

Life After Death

A Gleefully Morbid Exploration of Cadavers, Body Donation, and Human Composting



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INTERVIEWS

Mary Roach
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With one book written on cadavers (*Stiff: The Curious Lives of Human Cadavers*, 2003) and another on ghosts (*Spook: Science Tackles the Afterlife*, 2005), you might expect Mary Roach to be a pretty disturbed individual. She's not. While her subject matter tends towards the macabre, Roach is simply one of those writers who's fascinated by the unusual, the unlikely, and the more-than-a-little-disturbing.

Whether she's writing about post-death opportunities for employment or the origins of ectoplasm, she has the uncanny ability to satisfy the morbid curiosity you never knew you had.

LiP had the opportunity to speak with Roach about body donation, the human composting movement, and what the future may hold for the dead.

In *Stiff*, you talk about cadavers being used for the benefit of humankind, whether as test subjects for seat belts or body armor, or in medical schools. Did you come across any practices that seemed a little dubious?

Surprisingly few. Historically, there were a lot more of them, because there really wasn't any regulation, or anyone watching out for the dead—and the dead don't make very effective lobbying groups. They don't stand up for themselves very well. I feel that something like cosmetic surgery practice is a gray area—it's important for surgeons to be able to practice and get things right, but certainly I think that when people donate themselves to science and the betterment of [humanity], that's not what they had in mind.

A lot of it is really misunderstood, though. There's a lot of media coverage of something like this study of footwear for teams that clear land mines overseas, and they use cadavers [in their testing]. What that translated

to, in the media, was, "Cadavers Used in Land Mine Test!" Which is ridiculous—nobody is blowing up cadavers to make a more lethal land mine, but that's how it came across. Initially it sounds not justifiable because, well, just build a stronger boot, right? Why do you need to blow up a leg? In fact, what happens with land mines is that the footwear actually becomes like shrapnel, and sometimes a stiffer boot causes more damage—you're launching pieces of the boot deeper into the foot and the leg, and then you get infections, and the leg ends up being amputated above the knee instead of below. So the more you understand about what they're doing and why they're doing it, the more justifiable it becomes. I found that usually, the things that initially struck me as a little iffy were, in fact, fairly worthwhile.

The *New York Times* and *Harper's* published stories in 2004 about the black market in corpses. In your research for *Stiff*, did you come across that at all?

Originally, I was going to include a chapter on tissue banks and these organizations that people turn to when they're not a university. If you're a company that has a new laparoscopic device and you need to test it on some torsos, you turn to [these organizations]. And I was wondering, how do they get these

bodies—who's giving away their bodies to these companies? And no one would return my calls. The point of *Stiff* was not to be an investigative piece; it was not that kind of book, so I didn't pursue it.

You do talk about the history of how cadavers were used, and that goes hand in hand with the criminal aspect of it, because it was illegal for so long.

That's right, the only bodies that were available legally were convicted criminals, so there was a black market. And there's a similar situation today, it's really very much the same—people profiting off of bodies, because there's a demand.

I think it's still really uncommon for people to decide to donate themselves to science. I don't know anyone—with the exception of some people who've e-mailed me, saying I inspired them to donate their bodies to science. I've had some people write to me, believe it or not, and say that they want to donate themselves to the Body Farm in Tennessee [the University of Tennessee Center for Forensic Anthropology], which is a forensics facility that studies decomposition.

It's different with organ donation. People are fine with that—it's a very immediate, direct, altruistic thing that people are comfortable with. "My heart's going to go into this person

and save this life." You donate your body to science, you don't know what's going to happen. A lot of people are afraid of the unknown—who's going to get my body? What are they going to do? Are they going to cut it up and ship it to six different places? What if I'm grossed out by what they're doing?

The other thing that's going on is that there's a huge number of these new surgical tools, and when you get a new surgical tool—this is in [*Body Brokers*, by Annie Cheney, who covered the topic for *Harper's*]—they'll invite a bunch of surgeons to try out their tool. It's a great opportunity for the surgeon to learn how to use a new medical tool, but it's also a marketing thing. There's this whole world of marketing new medical equipment, and cadavers are tied up with that, so I think that's increased the demand—it's not just stuff at universities now, it's wandered into the commercial realm.

What did you find to be the strongest arguments that people had against donating their body to science, or even the general idea of using cadavers in research?

There are conservative factions of various religions that don't permit it, and that's the most strongly stated and strongly held resistance. You don't find many people arguing [that] it should not be allowed. But I'm talking about bodies that are used

with consent. I think the ethical gray area is when, say, a city morgue turns over unclaimed bodies to a medical school rather than putting them in the incinerator. Then people say, “Well, these people didn’t necessarily want themselves to be used for science.”

How do you donate your body to science?

Basically, you [contact] the anatomy department [of a university], and get a body donor form, and that’s it. You would tell your family that you’ve done this, so that when you die, they can call the university to come pick you up. You have to do it locally, because you can’t ship an unembalmed body over state lines. It’s interesting; people tend to want to go to the prestige schools. There’s a small medical school down south, near Duke [University School of Medicine], and they had a real shortage [of cadavers]—everybody wanted to go to Duke!

Some states have a central clearing house, an anatomical board that people would donate to—it’s different from state to state, but typically you make arrangements with the medical school you want to donate yourself to. And you hope that they don’t work with a sleazy broker who sells off surplus parts to some shady company.

What happens to your body?

If you’re an organ donor, you’re rushed into surgery, just like anyone else, even though you’re dead—brain dead—and surgeons come from different places and take your heart, your kidneys, your liver, whatever it is they’re taking. Then you’re sewn up, as if you’d had an operation, and you’re taken down to the morgue, and you’re there with anyone else who’s died at the hospital, and your family picks you up. There’s really no difference. Except you’re a little bit lighter, and you have a big scar down your middle.

I read something recently on how people on respirators, braindead people, are an amazing resource for certain trials of medical procedures. There are certain medical [procedures] that you wouldn’t test on someone live, but someone dead isn’t a particularly good model. People [are] using brain-dead cadavers for this type of medical research—getting consent from the family, obviously, telling them exactly what they’d be doing.

By “brain-dead cadaver,” you mean—

Someone who’s on a respirator and the heart’s still beating, which is the case with most organ donors, because otherwise the organs go bad.

So what about people who donate their entire body to science? What happens to—

The leftovers? It differs. Some schools are careful to keep the remains separate, and will incinerate them separately and give the cremains to the family. Not all schools do that—it's an extra step or two—but you can shop around, find a school that returns the cremains. Some schools will take the ashes and contract with a pilot to go and scatter them over the ocean.

Although there was a guy who was supposed to be doing that in Southern California, and he was just leaving them in the shed and billing for the flights! But if all goes well, you'd either be scattered at sea or returned to your family, usually about a year later.

Any other good uses of corpses that you didn't get a chance to write about in *Stiff*?

There was a fascinating story I came across after the book was out: It's historical, a [naval] military use called "Operation Mincemeat." I don't know why they called it that, it's sort of tasteless. It was in World War II—someone who had died was dressed in an officer's uniform, and they planted false plans and maps in his pockets. They waited until the tide was right, and launched him to go where the enemy was camped, misleading them. So they headed off in the other direction and headed ashore, and it actually worked.

There are also stories about bodies that had the plague being launched

over the ramparts of castles, as weapons—that would have been an interesting chapter to put in the book. I haven't come across any contemporary uses of bodies except more funerary things. Some people have written to me saying that they're using cremains to make bone glaze, for china [dishes]. You can make a bunch of pottery for your loved ones.

There's a company that will turn the carbon from a person's ashes into a diamond.

I have a lot of questions about that.

How big is the diamond? Is it a real diamond, or some sort of cubic zirconium corpse thing—is it worth anything? I would have put that in the book, too.

I know you can choose what color you want the diamond to be.

Yeah, I think the one I saw was kind of yellowy. Not very appealing.

I want to ask you what the future might hold for the dead, so to speak: different ways we dispose of our dead, and how that's changing.

Well, the cremation rate has gone way up. There's kind of a nostalgia movement afoot to go back to the shroud burial: Let's just wrap them in a shroud and put them in the ground, and be done with it. In Europe, there's

a whole “green burial movement”—where you’re just buried in a shroud [without being embalmed], in a meadow, places where you could drive by and not know it’s a cemetery. It’s just a place where people are fond of the land and want to be [buried] there, and contribute to the conservation of that chunk of land.

Why do you think these things are happening now?

A number of things happened in the 60s. *The American Way of Death* came out, which really exposed a lot of the nefarious practices of the funeral industry. Around that same time, Vatican II happened, and it became okay to cremate, in the eyes of the Catholic Church, as long as you buried the cremains. It was also around the time that the first heart transplant happened, which really increased awareness of organ donation, and hand in hand with that came the whole notion of body donation.

So all of a sudden you have three new options for disposal of remains that you didn’t really have before. Before, you just called the undertaker and he came and did his thing. I think that for younger people, the whole scene of the funeral home, the organ music, the display of grief—it just doesn’t fit your personal style anymore. People want to take control of their memorial, they want to do it out in the open, or in the wilderness,

or they want to scatter ashes, or they want to write it themselves. They don’t want some guy standing up there in a tacky suit saying something generic. It’s a similar shift with weddings: people writing their own vows, having weddings in unconventional places, not necessarily having a priest involved.

What about tissue digestion; can you explain that process and how it’s used?

Tissue digestion is something that’s been in use for a while, mainly to deal with wild animals and livestock that have died, particularly if they have prion diseases [such as mad cow]. A tissue digester is essentially a big pressure cooker with lye. It’s really a bizarre spectacle; they put three or four animals into it, and a couple days later all the liquid is gone, it’s rendered [into] this inert substance that goes down the drain, and it’s just these very dry bone hulls [left]. For the human mortuary process, they would obviously have to make it a little more appealing for people.

Are there people suggesting this as a new mortuary practice?

Oh, there’s only one. One lone mortician out in the Midwest who wants to get the very first mortuary tissue digester. I don’t see it catching on, because it’s not going to be any cheaper than

cremation, and it's unfamiliar—people will be scared of it. I don't know why people would opt for it over cremation. You'd have to address people's discomfort with being turned into this liquid that just goes down the drain. Uncle Harry got flushed down the drain—it just doesn't sound good!

So why is he advocating it?

Tissue digesters are [being actively promoted for use] with livestock and cows, because prions survive the normal rendering process, which is the normal [disposal method]—this process destroys prions, so it's a safety thing. As for the mortician, I have no idea. He thinks it's new and exciting, and people will want to do it.

The description of cremation in *Stiff* is pretty grisly.

Yeah, the reason I included that was because I was always amazed at people's responses to body donation: "Oh my god, people are cutting you up!" But is that really any worse than being put in an oven and burning up? Or, for that matter, lying in the ground and rotting? Let's be realistic here, and not cast aspersions on body donation as this hideous, disfiguring, grotesque thing when really, nothing that happens to you when you die is very pretty.

Cremation has the advantage of being fast, and resulting in a

fairly aesthetically unobjectionable substance, cremains, that people can then deal with more comfortably than other types of remains. I've never witnessed [a cremation]; that was someone else's description [in the book]. In the Hindu religion, they require the family to observe, so they make special cremation ovens that have a window, and the family actually watches the loved one being burned.

Right—traditionally, it's a pyre, out in the open. Did you come across any other methods of body disposal?

Actually, three people wrote to me who were surprised that I didn't include "sky burial," which is placing the body out on a mountaintop, while birds of prey—probably vultures—come and just tear apart the body and eat it. It's got kind of a nice recycling/reincarnation feel to it, going back to nature, in a way. And being useful to someone, even if it's just a vulture.

Speaking of recycling, what's the human composting movement all about?

The human composting movement is something that's begun in Sweden, by Susanne Wiigh-Masak. This woman is a very active and impassioned environmentalist, and she's come at this not because she's particularly interested in death and mortuary

science, but because she feels that everyone should give back to the environment, and that you should, when you die, return yourself in a useful way to the earth, so that things can grow from your remains. She's created this quite complicated process where you are deep-frozen and vibrated so that you break into small pieces. It's better than having a whole body, which you'd have to, you know, turn, and do kind of off-putting things to.

So these small pieces are then freeze-dried and given to the family in a small biodegradable box. The family can take this box of freeze-dried loved one and bury it about 15 inches [deep], and then plant something over the remains. A rhododendron is what she often uses. The plant grows, and actually incorporates the molecules of the person, and so it's very appealing for a lot of people, giving back to the earth, not taking up land—[Wiigh-Masak] is against the idea of taking up land for cemeteries, and crematoriums release small amounts of mercury into the air, so this is an environmentally unobjectionable way to go. And she's got interest from 10 or 15 different countries in buying the equipment.

But, you know—there's two rhododendron plants in our yard, and these are the two plants that, no matter what I did, both died. So I can't imagine if I planted a rhododendron over my mother's body and the thing died—I would feel terrible! You'd

want to pick a hearty plant. A box elder shrub, or something. Nothing delicate.

Going back to the composting process—you said that a body is deep-frozen and then...vibrated?

Yes. So you have this big block of very solidly frozen cadaver. And the body is mostly water, so it shatters easily. She then uses ultrasound or vibration—either one breaks it down into pieces. And then the pieces are freeze-dried. Like [instant coffee]. Then you have this inert substance, to keep it from decomposing, and you have something that's dry, tidy—something you can give to the family for them to take home and bury. You don't want to give them just small pieces of flesh and broken-up bones, you want to give them something they're a little more comfortable with. In Sweden, they've done polls, and something like 70% of the population thinks that this is something they'd want to do.

I imagine mortuary companies are concerned with this—it could put them out of business, if people aren't buying coffins.

That's right, that was the big sticking point with Fonus, the big mortuary company [Wiigh-Masak] met with when I was [in Sweden]. They knew that there was a huge public interest,

there was a demand, and in a way they were torn between wanting to provide it and get in on the action and wanting to completely derail her, so that it doesn't cut into their coffin sales. They were talking about [being able to] rent a coffin for a memorial that you would do before [the freeze-drying]; they were trying to find a way to keep their interests satisfied. I don't know where they ever ended up, but my sense is that they would like her to disappear.

...In *Stiff*, some critics spoke of ethical problems they had with the idea of bringing a human being down to the level of something you just throw in with the rest of the garbage.

Well, they may have used the word “ethical,” but it was just a conceptual thing. I called the U.S. Conference of Catholic Bishops to get their opinion on this, and the guy I talked to said, “I just can't help it, my mom had a hole where she threw all the garbage, and apple scraps and peels, and I just can't separate that from this.” So it's kind of an aesthetic repellant that people have. For them, compost is garbage. For Susanne Wiigh-Masak, compost is high art. But we're not quite there, yet. You think of composting, and you

think, oh my god—you're just going to throw your uncle onto the tomato plants? That's disrespectful! But for an environmentalist, it's the highest respect you could pay someone.

In that same chapter, you come to the conclusion that pretty much any way you're going to go is going to be messy in some way.



Right, the great genius of the mortuary industry was to take it all and put it behind closed doors, make it all secret, so that nobody

knew what was involved with embalming, and what happens when you put a body in a casket. There was all this language of “eternal preservation” and “eternal sleep,” and they did a really good job of making it sound like you would just lie there in this pretty state in your coffin, and it was very appealing for people. And it was largely not true. But most of us don't want to think about death, beyond the person in the casket. “See you later”—that's where it stops. So it will be harder for someone like Wiigh-Masak, who's very honest about these processes—bodies break down and decompose, and there's nothing wrong with that.