



1998

# The Repatriation of Atomic Bomb Victim Body Parts to Japan: Natural Objects and Diplomacy

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## Recommended Citation

Lindee, S. M. (1998). The Repatriation of Atomic Bomb Victim Body Parts to Japan: Natural Objects and Diplomacy. *Osiris*, 13 376-409. <http://dx.doi.org/10.1086/649292>

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# The Repatriation of Atomic Bomb Victim Body Parts to Japan: Natural Objects and Diplomacy

## **Abstract**

In May 1973 a group of scientists, physicians, and dignitaries gathered in the lobby of a Hiroshima research institute to open several large wooden boxes. Shipped a few days earlier from the United States, these boxes contained twenty-three thousand items, including photographs, autopsy records, clothing, and four thousand pieces of human remains. The institute director later appeared in a newspaper photograph holding up several plastic bags filled with "wet tissue"—hearts, lungs, livers, eyes, and brains, immersed in formalin and doubly sealed, whole organs marked by the radiation produced by the atomic bombs in August 1945.<sup>1</sup> These body parts spent twenty-eight years as state secrets in an atomic boom-proofed building in Washington, D.C. The first atomic bomb victim autopsy materials to leave Japan, they were the last to return.

## **Disciplines**

Diplomatic History | History of Science, Technology, and Medicine | Military History

# The Repatriation of Atomic Bomb Victim Body Parts to Japan Natural Objects and Diplomacy

By *M. Susan Lindee\**

**I**N MAY 1973 A GROUP OF SCIENTISTS, physicians, and dignitaries gathered in the lobby of a Hiroshima research institute to open seven large wooden boxes. Shipped a few days earlier from the United States, these boxes contained twenty-three thousand items, including photographs, autopsy records, clothing, and four thousand pieces of human remains. The institute director later appeared in a newspaper photograph holding up several plastic bags filled with “wet tissue”—hearts, lungs, livers, eyes, and brains, immersed in formalin and doubly sealed, whole organs marked by the radiation produced by the atomic bombs in August 1945.<sup>1</sup> These body parts spent twenty-eight years as state secrets in an atomic bomb–proofed building in Washington, D.C. The first atomic bomb victim autopsy materials to leave Japan, they were the last to return.

In this essay, I explore the repatriation of these and other atomic bomb victim remains from the United States to Japan between 1967 and 1973. I consider their status as natural objects that could reveal scientific truth and as diplomatic objects that both Japan and the United States could use in negotiating their postwar relationship. By considering the management of these humble and unappealing bodily things (fragmented livers, pieces of brains in paraffin, and hearts in jars), I address the more general process through which human bodies become natural.

A large scholarly literature explores how science makes the body in relation to

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Special thanks to archivists Daniel Barbieri, Marjorie Ciarlante, Michael Rhode, and Thomas Rosenbaum; and to John Beatty, Barbara Kimmelman, Morris Low, and V. B. Smocovitis for reading and commenting on drafts. For useful suggestions and discussions I would also like to thank Toshio Akayama, Carla Keirns, Dorothy Nelkin, Gilbert Whittemore, and those attending presentations of versions of this essay at Harvard University and at the University of Pennsylvania.

<sup>1</sup> My account of this event is drawn from translations of Japanese newspaper articles held in the Otis Historical Archives of the National Museum of Health and Medicine at the Armed Forces Institute of Pathology (AFIP), Washington, D.C. Translations of the newspaper accounts are in “JANC Listing of Materials for Transfer to Japanese Government, November 1972,” Atomic Bomb Casualty Commission (ABCC) Files, A-Bomb Manuscripts, Box 12, Pt. 2. They include “A-Bomb Disaster Materials Seized by U.S. Returned after Twenty-eight Years,” *Chugoku Shimbun*, 10 May 1973; “Tragic State of A-Bomb Exposure Vividly Conveyed,” *ibid.*, 11 May 1973; and “Former Army Surgeon in Deep Emotion Finding His Autopsy Protocols among A-Bomb Materials Returned by U.S.,” *ibid.*, 12 May 1973.

bodily difference, pathology, race, illness, gender, and class.<sup>2</sup> Such studies emphasize the roles of theory, culture, or ideology in scientific interpretations of the body. I here suggest another way to understand how science makes the body. I attend to the filing systems, autopsy protocols, ownership questions, diagnostic disputes, and diplomatic negotiations surrounding a particular collection of sectioned and dispersed human bodies.

They are not called body parts in the archival records I have examined. They are “specimens,” “wet tissue,” or “autopsy materials.” I call them body parts, however, because I want to hold in sight their origins. They came from people who died in the first few weeks after the atomic bombings and from people who were “surgical cases,” survivors whose diseased or cancerous organs were removed by American physicians and scientists working in Japan in the first decade after the bombings. They came from the stillborn infants of survivors and from survivors who died whose families gave their bodies to American scientists working in Japan.

These bodily materials, drawn from those killed and wounded by the atomic bombs dropped on Hiroshima and Nagasaki, have been the evidentiary basis, direct and indirect, of thousands of scientific papers. Most scientific assessments of the biological effects of radiation on human beings have depended in some way on these materials. And conclusions reached on the basis of these data have shaped medical and industrial practices relating to radiation exposure around the world.<sup>3</sup> Despite their obvious, even overwhelming, cultural embeddedness, bodily materials drawn from victims of the atomic bombings have functioned effectively as natural data points. They have been critical resources in the elucidation of an important type of biological interaction, that between ionizing radiation and human cells and organs. It is for this reason that I identify them here as pieces of nature.

It is perhaps counterintuitive to suggest that such intensively managed materials are natural. Sliced thinly for slides, stored indefinitely in five-gallon jars in formalin, or chopped into small pieces to be encased in cubes of wax, these body parts have been scientifically transformed, harvested by those who have learned to open a chest cavity in order to weigh a spleen.<sup>4</sup> They have been catalogued, assigned case

<sup>2</sup> This is a fairly diverse literature but includes, e.g., Anne Fausto-Sterling, *Myths of Gender: Biological Theories about Women and Men* (New York: Basic, 1992); Sander L. Gilman, *Disease and Representation: Images of Illness from Madness to AIDS* (Ithaca, N.Y.: Cornell Univ. Press, 1988); Gilman, *Difference and Pathology: Stereotypes of Sexuality, Race, and Madness* (Ithaca, N.Y.: Cornell Univ. Press, 1985); Londa Schiebinger, *Nature's Body: Gender in the Making of Modern Science* (Boston: Beacon, 1993); and Thomas Walter Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge, Mass.: Harvard Univ. Press, 1992).

<sup>3</sup> On genetic studies see James V. Neel and William J. Schull, *The Children of Atomic Bomb Survivors: A Genetic Study* (Washington, D.C.: National Academy of Sciences, 1991). On the general question of radiation protection see Jacob Shapiro, *Radiation Protection: A Guide for Scientists and Physicians* (Cambridge, Mass.: Harvard Univ. Press, 1990). On leukemia see Emil J. Freireich and Noreen A. Lemak, *Milestones in Leukemia Research and Therapy* (Baltimore: Johns Hopkins Univ. Press, 1991). In all these texts, the data collected at Hiroshima and Nagasaki play an important role.

<sup>4</sup> It is generally recognized that the act of killing in war is a violation or reversal of our learned relationships to the bodies of other people. So too are the acts of dissection and autopsy. Medical students, like military recruits, go through a process of “decivilization”—a moving outside of civil society—that permits them to change the way they think about other people's bodies. And just as the needs of the state justify this violation in war, so too the needs of science justify it in pathology and medicine. On killing in war see Elaine Scarry, *The Body in Pain: The Making and Unmaking of the World* (New York: Oxford Univ. Press, 1985), pp. 121–122. On medical training see Renee C. Fox, “The Autopsy: Its Place in the Attitude-Learning of Second-Year Medical Students,” in *Essays in*

numbers and filing numbers, diagnosed, and traded. It would be possible to argue that the body parts were natural when they were functioning inside a particular human body, or when they were first removed from that body, and that they were gradually made unnatural by their dissection, immersion in formalin or wax, and dispersal and fragmentation. But I am speaking here of a particular kind of nature, of that subset of nature that can serve as legitimate evidence in a specialized formal text, a scientific paper. This is a small part of what we might culturally recognize as nature, yet it is certainly an important part, particularly in a culture in which science is a powerful arbiter of the natural.

Clearly a functioning liver inside a human body cannot provide evidence of nature's ways (it cannot appear as a point on a graph) until it has been processed in some way. The occult liver embedded in the closed system of the body must be extracted, at least metaphorically, and scientifically shepherded through a system of analysis, imaging, classification, and preservation.

I suggest that science as a functioning system of production makes things natural, not only with ideas but also with clumps of wax, preservatives, and filing systems. And in the case of the atomic bomb victims' body parts, these systems make manifest both biological and political meaning. The *same* processes of filing, classification, storage, and dispersal that make an extracted liver capable of revealing biological truth also reveal its relationship to power.

My interest in these matters is a consequence of a reading of Carolyn Bynum on ideas about material continuity and personal survival in thirteenth- and fourteenth-century theological debates. Bynum proposes that by considering the management of bodily materials—by examining what contemporaries believed about where and how relics should be handled—one can gain insight into larger questions of the place and meaning of the body in Western thought.<sup>5</sup> Her work provoked me to think about how fragmented bodies acquire meaning and about the cultural context that makes a liver a sacred object or a piece of data, to be stored in a crystal reliquary or in a ferroconcrete building, preserved and immortal as a consequence of divine intervention or of formalin or wax.

My interests have also been shaped by Elaine Scarry's analysis of the meanings of bodily damage in war. Scarry suggests that when a war ends all bodies that have been damaged belong to the victor. The function of bodily damage in war is to provide evidence for the reality and significance of the unanchored concepts of freedom or sovereignty that are the subject of war. She suggests that it is through the lasting nature of bodily damage that war "carries the power of its own enforcement." Bodily damage is the reason that the consequences of war outlast the actual fighting.

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*Medical Sociology* (New Brunswick, N.J./Oxford: Transaction, 1988), pp. 51–77, esp. pp. 56–63. For the perspective of a pathologist who was involved with the atomic bomb victim project see Averill A. Liebow, "The Autopsy Room as a Hall of Learning," *American Journal of Medicine*, 1956, 21:485–486. For a general history of the introduction of Western medicine into Japan—also written by a physician who was involved with the atomic bomb victim project—see John Z. Bowers, *Medical Education in Japan: From Chinese Medicine to Western Medicine* (New York: Harper & Row, 1965).

<sup>5</sup> I have known about the repatriation of the atomic bomb victim body parts in broad outline for many years, but it was not until I read Bynum's essay that it began to seem interesting or important. See Carolyn Bynum, "Material Continuity, Personal Survival, and the Resurrection of the Body: A Scholastic Discussion in Its Medieval and Modern Contexts," in *Fragmentation and Redemption: Essays on Gender and the Human Body in Medieval Religion* (New York: Zone, 1991), pp. 239–297.

At the end of the war all deaths and injuries instantiate the beliefs of the victor: the Southerner who thought he was dying for the Confederacy in fact died for the legitimacy of the Union. The opened body, she suggests, thus makes words visible in their consequences. The bodily destruction of war permits the "passage of what is only imagined into material form."<sup>6</sup>

The autopsied bodies of the first victims of the atomic bomb in 1945, I suggest, were part of the material form of American victory. They connected democracy and freedom to the destructive abilities of a new American weapon. They were manifestations of political and technological power, immediate physical products of the scientific process that was critical to the American control of Communism. They were also demonstrations of American ingenuity, of the resourcefulness of the scientists at Los Alamos who had worked in secret to develop an exploding machine that could mark a Japanese lung with atomic energy. The specific cellular pathologies of the body parts therefore contained state secrets. At times the pathologies themselves were state secrets. And the control of the autopsy materials was linked (indirectly, through many different channels) to the control of Communism. Through this confluence of meanings, the bodily materials functioned both as pieces of nature and as material evidence of American victory.

Biological materials drawn from human beings, whether living or dead, are made objects at many levels. They have been tampered with, manipulated, and preserved, and their acquisition, management, and control have generally involved political and social negotiation. This is obvious to those interested in obtaining DNA from isolated populations needed for the Human Genome Diversity Project, malformed stillbirths from mothers at Chernobyl, spinal fluid from African-American men at Tuskegee, blood from newborns to be tested for AIDS, or the brains of serial killers to be assessed for pathologies.<sup>7</sup> Such materials contain reliable knowledge only when they have been shepherded through a process of selection, interpretation, preservation, and analysis. By excavating a case where the details of this process were the subject of a protracted international debate, I approach the larger question of the place and status of the body in Western science.

#### THE FIRST AUTOPSIES

It would be difficult to exaggerate the physical, social, and medical chaos in Hiroshima on 10 August 1945. The city had hundreds of thousands of grievously injured citizens, hundreds of thousands of rotting corpses, and lacked food, water,

<sup>6</sup> Scarry, *Body in Pain* (cit. n. 4), pp. 91–139.

<sup>7</sup> The Human Genome Diversity Project is the subject of a lively debate at various sites on the World Wide Web. There is no good scholarly source on Chernobyl, but see Francis X. Clines, "A New Arena for Soviet Nationalism: Chernobyl," *New York Times*, 30 Dec. 1990. The standard source for the Tuskegee syphilis case is James H. Jones, *Bad Blood: The Tuskegee Syphilis Experiment* (New York: Free Press, 1993). On AIDS testing see Jeff G. Peters, ed., *AIDS: A Comprehensive Manual of Legal and Policy Issues* (Tallahassee: Florida AIDS Legal Defense and Education Fund, 1992); and Lisa Bowleg, *Unjust Punishments: Mandatory HIV Testing of Women Sex Workers and Pregnant Women* (Washington, D.C.: Center for Women Policy Studies, 1992). The serial killer I refer to is Westley Alan Dodd, whose brain became the subject of a public debate after his execution; see Deann Glamsler, "Killer's Brain Causes Clash," *USA Today*, 6 Jan. 1993.

physicians, police, buildings, roads, transportation, and crematoria. It was a city fairly close to hell.<sup>8</sup> In this city, on that morning, Major **Yamashina Kiyoshi** of the Bureau of Medical Affairs, Japanese Imperial Army, cut open a dead young boy and examined, weighed, and wrote down a description of his internal organs.<sup>9</sup> When all autopsy records in Hiroshima were put in order several months later, it became clear that Yamashina's autopsy on the morning of the tenth was the first conducted after the bombing. This was an emergency autopsy, carried out under crisis conditions, by a physician who was deeply troubled by the strange ways that atomic bomb victims were dying.<sup>10</sup>

Many more autopsies were conducted in the next three to four weeks. The details they record include measurements of internal organs and personal histories of the dead. Atomic Energy Case #158930-79 (AFIP Accession #259078), for example, collected by the Joint Army-Navy Commission in the fall of 1945, described another autopsy done by Yamashina in Hiroshima at 7:30 A.M. on 13 August. The body was that of a thirty-four-year-old man who had been dead only a few hours, a "tall, large-boned man in a good state of nutrition . . . moderate rigor involves all the

<sup>8</sup> For a (perhaps overly) detailed technical picture of life in the two cities in mid to late August 1945 see Committee for the Compilation of Materials on Damage Caused by the Atomic Bombs in Hiroshima and Nagasaki, *Hiroshima and Nagasaki: The Physical, Medical, and Social Effects of the Atomic Bombings*, trans. Eisei **Ishikawa** and David L. Swain (New York: Basic, 1981). For a powerful literary invocation the best source I have encountered is **Ibuse Masuji's** novel *Black Rain*, trans. John Bester (Tokyo: Kodansha, 1969). See also William LaFleur's exploration of images of hell in survivor literature and art in *Freaks and Philosophers: Minding the Body in Medieval Japan* (New York: Zone, forthcoming).

<sup>9</sup> The problem of cross-cultural incommensurability that shaped the work of the Atomic Bomb Casualty Commission echoes through my own work as well, here in the form of an editing question. What exactly should be the order of Japanese names in my text? My policy in my earlier study of the ABCC was to use whatever order was used by the individual in question. The ABCC was a boundary zone, a place where people with very different cultural backgrounds came into contact. Many ABCC employees were native Japanese who themselves used Japanese order (surname first) but in ABCC records adopted Western conventions (**Hiroshi Maki**, for example), presumably for the benefit of the intended audience. The ABCC also employed people who were born in Japan but then spent many years in the United States, perhaps including graduate school and scientific training, and who published and signed correspondence with their names in Western order (surname last). The geneticist **Kimura Motoo**, for example, studied with James Crow in the United States and published scientific papers with his name in Western order. The ABCC also employed Japanese-Americans who had been born in the United States and whose spoken Japanese ranged from good to dismal. These Japanese-Americans often had Japanese names but chose to use Western name order—except perhaps in publications that appeared in Japanese. My point is that the ABCC was a meeting place, a place where residents of Hiroshima came into contact with ethnic Japanese who had been Americanized in various ways. I have chosen simply to respect the decisions of my actors and to use whatever convention they chose for themselves in the documents I consult, recognizing that these choices might reflect the particular circumstances of the documents in question. See my study of the early years of the ABCC: M. Susan Lindee, *Suffering Made Real: American Science and the Survivors at Hiroshima* (Chicago: Univ. Chicago Press, 1994) (hereafter cited as **Lindee, Suffering Made Real**).

<sup>10</sup> Yamashina left Hiroshima to return to Tokyo on 17 August, bringing with him his specimens, drawings, and autopsy reports. In September he prepared slides from his autopsies. In late October Joint Army-Navy Commission pathologist Averill Liebow asked Yamashina to provide his autopsy materials and data to the American investigative team, and Yamashina did so. In 1973 he attended the repatriation ceremony at Hiroshima Medical School and found only the protocols. The organ specimens were not included in the shipment, probably because they had been used up or because they had become unusable. See "Former Army Surgeon in Deep Emotion Finding His Autopsy Protocols among A-Bomb Materials Returned by U.S.," 12 May 1973, *Chugoku Shimbun*, in "JANC Listing of Materials for Transfer to Japanese Government, November 1972," A-Bomb MSS, Box 12, Pt. 2, AFIP.

joints." Identified as **Uchiyama** Nobuki, he had been "in a barracks, washing, at a distance of 1 km from the center of the explosion. He suffered crushing wounds of the right temporal region, contusions of the right leg, and burns of the scapular region and arms." His spleen, Yamashina reported, weighed 130 grams, his heart 290 grams, his right kidney 140 grams.<sup>11</sup> Yamashina knew something of the man's history ("in a barracks, washing"), so presumably he had spoken to and probably he had examined the man before he died. He described his autopsy subject as "tall and large-boned" and "in a good state of nutrition." From this tall, well-fed body he extracted organs, weighed them, and wrote down their weights.

Another case, #158930-83, involved a "well-nourished" twenty-five-year-old man who died on 14 August 1945 at Omura Hospital and who was autopsied early the next day. The victim in case #158930-83 had been 1.2 kilometers from the hypocenter at Hiroshima, and in the days after the bombing he suffered from fever and from burns on his face, arms, shoulders, and legs. The physician writing the autopsy report witnessed his slow death over several days and recorded its progression in terms of both measurable bodily states and psychic experience. His "leukocyte count on 13 August was 5500. There was 2 plus albumin in the urine and urobilinogen test was positive. One hour before death there were cerebral symptoms of extreme excitement." The ten-page report included a rough sketch of the man's body, both back and front, showing the extent and position of the burns. Many of the man's organs seemed to be damaged in some way, the physician reported. In the spleen "remarkable changes are found," and some peculiarities of the blood clots found in the heart were "present in other cases dying within the first ten days of the bombing." When he opened the abdomen—"slightly protuberant"—he found the muscles "dark red and translucent" and the "distal portion of the small intestine slightly congested, as is the mesentery to which they are attached. Fibrous adhesions bind some of the loops to adjacent portions of mesentery." In the lungs he found a "bubbling sanguinous material" running out of cut surfaces. The liver was, he reported, "strikingly opaque."<sup>12</sup>

In August and September 1945 Japanese pathologists conducted almost three hundred autopsies of victims of the atomic bombs. They prepared slides. They dissected organs. They wrote lengthy autopsy reports. The dead bodies produced by the atomic bomb could not reveal natural truth until they had been processed in just this way—opened, the internal organs removed, weighed, and examined under a microscope—with a written record describing these acts. The act of the autopsy itself was the first iteration of a complicated question: What could these bodies reveal? By sectioning hearts and examining spleen cells, Japanese pathologists must have hoped to shed light on the mystifying events in Hiroshima and Nagasaki. Their reports, translated in American records, are filled with statements that are also questions: "The significance of this finding is difficult to assess"; "it is difficult to say whether the abnormal features of the strong left shift in the granulocytes and the scarcity of mature normoblasts is the response to gamma radiation"; "the nuclei of

<sup>11</sup> This is case #158930-79. Translated autopsy reports by Yamashina and other pathologists are included in "JANC Listing of Materials for Transfer to Japanese Government, November 1972." The Joint Army-Navy Commission was the medical team that conducted a study of atomic bomb victims in the fall of 1945.

<sup>12</sup> This and many other autopsy reports are filed in "JANC Listing of Materials for Transfer to Japanese Government, November 1972."



some of these are large and have bizarre outlines"; "the malpighian corpuscles are small and are remarkable for the character of the cells in the neighborhood of the central arterioles."<sup>13</sup>

The autopsy performed on a bomb victim was the first act that explicitly required those engaged in it to believe that culture could be removed from the bodily materials. It amounted to a claim that the circumstances involved in the production of a particular damaged body (the circumstances of total war, nationalism, defeat) could be pared away from a dissected spleen until it was supported in a network of numbers, names, and classifications that could permit it to reveal biological truth.

For Japanese pathologists, the bodies of the victims of the atomic bombings held clues that might shed light on the immediate or future medical needs of those who had been exposed to the bombs.<sup>14</sup> When three American medical teams arrived in Japan in late September they wanted these Japanese records and materials, but for a different reason. The American medical teams were expected to develop plans for atomic triage in a future war. How could physicians in the wake of an atomic attack (perhaps on the continental United States) efficiently decide which patients were unlikely to survive, so that they could concentrate their limited resources on those who had a chance? The American physicians therefore needed to correlate symptoms and time of death for the first wave of victims in order to develop plans for rationing medical care.<sup>15</sup> They were consequently most interested in those who had already died by the time they arrived in Hiroshima in late September.

American teams asked Japanese physicians who had conducted autopsies to provide both the written reports and the biological material.<sup>16</sup> From September to December the Joint Army-Navy Commission collected materials from at least 218 autopsies and about 1,400 other slides and tissue samples, including skin biopsies, bone marrow, and blood smears. They then packed these up and sent them to Washington to be held in a "central reference file of pathologic material," where there were "already many records" relating to military pathology.<sup>17</sup>

<sup>13</sup> Quoted from cases #158930-83, #158930-79, and #158930-81, in "JANC Listing of Materials for Transfer to Japanese Government, November 1972."

<sup>14</sup> Their scientific papers—most of which were censored during the early Occupation—included studies of the "relation between atomic bomb effects and menstruation," the "bacteriological and serological researches for diarrhea of atomic bomb disease," and the "investigation of oral disease of the atomic bomb patients at Hiroshima." See the listing of Japanese papers in the Brues-Henshaw Report, copies of which are held at both the Archives of the National Academy of Sciences in Washington, D.C., and at the Armed Forces Institute of Pathology.

<sup>15</sup> The widespread expectation of a future, survivable nuclear war was particularly striking before about 1953, when many physicians and scientists seemed to assume that there would be another atomic war and that its victims would be Americans. See, e.g., my discussion of the plans to terminate the ABCC in the early 1950s: Lindee, *Suffering Made Real*, pp. 103–115.

<sup>16</sup> For a complete and relatively detailed description of this early work see Ashley Oughterson and Shields Warren, eds., *Medical Effects of the Atomic Bomb in Japan* (National Energy Series, 8) (New York: McGraw-Hill, 1956). My study of the ABCC also includes some attention to this early study: Lindee, *Suffering Made Real*. See also Averill A. Liebow, *Encounter with Disaster: A Medical Diary of Hiroshima, 1945* (New York: Norton, 1970).

<sup>17</sup> Raymond O. Dart to H. W. Doan, 5 Feb. 1948, describing the arrangement with the Joint Army-Navy Commission, Tab A, item 3, in "Background, Inventory, and Handling of AEC Material at the Armed Forces Institute of Pathology," A-Bomb MSS, Box 21, AFIP. The autopsy and slide and sample numbers I report are uncertain because they are taken from a 1962 AFIP report that attempted to assess how many of the materials held had been sent by the Joint Army-Navy Commission; by 1962, as my narrative will make clear, the record-keeping problems associated with storage at AFIP

Sent off without discussion, the human remains were apparently American property.<sup>18</sup>

Not all Japanese pathologists were happy to surrender these difficult-to-acquire materials. Much later, some interpreted the “confiscation” of their autopsy materials as the equivalent of an American claim that such bodily materials were “spoils of war.” Indeed, if spoils are the material things that back up and make manifest military victory, then the body parts of atomic bomb victims were, in some ways, just that.<sup>19</sup> They were certainly military property, a fact manifest in the institution to which they were sent, the Army Institute of Pathology.

The Army Institute of Pathology (renamed the Armed Forces Institute of Pathology in 1949) in Washington, D.C., was created in May 1862. It was a consequence of the idea that “by careful collection, comparison and study of the anatomical wreckage of the great war in which the United States and the Confederate States were then engaged, there might emerge a body of knowledge and understanding which would in time lead to the lessening of human suffering and the saving of human life.”<sup>20</sup> By 1945 the institute staff had experience with long-term storage of military remains, including pathologic materials, preserved wounds, and blood collected during the Civil War and World War I. In the 1940s and early 1950s the institute stored autopsy materials in a string of Quonset huts scattered around Washington, but a new institute building constructed in the early 1950s was atomic bomb-proofed. The Japanese livers and kidneys marked once by radiation would

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were considerable, a factor that shaped the eventual disposition of the body parts. See “Background, Inventory, and Handling of AEC Material.”

<sup>18</sup> The apparent lack of any debate about the decision to ship bodily materials to the United States contrasts with the internal Atomic Energy Commission debate only a few years later over other bodily materials collected to assess radioactive fallout. In 1949 the Atomic Energy Commission began working to create a worldwide network for the study of radioactive contamination of soil, water, and air, and in 1953 this was expanded to include secret studies of human bone samples from around the world, Project Sunshine. Those involved with Project Sunshine worried about the legal and public relations issues raised by “body snatching”—the collection of the bones of infants who died in Houston, New York, Vancouver, and other cities in which project participants had cooperative contacts. They misled those contributing bodily materials about the nature of the research and worried about public reactions. The term “body snatching” was used by Willard Libby, Project Sunshine planner, in his 1953 Rand Foundation study of the plans. For an overview of Project Sunshine see Advisory Committee on Human Radiation Experiments, *The Human Radiation Experiments* (New York/Oxford: Oxford Univ. Press, 1996), pp. 402–406. Many materials relating to this project are available at [www.seas.gwu.edu/nsarchive/radiation](http://www.seas.gwu.edu/nsarchive/radiation).

<sup>19</sup> One pathologist, **Tamagawa** Chuta of Hiroshima University, described his decision to turn over these autopsy materials to the Americans in the fall of 1945 as motivated by fear, adding, “Deceased bodies and autopsy materials are not spoils of war.” His comments were made to journalists after the materials were returned in 1973. Tamagawa is quoted in “Returned A-Bomb Disaster Materials Now at Origin,” *Chugoku Shimbun*, 17 May 1973; a translation of the article is in A-Bomb MSS, Box 19, AFIP. Japanese scientists were similarly offended by the confiscation of their scientific manuscripts relating to the bomb and the biological effects of radiation. These were collected in 1945 and 1946 by Occupation authorities, supposedly for security review, but they were not returned. For a full discussion of the censorship of scientific materials in Occupied Japan see Monica Braw, *The Atomic Bomb Suppressed: American Censorship in Japan, 1945–1949* (Sweden: Liber, 1986).

<sup>20</sup> The institute agreed to bear the expense of the maintenance and storage of these materials—an expense that by 1962 was \$62,615 per year: “Types of Material Shipped, Equipment Costs, and Storage,” in “Background, Inventory, and Handling of AEC Material,” A-Bomb MSS, Box 21, AFIP. For a general history of the institute (which was called the Army Medical Museum until 1946) see Robert Selph Henry, *The Armed Forces Institute of Pathology: Its First Century, 1862–1962* (Washington, D.C.: Office of the Surgeon General, 1964); the quotation is from p. 1.

be spared a second exposure.<sup>21</sup> They were to stay at this institute for twenty-eight years.

In March 1947 another American scientific team established a clinic and laboratory in Hiroshima as part of a permanent research project, the Atomic Bomb Casualty Commission (ABCC). This was promoted as a joint Japanese-American scientific project but was in practice controlled almost entirely by American scientists and administrators and funded almost entirely by the U.S. Atomic Energy Commission (AEC). The American staff of the ABCC in Japan also collected autopsy materials. These materials were symbolically linked with the earlier materials and often confused with them by both Japanese and Americans.

#### THE MORTALITY DETECTION NETWORK OF THE ABCC

Funded by the new Atomic Energy Commission (1946) and managed by the U.S. National Academy of Sciences, the Atomic Bomb Casualty Commission conducted long-term studies of the biological effects of radiation on those who survived the atomic bombings. Its American scientific staff, assisted by Japanese drivers, nurses, translators, and physicians, engaged in sustained epidemiological research exploring the effects of radiation on heredity, disease, life span, and growth and development.<sup>22</sup>

Occupation authorities and diplomatic officials also expected the ABCC to develop ties to the Japanese scientific community and, in the process, to aid in the democratization of Japan. A free and open society was presumed to be necessary to the development of a strong scientific enterprise, and a strong scientific enterprise was in turn presumed to serve as a good model for a free and open society. Scientific practices were widely seen as manifestations of democratic values, and communism

<sup>21</sup> See Henry, *Armed Forces Institute of Pathology*, pp. 287–310 (on the construction of the building), esp. pp. 292–293 (on the “bomb-resistant structure”). See also pp. 306–307: “Roof and floor slabs, also of heavily reinforced concrete, furnish internal bracing of the mass, as do transverse concrete walls and the greater depth of the mass due to the double-corridor design of the interior. Necessary openings in the outer walls of the central mass are closed with blast-resistant doors. The heart of the building is in the central block of research laboratories, located on both sides of a three-foot-wide ‘mechanical core’ extending lengthwise of the building, through which each laboratory is supplied with such essentials as electricity, water, gas and compressed air. Surrounding this rectangular block of laboratories is a passageway, separating the laboratories from the offices which are ranged against the windowless outer walls. At the ends of the building up to the height of four stories above ground are windowed blisters containing offices. Blast resistant doors on each floor afford communication between the main mass of the building and the offices in the two outer projections.” President Eisenhower helped dedicate the building on 26 May 1955; it was later rumored to be the site to which he would be evacuated in the event of a nuclear war. This rumor comes to me via archivist Michael Rhode.

<sup>22</sup> The scientific findings of the Atomic Bomb Casualty Commission, many relatively reassuring, were important to AEC efforts to promote the safety of atomic energy and of atmospheric weapons testing, and the institution did have an impact on Japanese science by arranging for promising young Japanese scholars (for example, the geneticist **Kimura** Motoo) to study in the United States and by serving as a point of social and intellectual contact for Japanese and American scientists. This was not a contact, however, that is usually recognized in celebrations of Japanese and American scientific cooperation. As John Beatty has pointed out, the ABCC—one of the largest and most important joint scientific projects ever to engage both American and Japanese scientists and funding—is not even mentioned in many celebratory accounts of the development of postwar science in Japan: John Beatty, “Genetics in the Atomic Age,” in *The Expansion of American Biology*, ed. Keith Benson, Jane Maienschein, and Ronald Rainger (New Brunswick, N.J.: Rutgers Univ. Press, 1991), pp. 284–324. The 1990 memoir of William J. Schull, one of the principal geneticists at the ABCC, also provides insight into the role of the organization in scientific relations between America and Japan: William J. Schull, *Song among the Ruins* (Cambridge, Mass.: Harvard Univ. Press, 1990).

was by definition inimical to the production of scientific truth. More specifically, many involved with the Occupation expected that the presence of a major American scientific project in Japan would facilitate a general economic and political transformation.<sup>23</sup>

Like the Joint Commission before it, the ABCC collected atomic bomb victim body parts, though its collection system was more sophisticated. The ABCC had a full pathology department and a Mortality Detection Network, an institutional structure for the rapid identification and procurement of relevant biological materials. This network helped the organization to acquire the proper bodies—that is, those that had been marked by radiation. Its functioning depended on both social and scientific negotiation. The ABCC provided incentives (small cash payments) to encourage physicians, nurses, and hospital officials in Hiroshima and Nagasaki to report quickly the deaths of persons who had been exposed to the atomic bombs.

Sometimes these reports came within only twenty or thirty minutes, so that two ABCC staff members (usually Japanese) could rush to the hospital to ask the family for permission to cut open the person who had died and remove internal organs. This request was not always enthusiastically received—the autopsy contactors were called “vultures” by critics of the ABCC.<sup>24</sup> If the family did agree to an autopsy, however, the materials inside a particular body acquired the potential to become scientific evidence. A system of social negotiation permitted the ABCC staff to take the first step in the transformation of a human body, dead in a hospital, into natural knowledge.

The ABCC staff in Japan then sent the material taken from the body to the Armed Forces Institute of Pathology (AFIP) in Washington, D.C.<sup>25</sup> As it passed to another level of institutional control—through the ABCC’s own departments, and then through the divisions of the Armed Forces Institute of Pathology—a heart or a lung could become a state secret, classified data under the control of the U.S. Atomic

<sup>23</sup> For a discussion of the ABCC’s role in fighting communism in Japan see John Beatty, “Scientific Collaboration, Internationalism, and Diplomacy: The Case of the Atomic Bomb Casualty Commission,” *Journal of the History of Biology*, 1993, 26:205–231. For a relevant description of the ideology behind these expectations see Karl R. Popper, *The Open Society and Its Enemies* (London: Routledge, 1945). Popper, a prominent philosopher of science, linked scientific excellence explicitly to a free and democratic system of government.

<sup>24</sup> The 12 Aug. 1966 issue of the Japanese-language *Asahi Weekly* described a sinister “mortality detection network” at Hiroshima in which “pathology contactors—as such persons are called—make the round of the City Office and its branch offices twice a day to ‘catch’ death reports . . . it is said that the contactors are paid an allowance of 60 yen per body.” “What Has ABCC Done to Date: Visceral Organs of Survivors Sent to the United States,” *Asahi Weekly*, 12 Aug. 1966, pp. 22–29; translation in A-Bomb MSS, Box 20, AFIP. See also Shimizu Kiyoshi, “What Has ABCC Done: How It Should Be and a Criticism by a Scientist,” *Kagaku Asahi* (Science), Sept. 1967; cited and described in Kenji Joji to George Darling, memo, 9 Aug. 1967, ABCC Collection, National Academy of Sciences Archives, Washington, D.C.

<sup>25</sup> The ABCC genetics program in Nagasaki, which was based on infant autopsies, was an exception. After June 1949, these autopsies were conducted at the Nagasaki Medical School by a Japanese pathologist trained and paid by the ABCC; all autopsy materials were stored in facilities refurbished at ABCC expense. Some autopsy materials from Hiroshima, too, were kept in Hiroshima, either at the ABCC itself or at Hiroshima Medical School. But most of the ABCC autopsy material was sent to Washington. In the early years, indeed, Hiroshima infant autopsies constituted the majority of the autopsy material sent by the ABCC to AFIP. See Memorandum for the Record, 6 June 1949, “Autopsy program in Nagasaki”; and “Conference with Dr. Hayashi, Professor of Pathology, Nagasaki Medical School, concerning fetal and infant material,” 6 June 1949, J. V. Neel, and later memos, in Notebook Number 1, “Genetics Program,” in personal papers of William J. Schull, Ann Arbor, Michigan.

Energy Commission. An AEC bulletin noted in 1946 that its “central file and laboratory for pathologic material” should include every case in which “the cause of death, or any illness preceding death, is immediately or possibly related to the effects of radiation, production of fissionable materials, or allied operations.” Some of these bodily materials were to be classified, and “all regulations promulgated for the handling of classified data will be strictly observed.”<sup>26</sup>

Institute staff assigned each autopsy a case number (which differed from both the case number assigned by the Japanese hospital where the death occurred and that assigned by the American staff at the ABCC in Japan). Institute pathologists attempted to determine whether the materials came from anyone whose body parts (tumors, biopsies) had ever been sent to the institute before, either by the Joint Commission or by the ABCC. The slides sent from Japan were then given to the pathology staff of the Radiation Injury Pathology Branch of the institute; the paraffin blocks were held in the Atomic Unit; the wet tissue (whole organs) was sent to the preparation room.<sup>27</sup>

The body first physically fragmented in the autopsy was thus institutionally fragmented even further, scattered into different branches and laboratories at the institute; the slides and tissues initially identified only by the name of the person from whose body they had been taken could now be identified by a series of case numbers, by shipping date, by institute division, by AEC classification, and by disease category or contested disease category.<sup>28</sup>

On completion of the case by “the Radiation staff,” a “consultative diagnostic report” was sent to the ABCC physician in Japan who had contributed the materials. Cases were linked by diagnosis in a “McBee Keysort” card form that could “provide quick access to basic information needed in selection of cases for research studies” and could help the staff pathologist at AFIP “evaluate differences of opinion as to pathologic diagnosis made in Japan and those made on AFIP review of material.” Meanwhile, still another set of cards, doing essentially the same thing, was kept in Japan—but this set used the diagnoses of the ABCC pathologists rather than those of the AFIP staff.<sup>29</sup>

This framework—of numbering, naming, dispersing, filing, and classifying—codified relationships between livers and spleens and hearts; between Japanese hospitals, the ABCC, the AEC, and the AFIP; and between radiation histories and specific pathologies. It permitted the body parts to become data. A liver in a jar

<sup>26</sup> This was signed by Carroll Wilson, general manager of the Atomic Energy Commission, and labeled “3rd Draft”: A-Bomb MSS, Box 21, AFIP. It is undated.

<sup>27</sup> The staff at the institute compared their diagnoses with those of the staff in Japan, adding another layer of classification. For a detailed description see “AFIP Procedures,” Tab A, in “Background, Inventory, and Handling of AEC Material,” A-Bomb MSS, Box 21, AFIP.

<sup>28</sup> See “AFIP Procedures.”

<sup>29</sup> The duplicate filing system reflected a duplicate diagnostic framework: ABCC pathologists in Japan often disagreed with their colleagues in Washington. During one eight-month period ending 30 June 1962, the pathologists at AFIP disagreed with 885 individual diagnoses produced by pathologists at the ABCC in Japan. Among the cases considered, 175 involved disagreement about the type of tumor—e.g., AFIP said benign and ABCC said malignant, or vice versa. “It is very obvious that the value of this kind of a filing system is completely depended [*sic*] on the care with which autopsies are being studied,” the ABCC pathologist Gert Laqueur said in 1957. “We are very strict in diagnosing any definite pathologic lesion even though it is non-contributory to the principal disease or cause of death”: Gert L. Laqueur, chief of pathology, to Helen Patterson, NAS research assistant, 14 Jan. 1957, in “Background, Inventory, and Handling of AEC Material,” A-Bomb MSS, Box 21, AFIP. See also “AFIP Procedures.”

needed a proper history. It could not stand alone as evidence. It could not speak for nature until it had acquired the power to speak from the institutions that circumscribed what it could say.

### RELIABILITY AND INSTITUTIONAL CONTEXT

Presumably the management, assessment, and storage of so many autopsy records (approximately five hundred per year by the late 1950s) would be difficult under any circumstances, but the process in this case was particularly formidable. There were many opportunities for error. In one assessment in 1951, an ABCC pathologist reported that of two hundred autopsies of infants conducted for the genetics program, sixteen protocols and thirty pathology forms were missing; there were no microscopic diagnoses to back up reports of congenital syphilis as a cause of death. He estimated that one out of every five to ten of the remaining protocols contained some error of diagnosis or identification.<sup>30</sup> And this report involved only errors detectable in Hiroshima, at the ABCC itself. As these bodily materials made their way across the Pacific and then on to Washington, D.C., they entered another system equally vulnerable to error.

In 1952 the deputy director of the Armed Forces Institute of Pathology, R. M. Thompson, sent to Japan a list of questions that suggested the bewildering complexity of dealing with the frequent shipments of preserved specimens and reports. "Because of the manner in which shipments are received," he said, "it is not possible to determine whether jars of autopsy tissue, slides and protocols identified only as 'A-14-', 'N-16,' etc., are related to the same case." Were "several physicians in different localities . . . using the same serial numbers"? Thompson asked. And would the Master File "show the relationship of histories of the several hundred stillborn and newborn children to the parents who were exposed to irradiation and to the control group"? He did not yet, he noted, have a copy of the (new) Master File, and as a consequence "material now being received from Japan cannot be related to original cases or processed in any manner."<sup>31</sup>

Participants' concerns about error and misfiled body parts eventually led them to question whether such materials—improperly processed and situated—could reveal natural truth. The problems of access, error, backlog, and communication gradually came to appear as a threat to the scientific work that the collection at AFIP was intended to facilitate. While there is a large and growing literature on the sociology of error in technological management, the role of mistakes or errors in science has attracted little scholarly attention.<sup>32</sup> But errors may be as important to

<sup>30</sup> Stanley Wright to Duncan McDonald, 19 Dec. 1951, unlabeled notebooks, Schull Papers.

<sup>31</sup> AFIP archives also contain many other memos and letters detailing problems with shipment identification, classification, retrieval of materials, and so on. See R. M. Thompson to Robert Holmes and James Byer, memo, "Information desired from Bomb Casualty Commission in Japan," 19 June 1952, A-Bomb MSS, Box 20, AFIP. See also "AFIP Procedures": "Since each individual case received at AFIP, whether human or experimental animal, is identified by an AFIP accession number, the processing of AEC material is directed toward assignment of a number. Where humans are concerned, the initial step is the determination of the relationship to 1) clinical histories obtained by the Joint Army Navy Commission in 1945 and 2) subsequent material forwarded by the ABCC."

<sup>32</sup> See, e.g., Diane Vaughan, *The Challenger Launch Decision: Risky Technology, Culture, and Deviance at NASA* (Chicago: Univ. Chicago Press, 1996). See also Marianne A. Piaget, *The Unity of Mistakes: A Phenomenological Interpretation of Medical Work* (Philadelphia: Temple Univ. Press, 1988).

science as they are to technology, particularly with the postwar rise of “big science.” Large scientific institutions, increasingly common after 1945, often involve many researchers in multidisciplinary settings working with diverse materials and techniques. In such settings error is not an intervening factor but an integral, systemic part of the process. It is embedded in this kind of scientific production.

Certainly error was recognized as a problem by participants, including R. Keith Cannan, executive director of the ABCC and chairman of the Division of Medical Sciences at the National Academy of Sciences. Cannan was among the most perceptive and influential observers of these events. He worked in Washington, rather than Japan, but was familiar both with the operations at ABCC in Hiroshima and Nagasaki and with the procedures at AFIP. Over a period of five years he struggled to develop a rationale for the management of the body parts. Though his language differed, his central problem was related to my own: What exactly made the body parts reliable signs of nature’s ways? In 1957 Cannan complained that the Armed Forces Institute of Pathology was wasting its efforts on the wrong body parts. “Much time and effort is spent [at the institute] on the processing of materials and data on surgical and autopsy cases that have no permanent interest in the epidemiological program of ABCC.” He proposed that the pathologists in Hiroshima should not send materials to Washington unless they came from a select group of patients who had been identified as crucial to the epidemiological work (this group numbered about fifteen thousand in Hiroshima and seven thousand in Nagasaki) or unless their inclusion could be justified by “intrinsic pathologic interest” or “the dictates of good public relations”—public relations being a necessarily high priority in the operations of the ABCC.<sup>33</sup>

The same year a new director came to the ABCC. George Darling immediately, quietly, instituted a *de facto* policy change that transposed Cannan’s suggestion. While Cannan had urged that only the important autopsy materials be sent to Washington, Darling instead stopped sending important ABCC autopsy materials and began forwarding only duplicate specimens or low-priority materials that were seen as less crucial to the scientific work of the ABCC. The ABCC Pathology Department began keeping most bodily remains and records, either at their own facilities on Hijiyama Hill in Hiroshima or, after space there ran out, in the Pathology Department at Hiroshima University.<sup>34</sup>

Darling’s reasoning is not articulated in the records I have been able to find. He provides no direct explanation of how the ABCC was expected to benefit from maintaining control of the materials. Indeed, I have been able to reconstruct this change

<sup>33</sup> R. Keith Cannan to Drs. E. Murphy and N. Janovski in Hiroshima, 1 May 1957, in “Background, Inventory, and Handling of AEC Material,” A-Bomb MSS, Box 21, AFIP. Many decisions about the inclusion of particular people in the study were related to the need to establish and maintain good community relations. Cannan here was reiterating a well-established policy. See Lindee, *Suffering Made Real*.

<sup>34</sup> I am reconstructing this sequence on the basis of several letters and reports from the early 1960s in which this change in policy is described. See Herbert N. Gardner to Darling, 31 Aug. 1965; Gardner to Benjamin Highman (at AFIP), 13 Jan. 1966; Leland D. Stoddard to Darling, 9 May 1962, “ABCC gross autopsy material”; R. Keith Cannan, Apr. 1962, “The Duplication, Preservation, and Retrieval of Data Generated by ABCC—A Re-evaluation of the Problem” (hereafter cited as **Cannan Report, 1962**); and Drake W. Will to Drs. Yoshida, Watanabe, Yamada, Iijima, Miyake, Ota, Shigeto, and Ueda, 1 July 1964, “Autopsy storage, Hiroshima”: ABCC Collection, NAS Archives. On the autopsy overflow see Stoddard to Darling, 9 May 1962, ABCC Collection, NAS Archives.

in policy only by examining descriptions of it written up later, when the entire relationship of the ABCC to the AFIP was called into question. Darling was unquestionably interested in improving ABCC relations with Japanese scientists and with the Japanese community in general, and he recognized that the missing body parts were a source of some Japanese dissatisfaction. This alone might have been enough to justify the change. But it is also possible that Darling was responding to the problems of record-keeping and access that troubled Cannan, with whom he was in frequent contact.

By 1962 Cannan favored a still more radical solution: the complete return to Japan of all the ABCC body parts then stored in Washington. This proposal provoked an internal debate that provides insight into the affinity between political and scientific legitimacy. The two forms of legitimacy shaped the management of the body parts in tandem, sometimes reinforcing one another.

In a 1962 report Cannan noted that there was “considerable criticism of the ABCC for continuing to send to the USA, and particularly to a military institution, materials derived from Japanese citizens.” The Atomic Bomb Casualty Commission was under constant budget pressure. It had almost been eliminated several times in its fifteen-year existence. If ABCC were to terminate, he said, with the biological materials remaining in the United States, “we would in effect be saying that we reserved the right to continue the study of Japanese material independently of any program that the Japanese might sustain.” It was, said Cannan, “neither economical, practical, nor politically judicious” to keep the materials in Washington. “Plans should be developed by ABCC for the establishment and maintenance of a repository in Japan that will be under its own jurisdiction.” One former ABCC pathologist, siding with Cannan, urged the National Academy of Sciences (NAS) to “disentangle the ABCC from an arrangement that is cumbersome, costly, and even detrimental to ABCC and unsatisfactory to AFIP.” He predicted a “much needed improvement in relationships” with scientists in Japan if the Japanese were given more responsibility for the studies and more access to scientific data, including autopsy materials.<sup>35</sup>

In his assessment of the situation, Cannan went so far as to suggest that the body parts isolated in Washington were not reliable pieces of nature at all. The autopsy materials, he said, were so far removed from the records and context of their collection that they could not yield new information “of epidemiological significance.” It was not wise “to encourage the manipulation of information by those unfamiliar with the manner of its collection,” he said, and the materials in Washington had not been put to particularly good scientific use. “In 15 years, few studies on ABCC materials at the [institute] have come to fruition. This may well be due to the fact that essential data were lacking.”<sup>36</sup>

<sup>35</sup> Cannan Report, 1962; and Raymond Zeldis to Cannan, 31 May 1962, ABCC Collection, NAS Archives. Stuart Finch, then in Hiroshima, said that his leukemia study had been hampered by the location of the autopsy materials in Washington. “We have been hampered to some extent in review of the old leukemia material because none of the autopsy material is at ABCC, but now is located at the AFIP”: Stuart Finch to Darling, 7 May 1962, ABCC Collection, NAS Archives. Finch said a review should be done at ABCC, not AFIP, because at ABCC there was “direct access to clinical material.”

<sup>36</sup> Cannan Report, 1962. ABCC staff member Leland Stoddard told Darling that the materials at AFIP were of “limited value” because they were not the product of “intelligent and experienced”



The human remains stored at the institute, then, contained reliable natural knowledge only within a specific context (social, historical, scientific). In Washington, D.C., they were too far from the bodies from which they had been taken. Dispersed across the globe, they were only weakly linked to the networks of collection, administration, negotiation, and selection that made them natural. They could not reveal the knowledge they contained. Cannan suggested that “data” were lacking, but he included in this designation the “manner of collection” of the autopsy materials. To know what the body parts said, he suggested, you needed to know how they were collected. The location of the body parts in Washington was therefore wrong because it compromised their status as reliable records of natural truth.<sup>37</sup>

But the question of location and use could be posed another way. In the same 1962 document, Cannan said that the policy of keeping biological materials in the United States “touches the problem of maintaining the scientific morale of the staff at ABCC.” The commission, he said, “must not come to be looked upon as a data-collecting agency. It is a research institution in its own right. Should stateside investigation of ABCC pathologic data be encouraged the scientific incentive” for ABCC staff would be compromised. And the consequences of that, he said, would be a deterioration in the quality of the staff—and therefore in the quality of the data. A former ABCC pathologist backed him up, saying that it would be “devastating” if independent studies of the atomic bomb materials were to “originate outside the ABCC” at the institute itself.<sup>38</sup>

It is remarkable that Cannan seemed to expect that anyone would attempt epidemiological research on the Japanese survivors by settling in at the Armed Forces Institute of Pathology in Washington, D.C. Clearly the original purpose in sending these materials to Washington was not so that they could be used for independent research, but so that they would be safely under American control. How do Cannan’s two arguments work? Either the location of the materials in Washington was a problem because they were decontextualized and therefore *could not* provide access to natural truth; or it was a problem because they *could* provide access to natural truth to outsiders whose research would threaten the mission and morale of the ABCC.

Apparently workers at the ABCC in Hiroshima, at least, were afraid that the institute in Washington was permitting unauthorized use of the biological materials by other (competing) researchers.<sup>39</sup> In one case an ABCC chief of pathology refused to

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selection of samples. Stoddard pointed out that biological materials held in pathology collections had a range of different uses, some exhausted shortly after the autopsy, others persisting much longer. “Certain studies have to be done soon after autopsy, for example microbiological and often chemical studies, and therefore only the record of such studies can be duplicated.” He felt that there was “no doubt that the original repository for Hiroshima materials should be Hiroshima and for Nagasaki materials in Nagasaki”: Stoddard to Darling, 3 May 1962 (cc Sidney Madden), ABCC Collection, NAS Archives.

<sup>37</sup> Cannan said the most efficient way to store long-term ABCC materials was “within the ambit of ABCC,” where a repository could maintain materials “in the same organic form as that of the original source materials” and be “available to replace losses of the latter with minimum delay”: Cannan Report, 1962.

<sup>38</sup> *Ibid.*; and Zeldis to Cannan, 31 May 1962, ABCC Collection, NAS Archives.

<sup>39</sup> For their part, the staff in Washington was less than impressed with the group in Japan. One pathologist at the institute said that “one of the most disappointing features of the year’s work and experience was the lack of cooperation and unresponsiveness in answering inquiries about cases from the ABCC laboratory in Hiroshima.” He added that some of the “misdiagnosed cases [sent from Hiroshima] are a disgrace to American pathology which should seriously concern NAS”: Roland

send AFIP a paraffin block from a 1959 autopsy because he suspected that someone at AFIP was “doing research” on this “interesting” case. His explanation to the institute was that “sending paraffin blocks to you will not be desirable because there is only one set,” but his real concerns—made clear in his internal memos—were about competition.<sup>40</sup> The body parts, then, could be used legitimately only by those whose work would not threaten ABCC researchers. Independent Japanese researchers were perhaps the most obvious threatening group, but they had very little access to the body parts in Washington, partly as a simple consequence of geography.<sup>41</sup>

It was also possible to argue, as did one ABCC pathologist, that the isolation of the materials from the messy and unpredictable context of postwar Japan was precisely what made them reliable scientific resources. Louis Crews favored the removal from Japan of as much biological material as possible. Japan’s political future was uncertain, he said, noting increasing Communist activity. “The unreproducible nature of the pathologic material and data [from Japan] makes imperative its protection by all feasible means,” he said, adding that

whether Japanese control [of the studies of the atomic bomb victims] is morally right or not is beside the point. The point is that after control passes to the Japanese, the Americans at ABCC will have no means to counter-act whatever propaganda use may eventually be made of these victims of World War II. Political security is certainly not the only advantage to be gained from having complete data gathered within the U.S. Freedom for scientific use would be greatly enhanced by having this material accessible.<sup>42</sup>

Here political and scientific priorities beautifully coalesce: the same policy will fight communism and facilitate the production of scientific truth. Like the

Aronson to Cannan, 3 Nov. 1962, first letter filed after Cannan’s report in “Background, Inventory, and Handling of AEC Material,” A-Bomb MSS, Box 21, AFIP. Aronson had replaced Louis M. Crews, and he was more critical than his predecessor of AFIP policies and practices, though he stopped short of recommending a return of the biological materials to Japan.

<sup>40</sup> **Yamamoto** Tsutomu refused a request from the director of the Armed Forces Institute of Pathology for a paraffin block from a 1959 autopsy. The request came in a form letter asking for the paraffin block from the autopsy of **Uchida** Hiroyuki. Yamamoto didn’t know what to do—“The ABCC-AFIP relationship is not quite clear to me,” he told ABCC director Darling—and he was suspicious of institute motives. “The autopsy case of Uchida Hiroyuki, 59-AH-77, is very interesting. The principal diagnosis is liver cell carcinoma with diffuse cirrhosis. The reason for their selection of this case is not known to me. If someone at the AFIP is doing research on this particular case, it is my opinion that this request should be referred to the ABCC research request committee.” He decided to turn down the request: **Yamamoto** Tsutomu to Darling, and Yamamoto to AFIP, 1 Sept. 1964, ABCC Collection, NAS Archives.

<sup>41</sup> In December 1965 the epidemiologist Gilbert Beebe told Darling that he had been “collared” by a Dr. **Tsukamoto** at a World Health Organization meeting. This physician apparently complained to Beebe about his inability to get access to some biological materials held in Washington. “He told me of his interest in bone from individuals exposed within 1400 m. of the Hiroshima hypocenter and dying before the Bikini test. He understands that you had requested the bone from the U.S. for him. Did I know anything about it? I checked for him at AFIP and could not find that there was a request from you fitting Dr. Tsukamoto’s specifications, and that it could not immediately be ascertained whether samples as large as Dr. Tsukamoto wants were ever sent”: Gilbert Beebe to Darling, 21 Dec. 1965, ABCC Collection, NAS Archives.

<sup>42</sup> Louis M. Crews to Cannan, 28 June 1961, Tab B, item 6, in “Background, Inventory, and Handling of AEC Material,” A-Bomb MSS, Box 21, AFIP. Crews also protested that the ABCC staff was uncooperative and seemed to place little value on the collection at AFIP. “If there is agreement on the need of such a documentary collection, it is difficult to understand why it has been necessary to cajole, argue and explain in order to get the material that is lacking at AFIP.”

Elgin Marbles, the autopsy materials taken from the Japanese victims of the atomic bomb needed to be severed from their original location for their own good. They would be safer and better off under American control, where they would be preserved from political instability and freely accessible to researchers.<sup>43</sup>

The question of who could legitimately use the autopsy materials at AFIP was linked to who owned them—but their ownership was in fact unclear, as Cannan knew. Potential owners included the physicians (both American and Japanese) who first collected them, the National Academy of Sciences (which oversaw the ABCC), the Armed Forces Institute of Pathology (which had possession), and the Atomic Bomb Casualty Commission itself. If anyone, however, had a proper claim to them it was probably the Atomic Energy Commission, which had actually worked out the initial agreement for storage and assessment with the AFIP.<sup>44</sup> The AEC, which funded the American research in Japan, asked the Secretary of the Army to make the facilities at the institute available to the ABCC; the Secretary of the Army agreed. The details were later described in an AEC technical bulletin. The institute, the bulletin stated, would “provide a consultative service including review and/or diagnosis of pathologic tissue for all Atomic Energy Commission hospitals, experimental laboratories and other facilities.”<sup>45</sup> The bodily materials collected by American researchers in Japan were therefore identified in AFIP records as AEC property—indeed, Cannan’s own report about the body parts was filed in a notebook labeled “Background, Inventory, and Handling of *AEC Material*.” It may not have seemed critical in 1946, but it later became necessary to resolve the question of which American agency actually owned the body parts stored in Washington. In the end, as I show, they apparently belonged in practice to the State Department, which acquired the right to determine their fate.

Cannan made it clear that from his perspective the bodily materials in Washington were ABCC property. The National Academy of Sciences, he said, should “seek from the AFIP agreement that title to materials that have been or will be deposited at the AFIP and are essential to the program of ABCC, shall be vested in ABCC.” He thus implicitly recognized the possibility that the AEC, or some other American or Japanese agency, could claim these human remains.<sup>46</sup> In 1967 his expectations in this matter were fulfilled.

<sup>43</sup> Both Morris Low and Betty Smocovitis pointed out to me the similarity of this argument and that used to justify and rationalize the maintenance of the Elgin Marbles at the British Museum. The Elgin Marbles are friezes and statues sawed off Acropolis monuments in the early nineteenth century by Lord Elgin’s workers. The arguments against returning them to Greece have included the ideas that they are “safer” in London and that contemporary Greeks are not “authentically Greek” and have no proper title to them. See Christopher Hitchens, *The Elgin Marbles: Should They Be Returned to Greece?* (London: Chatto & Windus, 1987), esp. pp. 84–104, where Hitchens lays out the various arguments.

<sup>44</sup> The army, said Cannan in his 1962 report, “agreed to extend to the AEC the facilities of the Army Institute of Pathology” for “materials of interest to the AEC”: Cannan Report, 1962 (emphasis added).

<sup>45</sup> See Kenneth C. Royall, Secretary of the Army, to Carroll L. Wilson, General Manager, Atomic Energy Commission, 3 Feb. 1948, and following letters; and program signed by Carroll Wilson, undated, labeled “3rd Draft,” A-Bomb MSS, Box 21, AFIP.

<sup>46</sup> “The Duplication, Preservation, and Retrieval of Data Generated by ABCC,” ABCC Collection, NAS Archives. When the pathologist Louis Crews was attempting to standardize the AFIP-ABCC relationship, he chose simply to set aside the question of ownership. “The question of which installation [here he means AFIP or ABCC] shall have final control of limited pathologic materials was not settled. It was tacitly agreed to postpone decision on this matter:” Crews to Cannan, 28 June 1961,

## CLAIMS FROM JAPAN

In June 1967 the Japan Science Council, an elected group of about two hundred elite scientists that received government funding but was controlled by the scientific community, created a "Special Problem Panel" that met to discuss the ABCC. This move was interpreted in diplomatic circles as the work of a "long-time U.S. antagonist" who sought an opportunity to publicize "favorite cliché charges against the ABCC."<sup>47</sup>

The council's list of presubmitted questions for ABCC officials included the following: "We understand the autopsy materials of ABCC have been sent to the U.S. but not returned. Are they to be returned to Japan?" This question had "the greatest news value to the press, radio and TV," according to an internal ABCC memo. The *Asahi Shimbun* announced that the Japan Science Council "strongly requested the return of data confiscated by the American Forces immediately after the bombing" (here confusing Joint Commission materials with ABCC materials).<sup>48</sup>

Because of the timing, I suspect that this request was either planted or fully anticipated: ABCC officials had formally asked the AFIP staff to send back the autopsy materials several months earlier precisely because they foresaw an official request for them. "As you are aware," Keith Cannan told the director of the Institute of Pathology in March,

the presence of these specimens in the United States has become an increasingly delicate subject in recent years and this has played into the hands of anti-American and left-wing propagandists. There have been press reports that the Japanese government would make a formal request for their return. For this reason, it appears particularly desirable that we be in a position to state that they are to be returned *on our initiative* as soon as facilities are available for their receipt.

Cannan—continuing to worry about ownership—also asked for some "formal assurance" that "wet tissues and special materials (such as eyes) will also be available on request at such time as storage facilities become available."<sup>49</sup>

The institute staff had earlier made it clear that the Joint Commission materials collected in the fall of 1945 could not be returned or given to the ABCC because they were "still considered classified." But the ABCC materials collected after 1947 could be sent on demand, and the staff was prepared to return some twenty-two thousand specimens sent to Washington by American researchers in Japan between 1948 and 1967. By the time of the meeting of the Japan Science Council in Hiroshima in June, the institute in Washington had almost completed a list of atomic

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Tab B, item 6, in "Background, Inventory, and Handling of AEC Material," A-Bomb MSS, Box 21, AFIP.

<sup>47</sup> Whittie J. McCool, memo to the ambassador, 30 July 1969, p. 5, ABCC Collection, NAS Archives. For more information on the Japan Science Council see Alun M. Anderson, *Science and Technology in Japan* (Harlow, Essex: Longman, 1984), pp. 44–49.

<sup>48</sup> Kenji to Darling, 30 June 1967, ABCC Collection, NAS Archives. Another professor said, "I believe it is now time, 22 years after the A-bombing, for the research and facilities of ABCC to be transferred to the Japanese side and investigation and research be done by Japanese scientists. The Japan Science Council should become the nucleus in studying the question of transfer to the Japanese side": "Japan Science Council," ABCC Collection, NAS Archives.

<sup>49</sup> Cannan to Maj. Gen. Joe M. Blumberg, director, Armed Forces Institute of Pathology, 23 Mar. 1967 (emphasis added), A-Bomb MSS, Box 20, AFIP. Cannan told Blumberg that he was making a "formal request" for the return of all biological materials to the ABCC in Japan. The specimens could be sent in several shipments over a period of time, he said.

bomb materials belonging to the ABCC, so that shipping could begin; the first shipment of twelve hundred paraffin blocks arrived in Japan on 30 June, shortly after the council meeting.<sup>50</sup>

A few weeks later, on 4 August, ABCC director Darling announced that the ABCC was willing to give these returned biological materials to Japanese institutions. The *Sankei Press* reported that Darling would “transfer all specimens of the bodies of the deceased kept at ABCC and in the United States” to the medical schools at Hiroshima and Nagasaki as soon as their new A-bomb data centers were completed the following spring. Not only, then, would the body parts be returned to Japanese soil voluntarily by the ABCC; they would be returned to complete Japanese control.<sup>51</sup>

A pathologist at Hiroshima University promptly announced that the body parts were “of great scientific value,” capable of revealing “new information” to Japanese scientists who had not been able to work with them before. A Communist group in Hiroshima demanded to “inspect the state of maintenance of these specimens” that were so “vitally important for the elucidation of late A-Bomb disturbances.”<sup>52</sup> And a Nagasaki group, rather belatedly, denounced the ABCC for collecting specimens “literally consisting of the flesh and blood of our relatives and brethren” and sending them “to the Armed Forces Institute of Pathology instead of utilizing them for the health administration and treatment of the survivors.” Coincidentally, a parallel controversy emerged surrounding a “suppressed” documentary film that included footage of the hypocenter in Hiroshima, which some Japanese activists were demanding be returned by the United States.<sup>53</sup> In the summer of 1967, all the various records of

<sup>50</sup> Gardner to Darling, 31 Aug. 1965 (“still considered classified”), ABCC Collection, NAS Archives. See also Robert J. Preston to Dr. Helwig, 11 Apr. 1967, “Retrieval of ABCC paraffin blocks,” listing a total of 25,929 cases from the ABCC and 1,792 cases from the Joint Commission: A-Bomb MSS, Box 20, AFIP. This box also contains many other records of the organization, arrangement, and shipment of the materials to Japan in 1967.

<sup>51</sup> Darling said that even the biological materials that had never left Japan but had been stored at the ABCC (after 1957) would be given to Hiroshima University: “Willing to Transfer Data in Custody of ABCC to Japan, Director Darling of ABCC,” *Sankei Press*, 5 Aug. 1967; translation in ABCC Collection, NAS Archives.

<sup>52</sup> The pathologist is quoted in *Sankei Press*, 6 Aug. 1967; translation in ABCC Collection, NAS Archives. The Communist request is reported in Kosasa Hachiro *et al.* to Darling, 25 Aug. 1967, “Letter of request”; translation in ABCC Collection, NAS Archives. See also Darling to Robert T. Webber (scientific attache at the American embassy in Tokyo), 11 Sept. 1967, ABCC Collection, NAS Archives: “I stated that when the United States withdraws all original research data and specimens will remain the property of Japan, with such duplicates for the United States as may be desired at that time. While there are no official documents which carry that language at the present time I believe that this statement is at least consonant with the long series of agreements which I have helped to develop since 1957 and, as far as I can tell, anything existing before that date.” See also Kenji to Darling, 5 Sept. 1967, “Meeting with Gensuikyo Representatives,” ABCC Collection, NAS Archives: “Dr. Darling registered his surprise that Gensuikyo, which includes an elite group of intelligent members, cannot accept that ABCC is a binational organization as demonstrated by Dr. Maki as director of the JNIIH Branch Laboratory and by the two national flags flying over the entrance (and clearly visible through the windows of the office in which this meeting was held).” Gensuikyo, generally translated as the “Japan A and H Bombs Prohibition Council,” had some connection to the labor groups that were disrupting work at the ABCC in the 1960s, though the precise relationship is unclear to me. See John Z. Bowers, unpublished draft MS history of the ABCC, Ch. 4, Box 1, “1962–1975 Non-Science,” Record Group (RG) ACC 89–73, “Atomic Bomb Casualty Commission,” John Z. Bowers Papers, Rockefeller Archive Center, Pocantico Hills, New York.

<sup>53</sup> “Protest” to Darling, 9 Aug. 1967; translation in ABCC Collection, NAS Archives. Darling had actually seen the film some time earlier in Washington, and he became involved because of a formal request from the new mayor of Hiroshima. See Gardner to Darling, 7 Aug. 1967; Darling to Cannan,

the events at Hiroshima and Nagasaki—body parts, films, texts—were being noisily claimed by Japan.

Over the next two years, in a series of fifty-six shipments, the Armed Forces Institute of Pathology returned all of the ABCC autopsy records and bodily remains, beginning first with the easily stored paraffin blocks and eventually including both wet tissue and slides.<sup>54</sup> But where should such materials properly be stored in Japan?

### SHRINES TO PATHOLOGY

As the Japanese and the Americans negotiated the question of who could or should control the body parts, both sides expressed concerns about the proper physical management of these materials. Where should they be stored? Under what conditions? And with what level of accessibility? Japanese pathologists assumed that their claims to the body parts could be reinforced by a demonstration of their understanding of the importance of buildings: it mattered not only what country the body parts occupied, but also what sort of building. Only certain architectural structures could support the status of the body parts as natural objects.

The A-Bomb Data Centers that eventually opened in Hiroshima and Nagasaki in 1969 were first proposed by two Japanese pathologists at Hiroshima University in 1962. Doctors Iijima and Yamada, in a plan sent to ABCC Pathology Department head Leland Stoddard in Hiroshima, noted that they appreciated the ABCC's "scientific consideration" in sending recent autopsy materials to Hiroshima University (this was a consequence of Darling's 1957 policy shift). "It is needless to say that the Pathology Department is very grateful for the kindness of ABCC." But the university department had neither the personnel nor the facilities to manage and store the large numbers of bodily remains that the ABCC generated. The ABCC was conducting almost five hundred autopsies each year, and for each autopsy there was a five-gallon glass jar that contained "the major portions of the visceral organs, including heart and lungs in toto, the brain, and separately wrapped organ blocks." "At present we must admit that these materials are not necessarily adequately stored nor being utilized to full extent," said Iijima and Yamada.<sup>55</sup>

They then presented their argument for the special nature of the atomic bomb autopsy materials: the bodies dissected at Hiroshima and Nagasaki were bodies that had been directly exposed to atomic weapons. The organs taken from them could not "be regarded as the same as other ordinary autopsy material" because they contained "findings of a very instructive nature necessary for the future of mankind who will be utilizing atomic energy for industrial purposes." The autopsy materials should be

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3 Aug. 1967; Darling to U. Alexis Johnson (American ambassador to Japan), 3 Aug. 1967; and Kenji to Darling, 14 July 1967, ABCC Collection, NAS Archives. Darling said the American reluctance to release the film was making a "mountain . . . out of a molehill" that detractors could use against the United States. "I find it hard to believe that [the film] would add anything to the impact of the material now exhibited in the museums in Hiroshima and Nagasaki": Darling to Cannan, 3 Aug. 1967.

<sup>54</sup> For the number of shipments see R. W. Morrissey, "Memorandum for the Record," 27 Dec. 1971, citing P. F. Carney to Captain Bruce Smith, 16 May 1969, ABCC Files, AFIP. On the sequence in which materials were sent see Cannan to Blumberg, 23 Mar. 1967, ABCC Collection, NAS Archives.

<sup>55</sup> Stoddard, translation dated 29 Mar. 1962, sent to Darling: "Brought to Dr. Maki and me in February 1962 by Profs. Iijima and Yamada. I favor such a jointly-built and operated museum-laboratory but details and policy must be decided." ABCC Collection, NAS Archives. On the jars' contents see Will to Drs. Yoshida, Watanabe, Yamada, Iijima, Miyake, Ota, Shigeto, and Ueda, 1 July 1964, "Autopsy storage, Hiroshima," ABCC Collection, NAS Archives.

“preserved in as good condition as possible for future review . . . this is considered an obligation toward man shared by all pathologists in Hiroshima.”<sup>56</sup>

Iijima and Yamada thus universalized the ABCC autopsy materials, severing them from nationalist concerns. They based their appeal for the control of the materials not on Japanese victimization—they did not present themselves as surrogate victims—but on universalistic values. At stake, they said, were issues affecting “all mankind”; as pathologists, they felt an “obligation toward man” to preserve and protect these materials.<sup>57</sup>

With their own extranational perspective established and with the historical and human value of the bodily remains articulated, they proceeded to describe the sort of building in which such valuable materials could find a proper home. It should be, they said, “ferro-concrete, with 3 stories,” and contain administrators’ offices, a secretaries’ office, and an exhibition room for “thoroughly prepared specimens to be displayed.” It would include also a “small medical museum on the effects of the A-bomb.” They had even selected a site—“a plot by the side of the Pathology Department.” Its second and third floors, they said, would be used for storage of gross specimens and as a photography and laboratory space. “Part of the laboratory rooms will be used as a biopsy specimen room where permanent paraffin blocks will be prepared”; the remainder would contain “a complete set of pathological equipment so that visiting researchers cooperating with ABCC and other institutions on A-Bomb casualty investigations may conduct their research with the use of these specimens.” They included a sketch of all three floor layouts in their letter. And they emphasized that the building would be “fire- and earthquake-proof. This is an absolute requisite.”<sup>58</sup>

Seven years later, in July 1969, a new A-Bomb Medical Records and Specimen Center opened at the Research Institute for Nuclear Medicine and Biology at Hiroshima University. Director **Shimizu** Kiyoshi that month informed the ABCC that he was prepared to accept all remaining ABCC autopsy records and body parts.<sup>59</sup> It was possibly a coincidence, or an architectural convention, that the new Japanese center bore a strong resemblance to the main building of the Armed Forces Institute of Pathology.

<sup>56</sup> Stoddard, translation dated 29 Mar. 1962, sent to Darling.

<sup>57</sup> *Ibid.*

<sup>58</sup> *Ibid.*; and Stoddard to Darling, 9 May 1962, ABCC Collection, NAS Archives: “The following considerations seem to me to be pertinent: The medical school has exhausted its space for storage and ABCC must now accept responsibility for deciding what is to be done with accumulated and rapidly accumulating cases . . . the materials apparently cannot be shipped back to the AFIP because of political considerations . . . and from your comments about a proposed museum-laboratory on the Hiroshima University campus, I inferred that the place of such a building involved multifold, delicate political decisions. A decision must be made either to provide storage facilities or discard some of the materials.” In August the ABCC staff decided to give the Pathology Department at Hiroshima University permission to discard some autopsy materials. See Murray Angevine to Prof. S. Iijima and Prof. A. Yamada, 27 Aug. 1962, “Disposal of gross tissues from autopsied cases,” ABCC Collection, NAS Archives.

<sup>59</sup> Shimizu wanted to discuss appropriate mechanisms for the transmittal of the ABCC material and begin plans for a formal ceremony to mark their transfer. See Hiroshi **Maki** to Darling, 16 July 1969, “Doctor Shimizu’s visit,” ABCC Collection, NAS Archives. The Hiroshima University Research Institute for Nuclear Medicine and Biology opened in April 1961 with ten departments and about ninety hospital beds. It was one of several local research centers that was viewed as competing for the ABCC’s research subjects. See Bowers, unpublished draft MS history of the ABCC, Bowers Papers.

The institute in Washington—where the atomic bomb victim body parts had been stored under American control—was a ferroconcrete building with a medical museum, photographic facility, laboratories, and storage center for specimens. The new A-Bomb Medical Records and Specimen Center that opened in Hiroshima in 1969 was a ferroconcrete building that contained a medical museum, photographic facility, laboratories, and storage center for specimens. It was “constructed at a total cost of 84 million yen” and was expected to “bring together in one place the various medical specimens which had hitherto been kept separately in the U.S., at ABCC and at Hiroshima University School of Medicine.”<sup>60</sup> I suspect that the similarities in the buildings reflected their similar purpose. But the suitability of the building in Japan was constructed by Darling as the central issue shaping the return of the human remains.

Darling publicly claimed that the building alone had been the crucial impediment to the return of these materials and even suggested that the body parts were originally taken from Japan only because there had not been a proper building in which to store them in the fall of 1945. The ABCC, he said, “had looked forward for a long time to the occasion when it could transfer the autopsy material collected through its pathology program. Such facilities were not available in Japan until the recent construction of the specimen center.” Darling said he had “worked for the return of the ABCC autopsy materials stored at AFIP when appropriate facilities became available” and that he had confidence that in the new building the materials would be “properly arranged and stored, permitting open use of the material for scientific purposes with the consultation of ABCC.” The center’s suitability for this function was highlighted: “The storage room on the fourth floor is air conditioned and secure with keys in the custody of Dr. Fukazawa” (chief of the center).<sup>61</sup>

The ABCC materials collected after 1947 were thus returned to Japan and to Japanese control by the fall of 1969. Still remaining in Washington in 1969—still classified—were the autopsy materials and records collected from September to December 1945 by the American Joint Army-Navy Commission. Here I must turn to the budget problems of the Atomic Bomb Casualty Commission, which played an important role in the fate of the specimens still held in Washington.<sup>62</sup>

<sup>60</sup> “A-Bomb Medical Data and Specimens to Be Made Available to Researchers and Physicians,” *Asahi Press*, 21 May 1969; translation in ABCC Collection, NAS Archives.

<sup>61</sup> Kenji to Darling, 9 Oct. 1969, “Autopsy material transfer ceremony,” ABCC Collection, NAS Archives. The transfer of ABCC materials was successfully completed, with full ceremonial form, on 6 Oct. 1969. Darling and four members of his staff met with Shimizu and two members of his staff. Darling handed Shimizu a “package of autopsy protocols” and said that the ABCC had “looked forward for a long time to the occasion when it could transfer the autopsy material collected through its pathology program”: Kenji to Darling, 6 Oct. 1969, ABCC Collection, NAS Archives. For other discussions of the opening of the new center and the transfer of materials in 1969 see Darling to Charles Dunham, 16 May 1969; Shimizu to Darling, 14 May 1969; Maki to Darling, 1 May 1969; and Osamu Sato to Maki, 25 Apr. 1969, ABCC Collection, NAS Archives.

<sup>62</sup> There were so many budget proposals and discussions from 1960 to 1973 that I do not want to explore them all here. I will mention, however, that in the fall of 1967 Darling sketched out a possible plan to “transfer operational responsibility for the Japanese component of ABCC to the two Japanese National Institutes of Health branch laboratories.” Americans, he proposed, would remain involved as advisors, but they would not be responsible for the research, even though he was assuming that the U.S. AEC would continue to provide the current level of funding. He anticipated that Japan would eventually increase its financial participation as Japanese control increased, though he realized that there was no guarantee that this would happen. See Darling to Dunham, 14 Nov. 1967, ABCC Collection, NAS Archives. Dunham was sufficiently skeptical to squelch the plan; see Dunham to Darling, 5 Dec. 1967, ABCC Collection, NAS Archives.



## RENEGOTIATING THE ABCC

The ABCC was often financially troubled and often seemed to be on the verge of losing its AEC funding in the 1950s and 1960s. There were so many complicated problems with the organization that it was possible for critics to find many reasons why it should be terminated. And there were so many constituencies with an interest in the work of the ABCC that it was possible to argue that while the work was extremely valuable, it should be paid for by someone else (perhaps the United Nations).<sup>63</sup> The ABCC was in a chronic state of crisis, and the crisis that occurred in 1969 should be understood in this context: it was one of many.

This period of crisis coincided with one of profound change in the economic relations between Japan and America. Japan's resurgence as an economic power in the 1960s has been implicated as one cause of the financial crisis of 1968, when a growing trade deficit and plunging dollar provoked a panicked American reaction (a threat to close the gold markets). Such economic factors placed strains on Japanese-American relations in general, including scientific relations. But the connection between the return of the atomic bomb body parts and economic concerns was more than temporal. Financial issues drove the exchange and the negotiations surrounding them.

Americans responsible for the body parts believed that by returning them to Japan they could encourage Japanese cooperation on a vexing problem: Who would continue to pay for the scientific studies of the biological effects of radiation on atomic bomb survivors? Many U.S. officials wanted the government of Japan, through the Japanese National Institutes of Health, to accept at least half of the financial burden for support of the ABCC. American diplomatic and scientific leaders actively pursued Japanese cooperation on this point as early as 1965, but not until all Japanese autopsy materials were returned, in May 1973, did the government of Japan agree to share equally in the cost of the scientific study.<sup>64</sup>

From 1959 to 1969 operating costs of the ABCC more than tripled while spending for the AEC's domestic research programs only doubled. By 1969 the AEC's overall budget had been almost static for several years.<sup>65</sup> In response, American officials appealed to the government of Japan to increase its contribution to the project. At a

<sup>63</sup> Lindee, *Suffering Made Real*, pp. 103–116.

<sup>64</sup> My analysis throughout this paper is deeply indebted to John Beatty's exploration of internationalism in ABCC operations: Beatty, "Scientific Collaboration, Internationalism, and Diplomacy" (cit. n. 23). In reference to the economic crisis of the late 1960s see Robert M. Collins, who has suggested that the gold crisis of 1968 was provoked partly by the "economic resurgence of Europe and, to a lesser extent, Japan," which "increased both American imports from these areas and the outflow of capital, as overseas investment opportunities became more appealing." In March 1968, with the dollar in trouble and the trade deficit growing, the United States threatened to seek to close gold markets in response to losses of up to \$400 million per day. As Collins shows, the financial crisis had been building for at least two years and had an impact on social policy and international monetary policy. See Robert M. Collins, "The Economic Crisis of 1968 and the Waning of the American Century," *American Historical Review*, 1996, 101:396–422.

<sup>65</sup> Whittie J. McCool, "Memorandum for the Ambassador: Subject: Briefing on the Atomic Bomb Casualty Commission," 30 July 1969, in George B. Darling Papers, ABCC Collection, NAS Archives. The ABCC's budget in 1949 was \$111,179; in 1959 it was \$1,152,941, and in 1969 it was \$3,046,258. The JNIIH contribution rose from \$12,441 in 1949, to \$29,903 in 1959, to \$139,561 in 1969, and to \$477,969 in 1975—the last budget year before reorganization of the ABCC into the Radiation Effects Research Foundation. From *The ABCC, 1974–1975: A General Report on the ABCC-JNIIH Joint Research Program*, pp. 4–5, cited in Bowers, unpublished draft MS history of the ABCC, Bowers Papers.

grand formal meeting in the summer of 1969 the U.S. contingent proposed a binational review of the commission's scientific program, to be followed by a formal binational endorsement of the revised program. The Japanese would have an equal role in planning the research, the Americans proposed, and they would also have equal financial responsibility.<sup>66</sup>

The Americans pointed out that all but 36 of the commission's 739 employees were Japanese; yet Japan was providing only \$110,000 in a \$4 million annual budget—about 2 or 3 percent. They asked for more Japanese participation in commission administration and scientific program planning and direction, with commensurate increases in Japanese funding.

Why should Japan pay for this project? First, said the American diplomatic contingent, there were the program's "well-established scientific merits and the past scientific, humane and economic benefits to Japan." Second, there was the fact that Japan could now afford to pay for it—partly, of course, because of American assistance in rebuilding the Japanese economy after 1945.<sup>67</sup>

The Japanese response to this appeal was "resoundingly negative." Japanese officials in attendance said the Atomic Bomb Casualty Commission was a U.S.-supported effort. The government of Japan was not favorably inclined toward a formal endorsement of the commission program and its future continuation. It was satisfied with the present arrangement and saw no reason for substantial change. "They went on to cite a few excuses for these attitudes," said Whittie J. McCool, Scientific Representative of the U.S. Atomic Energy Commission at the American Embassy in Tokyo, in his memo to the ambassador, "such as shortage of funds and qualified medical researchers, and the extremely delicate nature of the 'human value' problems relating to survivors."<sup>68</sup>

This refusal placed Americans interested in preserving the ABCC in a difficult situation. The Bureau of the Budget was "increasingly inclined to set Japanese participation as a criteria to U.S. continuation" of the atomic bomb project, McCool pointed out. If Japan continued in its refusal to contribute more and if there "ever comes a time when the US-AEC had to make a choice between programs vital to US interest and those that are not vital, then the ABCC program would be far more vulnerable and would be easier to cut because of a minimum Japanese involvement." The United States still had, McCool said, "the same programmatic justification and scientific interests" that it had when the project began. But the lack of Japanese interest in increased participation or even in a formal government endorsement would weaken the AEC's ability to defend the project to the Bureau of the Budget.

<sup>66</sup> Those present represented the Atomic Energy Commission, the National Academy of Sciences, the American Embassy, and the Japanese Ministry of Foreign Affairs, Ministry of Health and Welfare, Ministry of Education, and Science and Technology Agency.

<sup>67</sup> McCool also notes "Japan's present capability for jointly carrying out such a sophisticated program": McCool, "Memorandum for the Ambassador," 30 July 1969.

<sup>68</sup> *Ibid.* Beatty explores the careers of scientific attaches, noting that the attache idea was suggested in a 1951 report to the State Department by Lloyd Berkner, "Science and Foreign Affairs." Berkner suggested that science provided a universal language for resolving disputes. The State Department began providing scientific attaches to embassies in the mid 1950s; by 1970, twenty-seven countries had science attaches at 116 embassies in twenty-three world capitals. See Beatty, "Scientific Collaboration, Internationalism, and Diplomacy" (cit. n. 23), pp. 207–208; Lloyd V. Berkner, "Science and Foreign Relations," *Bulletin of the Atomic Scientists*, 1950, 6:293–298 (cited by Beatty); and J. W. Greenwood, "The Scientist-Diplomat: A New Hybrid Role in Foreign Affairs," *Science Forum*, 1971, 19:15.

The central message was clear, McCool said: Japan would permit the U.S. program to continue but would not formally endorse it or provide additional funding. This left the United States with the options of trying to raise money from other U.S. sources, trying to economize at ABCC, or phasing out the program.<sup>69</sup>

Within weeks of this disappointing meeting, Darling proposed a different strategy. The NAS, he said, should arrange for President Nixon to mention the Atomic Bomb Casualty Commission in his upcoming meetings with Japanese Prime Minister **Sato** Eisaku. "Of course there are many ways to open a chess game," said Darling, but a casual discussion of this kind had some advantages.<sup>70</sup> Joe Clarke at the NAS responded that "your idea of getting Nixon to bring up ABCC casually with Sato is excellent." Clarke said the embassy officials in Tokyo were already working on the plan but he hoped they would not "overdo" it. If the ABCC were to be treated as a "diplomatic formality," he said, it would probably get "deleted from the agenda." An informal mention was needed, with the president "indicating he is interested in ABCC's research and hopes we can agree on a closer joint direction of its future." A Japanese science advisor on the North American Affairs Desk of the Japanese Foreign Office learned of the plan and expressed similar, enthusiastic approval to NAS president Philip Handler. According to Handler, this advisor felt it would "be extremely helpful in giving him an opportunity to press the other Japanese ministries effectively for cooperative and constructive action in this matter."<sup>71</sup>

As some at the NAS saw it, the ABCC was a bargain for Japan. "The angle here is that this is a cheap one for Japan to buy compared to some other items we are asking the GOJ [government of Japan] to yield on," Charles Dunham, chairman of the Division of Medical Sciences at the National Academy of Sciences, told Handler in September.<sup>72</sup>

In his formal pitch to Nixon's science advisor Lee DuBridge a few weeks later, Handler proposed a "possible item on the President's agenda." He acknowledged that the Atomic Bomb Casualty Commission had "not always been [a] comfortable" subject. Now the organization was facing a crisis, and the United States was in a position where it might find it necessary to terminate the study. Should that happen, he said, he had no objections to donating the ABCC buildings at Hiroshima and Nagasaki—in the case of Hiroshima, a collection of Quonset hut-style "fishcakes"

<sup>69</sup> McCool, "Memorandum for the Ambassador," 30 July 1969.

<sup>70</sup> See Darling to Dunham, 10 Oct. 1969, ABCC Collection, NAS Archives. Darling was not privy to the diplomatic negotiations already under way regarding the ABCC. In August William J. Cunningham, First Secretary at the American Embassy, wrote to tell him that the Japanese Foreign Ministry had responded to the embassy's February 1969 proposal for a "joint study of the future of the ABCC." This reply, however, was "classified and I have no way of sending it down to you": Cunningham to Darling, 28 Aug. 1969, ABCC Collection, NAS Archives. In any case Darling did not fancy himself much of a diplomat. See Darling to Dunham, 9 Sept. 1969, ABCC Collection, NAS Archives. Around the same time, Darling was getting fed up with the Japanese attitude—particularly Japanese protesters who had been holding anti-ABCC rallies, presumably in recognition of the anniversary of the bombings in August. "Perhaps they will demonstrate in front of the White House with a placard, 'Return ABCC to Japan.' If they do it would certainly be a great temptation to do just that!" Darling to Dunham, 30 Aug. 1969, ABCC Collection, NAS Archives.

<sup>71</sup> Joe Clarke, NAS, special assistant to the business manager, to Darling, 2 Oct. 1969; and Philip Handler to Lee A. DuBridge (science advisor to Nixon), 1 Oct. 1969, ABCC Collection, NAS Archives.

<sup>72</sup> Dunham to Handler, 5 Sept. 1969, ABCC Collection, NAS Archives. This is a crude first draft of Dunham's 25 Sept. letter, which became the basis of Handler's 1 Oct. letter to DuBridge.

on Hijiyama Hill—to the Japanese government.<sup>73</sup> But he was concerned about what would happen to the data—the case numbers, the autopsy materials, the records, and so on—if the project were terminated. He wanted to make certain that the scientific data would be safely under the control of Science (I capitalize it here to suggest Handler's intent). The United States, he said, wanted a formal agreement on equal rights for both Americans and Japanese to the data collected and to be collected in the future on the survivors.

Handler's references to relinquishing buildings and hanging on to data may, however, simply have been dramatizations to convey the seriousness of the situation. A much better solution, he suggested, would be a long-range plan for greater Japanese scientific and financial participation in the program, participation that was "consistent with the desire and sense of dignity of a sovereign nation." Only an initiative "relatively high in Japanese government circles and the Japanese foreign office" could facilitate greater Japanese financial support of the project—and here was where Nixon could help.<sup>74</sup>

In early November, the American ambassador to Japan asked his staff to make recommendations as to what the embassy should or should not be doing to encourage more Japanese financial support for the ABCC. One suggested that the negative formal response to the previous summer's meetings was contradicted in informal settings—"occasional comments from Japanese bureaucrats indicating their positive concern over the problems of ABCC and desire to help. It seems that the most we can expect to accomplish is to slowly influence this consensus." He added that he had heard that Nixon was planning to mention the ABCC to the prime minister. "Our sources of information are not clear enough to know whether this is fact or rumor. We believe that such high level mention of U.S. Government interest in this subject should indeed increase chances for receiving favorable consideration from the GOJ."<sup>75</sup>

Nixon, as it turned out, was not alone in having an off-the-agenda item relating to the studies of the biological effects of the atomic bomb scheduled for the meeting at San Clemente. The president was supposed to mention money; the prime minister was supposed to mention the body parts.

#### LEGACIES AND DATA

Sato was under pressure from House of Councillors member **Ueda Tetsu**, a socialist with a national constituency, to demand a "complete return" of the biological materials still held in Washington. Ueda began to demand the return of the body parts only weeks before the meeting between Nixon and Sato, which was then scheduled for

<sup>73</sup> The buildings on Hijiyama Hill were elongated half-circles; Hiroshima residents sometimes call the ABCC facility a "fishcake palace" because of the resemblance of these buildings to an inexpensive fishcake, kamaboko. See the discussion in Lindee, *Suffering Made Real*, pp. 143–168.

<sup>74</sup> On residual property rights, Handler said: "We would turn the buildings we own over to the Japanese at such time as we cease to support the study." He described this as a "standard format" in AEC contracts in the United States. The financial participation would be "more difficult" for any Japanese ministry to enter into voluntarily. See Handler to DuBridge, 1 Oct. 1969, ABCC Collection, NAS Archives.

<sup>75</sup> William H. Beach, Acting Scientific Representative, United States Atomic Energy Commission, American Embassy, Tokyo, "Memorandum for the Ambassador: Response to your request, reference 'Assistance to ABCC,'" 12 Nov. 1969, ABCC Collection, NAS Archives.

January 1972. He announced in the Japanese Diet on 20 December 1971 that he had learned during a recent visit to the United States that the Americans were still holding human remains of victims of the atomic bombings who died in the fall of 1945. These materials included “clothing worn by the exposed people” and “personal calling cards in which the printed words were scorched” in addition to the pathologic specimens. “I believe all these data and materials are the legacies left by these Japanese victims of the bomb.” Their return to Japan was “most important”; “these *data* belong to the Japanese themselves.” He then demanded to know what the prime minister planned to do about this situation. He explicitly asked that Sato bring it up with Nixon: “I would like to have this matter included in the talks to be made at San Clemente. As the nuclear problem is under the exclusive jurisdiction of the President, this problem becomes very difficult to resolve if he does not get involved. Don’t you think so?” Sato responded that he had “various matters to discuss” in San Clemente but would “include among them” the question of atomic bomb victim remains.<sup>76</sup>

Two days later **Ichikawa** Takashi, Second Secretary of the Japanese Embassy in Washington, phoned the director of the Armed Forces Institute of Pathology to ask about “case folder #158930”—the number itself had been mentioned in the Diet discussion, and it was in fact the group case number assigned to all the autopsies collected by the Joint Commission. Ichikawa said that the government of Japan was under pressure to acquire all material on atomic bomb victims held at the Armed Forces Institute of Pathology and that he was attempting to ascertain what those materials were.

The AFIP official who spoke with him, Colonel R. W. Morrissey, was either less than forthcoming or uninformed about the history of these materials. He showed Ichikawa documents and letters relating to the return of Atomic Bomb Casualty Commission materials in 1967 and 1969 and said that the institute had no additional atomic bomb autopsy records or specimens. In January, however, Morrissey told an ABCC official at the National Research Council in Washington that “case folder #158930” involved Joint Commission materials and that these materials, “the records and the specimens,” had been located in one of the institute’s warehouses. Clearly they were not, at least in 1971, the subject of intense scientific scrutiny. Morrissey said that he was willing to ship them all to Japan and asked the ABCC staff to help him clarify where the materials should go. Ichikawa had suggested they should go “to the government,” a designation insufficiently precise for shipping plans.<sup>77</sup>

In April the Japanese Embassy formally requested the return of the Joint Commission materials.<sup>78</sup> There followed approvals from the Department of State, the Depart-

<sup>76</sup> Ueda’s demands for a “complete return” are recorded in “U.S. Government to Return Valuable Post–A-Bomb Pathological Specimens and Medical Charts,” *Chugoku Shimbun*, 12 Aug. 1972; translation in A-Bomb MSS, Box 19, AFIP. His remarks to the 67th Session of the Diet, House of Councilors, 20 Dec. 1971, are translated in “JANC Listing of Materials for Transfer to Japanese Government, November 1972,” A-Bomb MSS, Box 12, Pt. 2, AFIP (emphasis added). See also “U.S. Government to Return Valuable Post–A-Bomb Pathological Specimens and Medical Charts”; and Kenji to Paul E. Cevy, 14 May 1973, A-Bomb MSS, Box 19, AFIP.

<sup>77</sup> See Gardner to LeRoy R. Allen, 17 Jan. 1972, A-Bomb MSS, Box 19, AFIP. Morrissey’s account of his meeting with Ichikawa is “Memorandum for the Record,” 27 Dec. 1971, A-Bomb MSS, Box 20, AFIP.

<sup>78</sup> “The embassy understands that the greater part of said materials still remain at the Armed Forces Institute of Pathology”: Embassy of Japan, 28 Apr. 1972, A-Bomb MSS, Box 12, AFIP.

ment of Defense, and the U.S. Embassy in Japan. "For public relations, for political (the Opposition has requested the Government of Japan to request the return of the material), and for psychological reasons as well as for historical and research reasons mentioned above, I think we should accede to the GOJ request if at all possible," said one State Department observer. Representatives of the Atomic Bomb Casualty Commission had no objections. The Atomic Energy Commission was apparently not asked for its opinion until May 1972, when Morrissey at AFIP wrote a confused letter to John Trotter, director of the AEC's Division of Biology and Medicine, informing him that the State Department had agreed to turn over the materials to Japan and "therefore the AFIP has no choice but to comply."<sup>79</sup>

The bodily remains of atomic bomb victims had once been AEC materials and classified information, but by 1972 the AEC could no longer claim them. They were, in effect, the property of the State Department, which could unilaterally exercise its authority to return them to Japan. In any case, by 1972 the body parts had become valuable to the United States not as pieces of nature but as commodities that could be used in negotiations with the government of Japan.

A year later—after further negotiation, cataloguing, and packing and shipping—the last of the bodily remains and autopsy records of bomb victims who had died in the first three and a half months of the atomic age were placed on a Northwest Airlines flight to Japan. Seven crates weighing approximately 3,250 pounds arrived at Haneda Airport on 8 May 1973. Colonel Paul E. Cevey (executive officer of AFIP) and his wife flew to Japan on the flight that contained the final shipment of autopsy materials. The delivery and transfer went smoothly, with ceremonial lunches and dinners, a formal scroll (in English only), and a pearl brooch for Mrs. Cevey presented at the Restaurant Hannya-En, "where Henry Kissinger had been entertained."<sup>80</sup>

A few days later, while he and his wife were touring Japan, Cevey learned that a group of Japanese officials wanted to meet with him. He reported on this meeting as follows:

They were very complimentary about the listing, packing and condition of the specimens received. After much exchange of pleasantries the Japanese apologetically got around to their real reason for meeting. There were several records which could not be located in the groups, even after double checking. In addition, their copy of the inventory has an inadvertent omission of two pages of listing (as was true of all copies) and was allegedly missing quite a few slides and paraffin blocks which were listed on the inventory.

Cevey turned the problem over to the embassy and went home. A Japanese newspaper reported that a "new doubt has arisen as to whether all of the materials collected by the American military investigation group have been returned to Japan or not."

<sup>79</sup> For the State Department view see Robert Y. Hayashida to Col. E. J. Warlfe, Pentagon, "Diplomatic Note," 10 May 1972; and W. K. Flanagan, "Memorandum for the Director, Armed Forces Institute of Pathology," 24 May 1972 (Department of Defense response), A-Bomb MSS, Box 19, AFIP. See also R. W. Morrissey to John Trotter, 18 May 1972, in "JANC Listing of Materials for Transfer to Japanese Government, November 1972," A-Bomb MSS, Box 12, Pt. 2, AFIP.

<sup>80</sup> See "Return to Japan of the ABCC and JANC Material," undated, A-Bomb MSS, Box 20, AFIP; Col. Paul E. Cevey, "Memorandum for the Record," 22 May 1973, A-Bomb MSS, Box 19, AFIP; and Cevey to Director, Armed Forces Institute of Pathology, 12 June 1973, A-Bomb MSS, Box 20, AFIP.

The total number of missing cases was believed to be twelve.<sup>81</sup> The problems of error, misfiling, and misidentification traveled with the body parts across the Pacific and were incorporated into the collection in its new location.

One American pathologist concluded in 1962 that less than half of the autopsy cases stored in Washington were “fully usable” because of deterioration, or filing problems, or inadequate information about the victims. Yet they returned to Japan in 1973 as resources “indispensable for the medical elucidation of the radiation effects present immediately after the bombings.”<sup>82</sup>

A few months later negotiations began in earnest for a reformulation of Japanese funding obligations to the ABCC. I am not sure whether Nixon and Sato actually discussed the ABCC in early 1972, but Nixon did bring up its scientific importance in a meeting with Sato’s replacement, Prime Minister Tanaka, in late 1973, with the result that the two heads of state “agreed that the two governments had a continuing interest in studies of the late effects of atomic bombs.”<sup>83</sup>

The ABCC, always in peril, was kept alive through 1972 by special funding from the National Cancer Institute, which provided \$600,000 for operations that year. George Darling retired in December 1972, to be replaced by his deputy director LeRoy Allen. In April 1973 *notes verbales* were exchanged between the Foreign Ministry of Japan and the Embassy of the United States, replacing those exchanged at the close of the Occupation in the fall of 1952. The new arrangement changed the ABCC from an “agency attached to the Embassy” (and therefore enjoying diplomatic privileges) to a “US government research facility in Japan.”<sup>84</sup> This was a formal renunciation of the legacy of the Occupation.

By the end of the year negotiations between the United States and Japan culminated in an international agreement that a new nonprofit foundation, to be named the Radiation Effects Research Foundation (RERF), would replace the ABCC. This new foundation would be “established in accord with Japanese laws” and would “succeed to the rights and responsibilities of the ABCC.” In view of the importance

<sup>81</sup> Cevey, “Memorandum for the Record,” 22 May 1973; Cevey to Director, Armed Forces Institute of Pathology, 12 June 1973; and “Returned A-Bomb Disaster Materials Now at Origin: Doubts Left, Many Testify to Omission,” *Chugoku Shimbun*, 20 May 1973; translation in A-Bomb MSS, Box 19, AFIP.

<sup>82</sup> “The reason for limitation [of usefulness] was usually autocatalysis of tissue or lack of information on the radiation received or the clinical course of the patient.” Crews report, p. 4, in Cannan Report, 1962. See also “Tragic State of A-Bomb Exposure Vividly Conveyed,” *Chugoku Shimbun*, 11 May 1973; translation in “JANC Listing of Materials for Transfer to Japanese Government, November 1972,” A-Bomb MSS, Box 12, Pt. 2, AFIP.

<sup>83</sup> Described in notebook labeled “Bowers, Ad Hoc Committee,” Box 1, “1962–1975 Non-Science,” RG ACC 89–73, Bowers Papers. A Japanese newspaper reported in 1972 that Nixon and Sato did discuss the return of the autopsy materials, without citing any source: “U.S. Government to Return Valuable Post-A-Bomb Pathological Specimens and Medical Charts,” *Chugoku Shimbun*, 12 Aug. 1972; translation in A-Bomb MSS, Box 19, AFIP.

<sup>84</sup> Seymour Jablon to Itsuzo **Shigematsu**, 12 Apr. 1982, Box 1, “1962–1975 Non-Science,” ACC 89–73; and chronology, Radiation Effects Research Foundation, Bowers Papers. In April 1973 another high-level meeting about the future of the ABCC was held in Tokyo, the third since 1969. It included representatives of the Foreign Ministry, the Ministries of Health and Welfare of Japan, the United States Embassy, the U.S. Atomic Energy Commission, and the U.S. National Academy of Sciences. The Americans forecast a deficit and insisted on more Japanese support for the project. In June 1974 negotiations began for the reorganization of the ABCC, at a meeting in Tokyo formally attended by American Embassy, AEC, and NAS representatives, with ABCC staff present as observers. See Bowers manuscript fragment, “Establishment of the RERF,” “1962–1975 Non-Science,” RG ACC 89–73, Bowers Papers.

of the new foundation's research, it should be jointly managed and financed by Japan and the United States. In February 1975 the American geneticist James Crow headed a seven-member scientific committee that assessed the ABCC scientific program. The same month the act of endowment for the new RERF was approved and the new board was selected.<sup>85</sup>

On 28 March the ABCC staff in Hiroshima held a small party, with beer, in honor of the termination of the ABCC. And on 1 April the Atomic Bomb Casualty Commission became the Radiation Effects Research Foundation—a binational scientific agency and a “significant step in developing the scientific and technological cooperation between the two countries.”<sup>86</sup> The objectives and the scientific program were not to change, but the control and the funding were now to be evenly divided between the two countries.

Between 1967 and 1975 the Japanese scientific community and the government of Japan gradually came to accept financial and scientific responsibility for the studies of the effects of the atomic bomb, just as the United States scientific and diplomatic community relinquished control of the data contained in the preserved human organs in Washington, D.C. The two issues—money and remains—were intertwined at several levels. As Darling proposed in 1969, the growing official Japanese governmental interest in the body parts (associated with the opening of the specimen center in Hiroshima) seemed to portend “a growing appreciation of the role they have in the partnership.”<sup>87</sup>

### CONCLUSION

In his exploration of the idea (or ideology) of internationalism in science, John Beatty tracks the role of the Atomic Bomb Casualty Commission in American efforts to control communism in postwar Japan. Japan was one of America's “most important pawns on the chessboard of world politics” (policy planner George Kennan); the Pacific was an “Anglo-American lake” through which ran America's “line of defense” (General Douglas MacArthur). Beatty suggests that the diplomatic role of the ABCC, a scientific agency located in this strategic terrain, fostered an internal emphasis on scientific collaboration, cooperation, and credit sharing. “Collaboration between cooperating parties involving two or more countries is a way of pointing out or emphasizing that the project in question is transnational—that the project is not to be identified with the interests of one country”—and “once the transnationality of the project is ‘established’ it can better serve diplomatic ends.”<sup>88</sup>

But the ABCC had a difficult time conforming to this ideal of transnationalism and equal collaboration for many reasons, as Beatty points out and as my own study of the ABCC suggests. Its work involved American scientists and physicians studying Japanese victims of a new American weapon; its data could be used in plans for atmospheric weapons testing and other military projects; it had its origins in the American military occupation of Japan; and it had profound public relations

<sup>85</sup> See chronology, Radiation Effects Research Foundation, Bowers Papers.

<sup>86</sup> See 1974–1975 Annual Report, Radiation Effects Research Foundation; and chronology, Radiation Effects Research Foundation, Bowers Papers.

<sup>87</sup> Darling to Dunham, 16 May 1969, ABCC Collection, NAS Archives.

<sup>88</sup> Beatty, “Scientific Collaboration, Internationalism, and Diplomacy” (cit. n. 23), pp. 211 (citing Kennan and MacArthur), 209.



problems in Hiroshima that persisted into the 1970s, focusing primarily on the notion that the survivors being studied were denied medical treatment and managed like “guinea pigs” by American scientists.<sup>89</sup>

In this context, the body parts held at the Armed Forces Institute of Pathology, like all the data collected by the ABCC, were caught up in international debates about the legitimacy and morality of the use of the atomic bomb in 1945.<sup>90</sup> Both Japanese and American scientists constructed the body parts’ return to Japan as the return of missing *data*, but I want to suggest that they were also returned political power, instantiations of the issues central to the 1939–1945 war—and particularly of the issues posed by the American development and use of the atomic bomb in 1945.

That they were also objects of mourning and commemoration seems indisputable, but if I wished to explore such questions I would have to pursue the sort of argument that stresses the absence of references to mourning as evidence of its importance. I have chosen to focus on what is present in the texts produced by my actors, rather than on what is absent, though I acknowledge that some of the absences are surprising. When I began working on this question, for example, I expected to find that the bodily materials had a religious and ritual meaning in Japan that they did not have in the United States, and I expected the potential owners of the bodily materials in Japan to include the individuals from whom they had been taken or the families of those who had died. Yet in my examination of translated newspaper and journal articles, letters of protest, proposals, meeting minutes, and so on, I found virtually no Japanese mention of the spiritual qualities of these human remains, and no emphasis on public mourning or commemoration. This silence is particularly striking given the complex politics of commemoration in Hiroshima.<sup>91</sup>

Instead, the body parts appeared in Japan as both national property and crucial scientific data. Japanese pathologists were as eager to study, slice, and display these pieces of human bodies as were their American counterparts, and in the Japanese journalistic treatment of these human remains the emphasis was overwhelmingly on their potential to reveal natural truth.<sup>92</sup> Even in the debate in the Japanese Diet, they were referred to as “data.” They appeared not as pieces of individual human beings coming back to a proper ceremony but as pieces of information that had been withheld illegitimately by the Americans and that were the rightful national property of Japan.

Native Americans, when they began in the late 1970s to demand the return of bodily materials held in American museums, emphasized the ritual, spiritual meaning of these objects. They commonly adopted a fundamentalism that rejected science and the knowledge it can produce, ceremonially reburialing bodily remains of

<sup>89</sup> See Lindee, *Suffering Made Real*, pp. 124–130.

<sup>90</sup> Paul Boyer provides a good introduction to these debates in his 1985 study *By the Bomb’s Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York: Pantheon, 1985).

<sup>91</sup> The question of commemoration in Hiroshima has been perceptively explored by Lisa Yoneyama in her 1993 dissertation, “Hiroshima Narratives and the Politics of Memory” (Ph.D. diss., Stanford Univ., 1993). See particularly her discussion of the debate over Korean victims of the atomic bombing in Hiroshima and how their experiences should or could be commemorated (pp. 153–234). Yoneyama contrasts the scientific interpretation of the events in Hiroshima with the interpretation of survivors who have become “storytellers” and with the narratives of some city planners who have attempted to de-emphasize the bombing in order to encourage tourism and development.

<sup>92</sup> That the bodily remains should be cremated rather than thrown away was noted in passing by American pathologists. See Angevine to M. E. Rappaport, 25 Mar. 1963, ABCC Collection, NAS Archives, for discussion of cremation of discarded autopsy materials.

considerable scientific interest, despite the loud objections of the scientific community.<sup>93</sup> But Japanese scientists who sought the body parts were operating in a cultural framework of international science. They were part of an “imagined community” that functioned with all the force of national identity; they shared important values with their American counterparts, and they basically agreed that the body parts were data or evidence of hidden biological processes.<sup>94</sup>

My point is not that the body parts of atomic bomb victims were treated in an unusual manner, though there were some unusual elements in this case. Rather, I mean to suggest that they were treated in the ways many bodily materials in twentieth-century biomedicine are routinely treated. The systems I explore are present in everyday biomedical testing of bodily fluids in a standard physical; in the institutional testing of inmates, employees, students, or military recruits; in epidemiological and biomedical research; and in the corporate, proprietary management of cell lines, tissue samples, DNA probes, and other fragments.<sup>95</sup> They are present in the international negotiations surrounding a five-hundred-year-old Peruvian mummy, found frozen near Arequipa in the Andes, which recently traveled to Johns Hopkins University to be exhibited and studied, then returned to Peru. They are present in a young scientist’s appeal to the Norwegian Ministry of Antiquities to exhume the bodies of seven young men frozen on a Norwegian island in an effort to determine the microbial cause of the 1918 influenza epidemic.<sup>96</sup>

Of the more than sixteen million Americans who fought in World War II, the remains of more than seventy-eight thousand have never been recovered. Each year

<sup>93</sup> The unexpected coalition of Christian fundamentalists and Native American activists apparently stems from a shared antipathy to the historical narratives produced by science, which can sometimes contradict oral history or biblical texts. See Douglas Preston, “The Lost Man,” *New Yorker*, 16 June 1997, pp. 70–81, for a discussion of the political disputes surrounding a particular skeleton that seems to place Caucasoid peoples in America nine thousand years ago. For a more general discussion of the repatriation question see Glen W. Davidson, “The Human Remains Controversies,” *Caduceus*, 1991, 7(1):18–33.

<sup>94</sup> As I presented this argument in various public lectures over an eighteen-month period, several of my listeners urged me to consult Benedict Anderson’s *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso, 1983). When I finally read the book, I realized that it was Anderson’s explicit connection between nationalism and religion—a connection I make in a somewhat different context—that provoked my listeners. In his discussion of the modern invention of the Unknown Soldier, he proposes that “no more arresting emblems of the modern culture of nationalism exist than cenotaphs and tombs” dedicated to these anonymous victims of war and suggests that they are revered *because* they are either deliberately empty or filled with bodily materials that cannot be linked to specific people. “The cultural significance of such monuments becomes even clearer if one tries to imagine, say, a Tomb of the Unknown Marxist.” Nationalist imagining is like religious imagining in its concern with death and immortality; so too, I am suggesting here, is science concerned with immortality, and in my case, too, the significant identity of the body parts is not personal identity but identity within a framework of higher truths, that is, the actual details of biological processes.

<sup>95</sup> For an insightful exploration of these kinds of testing see Dorothy Nelkin and Lawrence Tancredi, *Dangerous Diagnostics* (New York: Freeman, 1988). See also Nelkin’s forthcoming work with Lori Andrews on bodily materials in modern science and law: *The Business of Bodies: Disputes over Body Tissue in the Biotechnology Age*.

<sup>96</sup> See John Noble Wilford, “Mummy Tells Story of Sacrifice,” *New York Times*, 22 May 1996; and “Microbes Sought in Frozen Graves,” *ibid.*, 27 May 1996. The researcher, who studies geography and medicine, received permission from the Spitsbergen church and the Norwegian Ministry of Antiquities to exhume the bodies, which were in a cemetery that is on permafrost. “This will be done with the greatest respect and dignity,” she said. She also explained the security precautions that would be taken to prevent either the influenza virus or smallpox (which could be in the bodies) from spreading.

farmers in France or the Netherlands and workers for water authorities or highway crews find what remains of ten or twenty soldiers, in fields, canals, and bays, on Pacific islands, or in the waters of the Zuider Zee. They are identified by their dog tags, by their plane, sometimes with several crew members, sometimes scattered, sometimes whole skeletons sitting up in a cockpit. The army has an office of Casualty and Memorial Affairs to handle such materials; the remains come home to a military burial, decades after they have instantiated the issues over which the 1939–1945 war was fought. They are repatriated to the United States for ceremonial burial.<sup>97</sup>

In her analysis of the function of bodily damage in war, Elaine Scarry suggests that opened and wounded bodies freeze soldiers and other victims in a permanent act of participation in the war. The outcome of any particular war (the victory of one side or another) is therefore sustained by these permanent participants, by their wounds or their decaying or decayed bodies—even by their remains, turned up in a drainage ditch or by a road crew forty or fifty years later.

Like these repatriated pieces of human bodies, the specimens preserved from the bodies of atomic bomb victims were physical evidence of American victory in 1945. But they were also pieces of nature, natural by virtue of their chemical treatment (preserved “forever”), their fragmentation (chopped, sliced), their depiction in scientific drawings and texts, their filing and classification, and their safekeeping in an appropriate scientific setting (secure, air-conditioned) in a military pathology laboratory on a Washington, D.C., army base. Japanese scientists who appealed for their return based their appeal in part on the Japanese ability to house and store such pieces of natural truth properly, in accordance with international scientific standards, in a proper building, with a proper laboratory. They were housed in shrines of scientific respectability, ferroconcrete buildings in Hiroshima and Nagasaki, earthquake-proof, fire-proof, even atomic bomb-proof (with posterity at stake). And they were identified as filling a critical gap in Japanese knowledge of the biological effects of radiation.

Certainly they could function in different ways—sometimes as records of history (coming from the first victims of the atomic bomb), sometimes as economic commodities (permitting the United States to make financial demands on Japan), sometimes as political commodities (providing anti-American groups with a focus of protest), and even sometimes as pieces of individual people (when they were cremated). They were things to be mentioned when presidents and prime ministers met; they were also an extremely rare and irreplaceable resource, the only things of their kind in the world. The body parts of the victims of the atomic bomb were frozen in a special state of victimization. They were the legacy of the first people to learn directly what it meant that human beings could build a weapon that exploited the atomic energy contained in matter.

My work suggests what it means in practice, at the level of institutional and ideological management, for a body (or a piece of a body) to stand in for what is intangible. It also suggests the many kinds of labor required to make a piece of a human body natural and the ways that this labor produces not only natural knowledge but also political or economic power. I show that a fragmented piece of a human body

<sup>97</sup> Michael Winerip, “Five Decades Later, a Fighter Pilot’s Final Flight Ends,” *New York Times*, 28 May 1996.

is no more simple or straightforward than is a whole, functioning human body. And I explore the difficulty of extracting pieces of nature and preserving their presumably untouched core of natural truth.

The “opaque liver”—in autopsy case #158930-83—of the “well-nourished” twenty-five-year-old man who died on 14 August at Omura Hospital was opaque in more ways than one.<sup>98</sup> It was a possible source of knowledge, but also a diplomatic commodity, a classified secret, a “spoils of war,” and an instantiation of the efficiency of American democracy and American science. It did not, in itself, contain knowledge; it could do so only within a network of technology, social organization, and diplomacy. In this case—perhaps in many others—there was no route to the liver except through politics.

<sup>98</sup> “JANC Listing of Materials for Transfer to Japanese Government, November 1972,” A-Bomb MSS, Box 12, Pt. 2, AFIP.