(1)-(2), (4) (West 1997) (requiring all autopsies to be performed with the consent of the decedent's next of kin, unless the next of kin cannot be located; however, once the consent to autopsy is obtained, the coroner may retain for scientific purposes those tissues "customarily removed" during autopsy); HAW. REV. STAT. ANN. § 841-14 (Michie 1997) (authorizing the coroner to retain tissues removed at autopsy for research purposes where the death occurred in a suspicious manner and even if the autopsy was conducted in the absence of decedent's or decedent's next of kin's consent); MINN. STAT. ANN. § 383B.225(7) (West 1997) (authorizing the coroner to conduct an autopsy in all cases of suspicious death but requiring oral or written consent from decedent's next of kin if the retention and removal of body parts "is done only for the advancement of medical knowledge and progress"); MONT. CODE ANN. § 46-4-103(1)-(2) (1997) (stating that where an autopsy is ordered by the coroner or county attorney or attorney general, a medical examiner may retain tissue samples or organs for whatever purpose is deemed necessary, which presumably would include research, despite the decedent's or decedent's family's wishes); N.M. STAT. ANN. § 24-12-4(c), (e) (Michie 1997) (allowing the retention of any tissues "customarily removed during the course of" autopsies for research purposes where the autopsy is performed either at the direction of the district attorney regardless of familial consent); N.Y. PUB. HEALTH LAW §§ 4214(2), 4215(2) (McKinney 1997) (stating that research laboratories and educational facilities shall have priority in claiming and using all otherwise unclaimed bodies, whether subject to coroner autopsy or not, and that these facilities may retain cadaveric body parts for scientific purposes); N.C. GEN. STAT. §§ 130A-399 to -400 (1997) (explicitly allowing the retention of tissues obtained from autopsies performed on inmates dying in state mental health facilities for research purposes and requiring written consent from the decedent's next of kin); OKLA. STAT. ANN. tit. 21, § 1154 (West 1997) (allowing tissues to be retained from bodies autopsied by the coroner for research purposes in cases in which a decedent or his next of kin does not explicitly object); OR. REV. STAT. § 146.117(1) (1997) (stating that a medical examiner or district attorney may order an autopsy in all cases requiring "investigation," without seeking any familial consent, and that tissues removed during the autopsy may be retained for research purposes if allowed by the State Medical Examiner Advisory Board); S.C. CODE ANN. § 17-5-260 (Law Co-op. 1997) (requiring autopsies in certain instances (such as suspicion of violence, etc.) but requiring the coroner to seek the informed consent of the decedent's next of kin before retaining any body parts solely for noninvestigative purposes, such as research); UTAH CODE ANN. § 26-4-4(2) (1995) (authorizing the medical examiner to retain tissues removed from autopsied bodies "for scientific purposes and those he considers necessary to accurately certify the cause and manner of death . . . or to determine [the body's] identity" but making no mention of next of kin consent to autopsy or consent to retain tissues); W. VA. CODE § 61-12-10 (1997) (stating that tissues may be retained by the chief medical examiner; statute's language, "necessary for further study or consideration," is broad enough to allow the tissues to be used for research).

²⁸² See ARK. CODE ANN. § 12-12-320 (Michie 1995) (allowing the coroner to remove the pituitary gland automatically and donate it to the American Dwarf Association unless the next of kin

due to the important state interest in researching and preventing Alzheimer's,²⁸³ the coroner may remove the brain of any deceased person suspected of suffering from Alzheimer's for the purposes of research—unless the coroner knows the patient or his relative has previously objected to the research.²⁸⁴

objects, thus implicitly allowing research); CAL. GOV'T CODE § 27491.46(a)–(b) (West 1997) (granting the coroner the right to retain the pituitary gland for research purposes in those cases in which the coroner has performed an autopsy and also allowing the removal of the pituitary to be transmitted to a public agency for use in manufacturing growth hormones if the coroner has no knowledge of the objection of decedent or person specified in CAL. HEALTH & SAFETY CODE § 7151(a) (West Supp. 1998)); *id.* § 27491.47(a) (authorizing the coroner to remove the corneas from autopsied bodies as long as there has been no objection from the deceased or the next of kin and the corneas are to be given to a nonprofit organization for transplant or “other scientific purposes”); COLO. REV. STAT. ANN. § 30-10-621(c) (West 1997) (authorizing coroners to remove the pituitary gland automatically from an autopsied body where the next of kin has not objected); CONN. GEN. STAT. ANN. § 19a-281(a) (West 1997) (authorizing coroners to remove the pituitary gland and corneas of autopsied bodies where these tissues would be “beneficial to the health of a living person” and where the decedent's next of kin has not objected); MD. CODE ANN., EST. & TRUSTS § 4-509.1(a) (1996) (stating that the corneas of an autopsied body may be removed for research or transplantation purposes as long as decedent's next of kin has not previously objected to the removal and removal will not interfere with a subsequent investigation or post-mortem facial appearance); MICH. COMP. LAWS ANN. §§ 333.10202, 333.2855 (West 1996) (automatically authorizing the removal of the corneas and pituitary gland of autopsied bodies for research and transplantation purpose; however, if consent by the decedent is necessary for autopsy, then § 333.2855(6) requires the next of kin's consent for the removal of the pituitary gland); MISS. CODE ANN. § 41-61-71(1)–(2) (1997) (authorizing the removal of the pituitary gland for transplant utilization from all bodies officially autopsied if consent is obtained, a reasonable attempt to determine the next of kin has failed or the coroner reasonably believes there is no next of kin and the removal would not interfere with a subsequent investigation or alter post-mortem facial appearance); MO. ANN. STAT. § 58.770 (West 1989) (authorizing the coroner or medical examiner to remove the pituitary gland from all autopsied bodies for research purposes unless “a contrary indication was given by the decedent or is declared by the next of kin”); N.C. GEN. STAT. § 130A-391(a) (1997) (authorizing removal of the corneas from an autopsied body if the next of kin consents, no other objections to the procedure are known and the removal will not interfere with a subsequent investigation or alter post-mortem facial appearance); OHIO REV. CODE ANN. § 2108.53(c) (Anderson 1994) (automatically authorizing the removal of a decedent's pituitary gland for research and drug manufacturing purposes as long as the coroner has no reason to know that the decedent or his next of kin opposes the removal); *id.* § 2108.60(B) (authorizing the removal of corneas from bodies autopsied by the county coroner at the request of an eye bank official if the next of kin does not notify the coroner of an objection on the grounds it would violate the tenets of a well-recognized religion); OKLA. STAT. ANN. tit. 63, § 944.1(A) (West 1997) (authorizing the removal of the pituitary gland from an autopsied body unless the next of kin specifically objects); 20 PA. CONS. STAT. ANN. § 8641(a) (West Supp. 1997) (authorizing the coroner or medical examiner to remove corneas from bodies autopsied as part of an official “inquest” if the corneas will be used by an official eye bank for transplantation or research purposes, removal will not interfere with a subsequent investigation or post-mortem facial appearance and if there is no objection from the next of kin and a reasonable effort has been made to contact them); TENN. CODE ANN. § 38-7-106(b) (1996) (requiring the corneas of officially autopsied bodies to be removed for transplantation and research unless the decedent's next of kin has objected to the removal); *id.* § 68-30-204 (also stating that corneas may be removed automatically and donated unless the decedent's next of kin objects); TEX. HEALTH & SAFETY CODE ANN. § 693.012 (West 1992) (stating that the corneas of an autopsied body may be removed on request from an authorized official of an eye bank as long as the autopsy was performed “under circumstances requiring an inquest” and no objection from decedent's next of kin is known); VT. STAT. ANN. tit. 18, § 510 (Supp. 1997) (stating that the pituitary gland may be removed and used for purposes of manufacturing hormones regardless of consent except where the objection is based on religious grounds and the coroner has reason to know what decedent's religious inclinations are prior to removal).

²⁸³ See MINN. STAT. ANN. § 145.131 (West 1989).

²⁸⁴ See *id.* § 145.132 (stating that the doctor must have permission from the decedent's next of kin, county coroner and the medical research facility). Additionally, if a coroner, performing an

Letting individual coroners and pathologists decide to do whatever type of research they please may not lead to the best research. Indeed, experiments like those done by Dr. Odom on the SIDS infants are likely to lead to a diminution in faith in the research enterprise. In contrast, individual and social interests could be served by allowing individuals greater control over the research uses made of their bodies after their deaths. The current legal approach of "finders keepers" in which pathologists, coroners and other health care providers act as if they own their patients' samples for research purposes runs afoul of social values and may not even serve useful research goals.

VI. CONCLUSION

The use of dead bodies for research purposes has been the source of a range of disputes as the benefits gained from the corpse's use conflict with the body's emotional or religious importance. In the cases we have described, researchers took tissue in circumstances that violated individual wishes and social and religious understandings about the body.

Many scientists remain convinced that "progress in molecular diagnosis and therapy requires the continued availability of tissues obtained during postmortem examination."²⁸⁵ They often object, for example, to requirements for informed consent. Well-known pathologists²⁸⁶ and professional pathology groups²⁸⁷ argue that the time and expense it would take to ask for permission is just too burdensome. They hold an idealized image of the researcher—the "lone investigator quietly working in relative obscurity with a bunch of numbered paraffin blocks."²⁸⁸

Such a view has led to disputes reflecting the difference between the instrumental perspectives of science and other cultural concerns. The cases we present suggest that there may be important reasons to recognize the individual and social values at stake in the disputes over research on the dead. The use of dead bodies for research has potent emotional effects on individuals before death and on their next of kin. It can violate religious beliefs, reveal information the decedent has sought to control, lead to discrimination against relatives and violate important social norms. Our analysis suggests that it is important to recognize an individual's right to refuse to participate in post-mortem research. If the individual has expressed no position before death, the right should be exercisable by his or her next of kin.

In every era, there are important medical uses that could be made of deceased individuals. Nevertheless, until now, the law has protected the dead from invasions

autopsy which is required by law (such as those deaths that appear suspicious, violent, are the remains of inmates of public institutions or whose bodies are to be cremated, dissected, buried at sea or otherwise will be unavailable for examination in the future), "is informed by a physician or pathologist that a dead person is suspected of having had Alzheimer's disease, the coroner shall authorize the removal of the brain of the dead person." *Id.* § 390.11. Otherwise, a coroner may only retain tissue or organs "deemed beneficial, and . . . done only for the advancement of medical knowledge and progress" where separate written or oral consent is obtained from the decedent's next of kin prior to the removal, retention and use of such organs and tissues. *Id.* § 383B.225(7).

²⁸⁵ Chester J. Herman & David A. Schwartz, *Pathology and Laboratory Medicine*, 275 JAMA 1839, 1839 (1996).

²⁸⁶ See Grody, *supra* note 31 at 156.

²⁸⁷ See American Soc'y for Investigative Pathology, *Balancing Research Progress and Informed Consent* (Jan. 1995) (unpublished position statement, on file with author).

²⁸⁸ Grody, *supra* note 31, at 157.

designed merely to further medical or scientific goals. New autopsy provisions that allow the use of dead bodies for research on particular diseases are not consistent with long-held social and legal beliefs about respect for corpses. They also violate more recent legal protections that recognize that research is not a matter of conscription. Such statutes should contain explicit consent provisions. In addition, when an autopsy is legitimately undertaken to determine if a crime has been committed, the body should not be subjected to additional research unless consent of the individual or family member has been obtained. Finally, the cases presented in this Article suggest that the tissue and organs taken for research purposes are often not used to their best advantage. A review mechanism should be put in place so that the scientific merit of research on the dead is examined before such research is undertaken. Bentham was clearly prescient in predicting the growing utilitarian value of the body, but he could hardly fully recognize the social consequences.

