

# **The Billion-Dollar Body Parts Industry: Medical Research Alongside Greed and Corruption**

A Knowledge@Wharton book review of  
*Body Brokers: Inside America's Underground Trade in Human Remains* by Annie  
Cheney (Broadway, 2006)

As the cultured host of PBS' long-running "Masterpiece Theater," Alistair Cooke was an emblem of American taste and refinement. Since his death in 2004, Cooke has also become emblematic of a macabre and little-known market: America's distinctly shady traffic in human remains. Unbeknownst to his family, Cooke's bones were cut out before he was cremated and sold for \$7,000 to two companies that prepare human tissue for transplant. Cooke's fate was ghoulish in the extreme -- but what is even more disturbing is that it was not at all unusual.

Body parts are big business in the United States. Tissue, organs, tendons, bones, joints, limbs, hands, feet, torsos and heads culled from the dead are the cornerstones of the lucrative and important business of advancing scientific knowledge and improving medical technique. Body parts are a billion-dollar industry; they underwrite both cutting-edge research and everyday medical procedures. Major corporations such as Johnson & Johnson, Bristol-Myers Squibb, and Medtronic rely on human remains to guide them in developing medical equipment. Researchers rely on them to hone surgical techniques and even to create cosmetics. Doctors use them to replace heart valves, to treat burn victims, to replace bone, even to plump up lips and eliminate wrinkles.

Few people think to ask where the material that sustains this enormous industry comes from. But journalist Annie Cheney is a timely exception. In *Body Brokers: Inside America's Underground Trade in Human Remains* (Broadway), Cheney chronicles her quest to find out how human remains are procured, processed, marketed and used. What she discovers is a complicated tale of booming business and lack of oversight; of limited supply and endless demand; of unscrupulous brokers and the earnest donors, scientists and doctors they exploit; of unspeakable violations of the dead enabling marvelous scientific advancements.

The government regulates the procurement of organs and transplantable tissue, but it does not regulate human remains used for research and education. According to the 1968 Uniform Anatomical Gift Act, Cheney notes, it is illegal to buy and sell the dead. But according to this same law, it's legal to recuperate costs involved in securing, transporting, storing and processing cadavers. "Costs," Cheney notes, is an enormously expansive, exploitable term. It can and does mean whatever suppliers and brokers want it to mean.

In practice, the loophole in the Uniform Anatomical Gift Act means that bones, tissue, organs, joints, limbs, heads, and even entire torsos are hot commodities in a marketplace

where the demands of researchers, product developers, and doctors far exceed the supply. Heads currently sell for upwards of \$900, legs for close to \$1,000, hands and feet and arms for several hundred dollars apiece. Fully dismembered and eviscerated, a human corpse can generate close to \$10,000 on the open market. For the "body brokers" who supply materials to corporations, research centers, tissue banks and other clients, the profit motive is strong, the oversight is nonexistent and corruption is rampant.

#### Mutilation and Embezzlement

Cheney tracks two distinct forms of malfeasance in the human remains market.

The first is the illegal procurement and sale of parts taken from individuals who never consented to be donors. Noting that only 10% of states inspect crematoria or require crematorium workers to be certified, Cheney tells the story of a California crematorium owner who made hundreds of thousands of dollars illicitly dismembering corpses meant for cremation and selling the parts to the highest corporate bidders (he is now serving time for mutilation of human remains and embezzlement). The assistants who help pathologists with autopsies and manage morgues are also well positioned to sell off parts when no one is looking -- and, too often, they have done just that. So have undertakers.

The second, more complicated, form of malfeasance involves the trade in the bodies of people who have donated themselves to science. Donors and their families expect that they will land in the anatomy labs of medical schools, and that, in being dissected, they will help train the next generation of physicians. Most do go this route. But not all. Medical schools across the country have been implicated in the underground traffic in human remains, selling bodies and parts to brokers who then re-sell the goods to independent buyers. Along the way, these corpses make a lot of money for the suppliers, brokers and vendors who handle them. Needless to say, donors' families are neither informed of that profit nor invited to share in it.

These two types of malfeasance blur together in what Cheney convincingly shows is a systemic problem of astonishing proportions. Michael Mastromarino, former CEO of New Jersey-based Biomedical Tissue Services Ltd., is a case in point. When Cheney interviewed him, he was both a major supplier of tissue to Regeneration Technologies, a Florida-based tissue processor that did a \$75 million business in 2003, and a shady dealer in illicitly procured body parts. Right under the nose of the FDA, which had inspected his company and knew what his business was, Mastromarino was procuring tissue illegally, failing to process it appropriately and then selling it off for enormous profit. Indeed, as a police investigation revealed just last winter, Mastromarino was the very man who paid thousands for the bones of Alistair Cooke.

The Uniform Anatomical Gift Act of 1987 bans the sale of transplant tissue, and the FDA forbids the transplanting of cancerous tissue (Cooke's bones were riddled with cancer that had spread from his lungs). But this did not stop Mastromarino, who listed Cooke's cause of death as a heart attack in order to circumvent the one restriction while simply ignoring the other. Cooke's bone tissue was bought by Regeneration Technologies and the New Jersey-based Tutogen Medical Inc., where it was processed for transplant.

American medicine has always struggled to procure enough bodies for research and education. Since the late 18th century, when dissection became an essential component of medical training, the demand for cadavers has far exceeded the supply. Back then, the solution was grave robbing -- entrepreneurs could make a tidy profit digging up freshly interred corpses and delivering them, under cover of night, to medical men willing to pay handsomely for them.

Today, we aren't robbing graves, but we are violating corpses; we are failing to carry out donors' wishes, and we are putting patients at risk -- all because we have been disturbingly complacent about what actually happens to people's bodies after they die, and disturbingly ignorant about how greed leads pivotally positioned people to exploit the dead and endanger the living. A million Americans every year undergo procedures that use tissue or bone harvested from the dead. Describing how contaminated tissue transplants can injure, infect, and even kill, Cheney documents how the corrupt world of body brokering threatens the health of everyone who receives such transplants.

Body Brokers is a good read -- but it's also a wake-up call that every American ought to heed. The real success of Cheney's book will be measured not in sales -- though those have been brisk -- but in policy change that focuses on the people who deal in human remains, the companies that process tissue and parts for sale, the hospitals that do business with these companies, and the doctors and dentists who treat patients with products made from the flesh and bone of the dead.

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