

Signs of Life

'The Undead,' by Dick Teresi



Michael Patrick O'Leary/Corbis

By ELIZABETH ROYTE

How dead would you like to be before your organs are harvested for donation? According to Dick Teresi in "The Undead," "pretty dead" is good enough for transplant surgeons. "If you wait for everything to be a hundred percent," a physician tells him, "you'd never have organ donation."

In days of yore, the absence of a heartbeat was the gold standard for determining death, but even that wasn't foolproof. "People declared dead come back to life with some frequency," Teresi writes. They recover from drowning, coma, asphyxia and lightning strikes. Rigor mortis doesn't always occur in the dead, and it can occur in the living. Even experienced practitioners could misdiagnose stiffness or coldness, a lack of breath or pulse. An 18th-century Frenchman recorded "more than 150 pages of accounts of premature burial and mistaken death" between ancient times and the mid-1700s.

To avoid such errors, Greeks cut off a finger; Romans called out the dead's name; Slavs rubbed bodies with warm water for an hour; Hebrews considered putrefaction the only fail-safe indicator. As science learned more about suspended animation and hibernation in other creatures, the dying were given another chance — subjected to smelling salts, electric shock, sharp pricks to the fingers, yanks to legs and the application of caustic chemicals to the skin, to see if it blistered.

And so it went for 5,000 years, with the criteria for death becoming ever more stringent. Then, in 1968, 13 men on a Harvard University committee devised a protocol that privileged a "loss of personhood" over cardiopulmonary death, allowing doctors "to declare a person dead in less time than it takes to get a decent eye exam." Teresi lays the turnabout to the invention of ventilators and advances in organ transplants. By declaring patients with beating hearts brain-dead following two rounds of tests with a Q-tip, a flashlight, ice water, a rubber hammer and the removal of the ventilator, doctors created a vast pool of potential organ donors. The bar for being dead had dropped, and the bar for being considered alive had risen.

Adopted in 1981, the Uniform Determination of Death Act states that in order to pronounce brain death, "the entire brain must cease to function, irreversibly." But the act is silent on how this function is measured (in one study, 65 percent of physicians and nurses couldn't identify the established criteria for brain death). Most physicians look at the brain stem, which controls heart and lung functions, but not the cortex, which coordinates consciousness. Teresi reports on an apparently

unconscious patient who “could have been calculating the cross section of the bottom quark using Heisenberg’s matrices, and no amount of ice water squirted into her ear would have detected it.” The patient was unplugged, her organs harvested.

The Harvard criteria assume that the brain-dead will quickly move to conventional heart-lung death. But Teresi learns that the brain-dead can maintain a long list of bodily functions, including some sexual responses, stress responses to surgery and the ability to gestate a fetus.

After making a case that brain death is easily misdiagnosed and that death can be a construct of convenience, Teresi next places his body between the transplant team and patients who exist in a sort of “death lite” netherworld, with a nonresponsive cortex but a functioning brain stem. And now things get really creepy. A tiny minority of patients in minimally conscious or persistent vegetative states have been known to sit up and speak. And one “locked in” patient (with a brain stem irreparably damaged but a healthy cortex) even wrote a best-selling book about his condition, “The Diving Bell and the Butterfly.” But the onus is on patients to prove they are aware or in pain. “We would all sleep better at night if we could believe that patients in unendurable situations were unaware, but that does not make it so,” Teresi writes. Off they go to be harvested, despite the potential for surgeons to be distracted by their “screaming during organ retrieval.”

This is strong stuff, and Teresi — the author of “Lost Discoveries” and the former editor of *Science Digest* and *Omni* — never backs off. He circles, probes and pokes. He needles physicians and bioethicists, and he provokes organ banks by agreeing to donate only if he can be guaranteed an anesthetic during the procedure. (When the organizations refuse, he considers commissioning two operations: the organ donation and then a face-lift. “I’d get my anesthetic, and I’d hold the face-lift.”)

Teresi consorts with death in many places: mortuaries, execution chambers, hospices, intensive-care units and a meeting room filled with people who’ve had near-death experiences. But he steers a wide berth around two important groups: grateful organ recipients and those who tend the persistently vegetative for years on end. If I’m reading Teresi right, no one who shows any sign of consciousness, and hasn’t clearly indicated he or she wants to die, should be unplugged. Where there’s life, there’s hope. But he gives extremely short shrift to quality-of-life issues. And while a resuscitated donor headed for the transplant table may receive “the best medical care of his life,” a vast majority of acutely ill patients on chronic ventilation units don’t improve. Their skin gradually breaks down, and their circulatory and renal systems are propped up until an infection finishes them off.

Teresi prides himself on his just-the-facts approach, but he hasn’t told the entire story. Like the author, I don’t want to suffer when my organs are harvested, nor do I want them harvested if I can consciously make use of them myself. This disturbing, often hilarious book raises many critical questions about deadness. But it doesn’t, by a long shot, answer them.

Elizabeth Royte’s books include “Garbage Land” and, most recently, “Bottlemania.”

http://www.nytimes.com/2012/04/01/books/review/the-undead-by-dick-teresi.html?_r=1