Do you want to live forever? Aside from being a line in the deliciously schlocky film *Conan the Barbarian* and a haunting refrain from Queen’s soundtrack for *Highlander*, it is a question most people have toyed with at some point. For the record, I don’t think I do. As I once heard said, I want to slide into my grave sideways with a piece of chocolate in one hand and a martini in the other yelling, “Woohoo! That was a helluva ride!” Having a deadline compels me to do as much as possible as well as possible, whereas immortality might allow me to give in to inertia and that lazy side of me that doesn’t vacuum composed by Tod Machover; libretto by Robert Pinsky; directed by Diane Paulus
featuring James Maddalena, Emily Albrink, Sara Heaton, and Hal Cazalet
reviewed by Jen Gunnels

Special 24th Year Begins Issue
Kovacs & MacDonald on Medical Mistakes
Jen Gunnels on Tod Machover’s New Opera
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Medical Myths and Errors in Science Fiction and Fantasy

Getting the facts correct is a fundamental rule of writing. A factual error can cause laughter at an inopportune moment, render absurd a detective’s seemingly careful reasoning, or throw a reader out of the story. In reviews on Amazon.com and in blogs, readers decry authors who chose the wrong gun or mistook whether it has a silencer, safety, or certain caliber. Connie Willis painstakingly investigated the history of the London Blitz in order to write her massive, award-winning *Blackout/All Clear*, but reviewer John Clute noted that her characters used Tube stations that weren’t built until some years after the war. Dan Simmons exhaustively researched the historical aspects of *Drood* but was criticized for his description of weather conditions that caused horses to vomit, something a disgruntled “equine vet tech” declared to be physiologically impossible.

If it matters that the gun is correctly chosen and described, which Tube stations existed during WWII, and that horses can’t vomit, shouldn’t the same attention to detail apply to the most basic aspects of how human bodies respond to injury, illness, exposure to vacuum or weightlessness, and death? And yet medical myths and errors are common in all forms of fiction, whether in print, television, or movies.

The problem is not new nor is it limited to writers without a medical background. In 1904, an editorialist complained in the venerable *Journal of the American Medical Association* that Sir Arthur Conan Doyle made Sherlock Holmes look like a fool and Dr. Watson to lack a basic medical education (“Medical Errors” 1706). Upon examining a pair of discarded glasses in “The Adventure of the Golden Pince-Nez,” Holmes remarks, “You see, Watson, that the glasses are convex and of unusual strength.” Holmes deduces that the woman who owns the glasses is myopic: “she lost her glasses in a scuffle, and as she was extremely short-sighted she was really helpless without them.” But short or near-sightedness (myopia) results in the inability to see things unless they are extremely close to the eyes, and concave

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behind the furniture. In the case of Tod Machover's stunning new opera, *Death and the Powers*, which had its U.S. premiere at the Cutler Majestic Theater in Boston this March, the desire for immortality propels the characters and the audience into an interrogation of what it means to be human and whether we can remain human in the face of the technological progress that just might grant us a kind of eternal life.

Machover has a quirky, often nontraditional approach to music and to theatre, demonstrated in his earlier works operatic and instrumental; he is best-known in the sf field for his operatic adaption of Philip K. Dick's *VALIS*. Here, he is working with the Opera of the Future Group <opera.media.mit.edu> and the MIT Media Lab to create a production which deeply integrates technology and story. Framed as a performance in an unspecified future, robots (colloquially referred to as “operabots”) prepare for a performance of “the ritual drama.” As a prelude, four robots ponder the meaning of “death,” trying to understand why this abstract concept is central to the performance commanded by their creators. As production designer Alex McDowell described them in an article for the *Boston Sunday Globe* (3/13/2011, N1), these bots have been left behind as scrap as humans have uploaded themselves into a massive computer called “The System.”

The ritual drama follows billionaire entrepreneur, Simon Powers (James Maddalena), and his family. Simon is dying. Obsessed with immortality, he and his graduate student protégé, Nicholas (Hal Cazale), have created a way to upload Simon’s consciousness into an enormous computer known as The System. Nicholas, having been saved from a home for severely disabled children and rehabilitated by Simon, prepares for the transformation in the hopes that Simon will live on inside the machine. Evvy (Emily Albrink), Simon’s third wife, and Simon’s daughter, Miranda (Sara Heaton), look on and question whether Simon really wants to become Simon, who finally shows conscious manifestation through the repeated phrase: “I am the same.” But he isn’t the same, yet only the machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality.

Eventually, Evvy and Nicholas choose to be absorbed into The System, which has become a way to upload Simon’s consciousness into an enormous computer known as The System. Nicholas, having been saved from a home for severely disabled children and rehabilitated by Simon, prepares for the transformation in the hopes that Simon will live on inside the machine. Evvy (Emily Albrink), Simon’s third wife, and Simon’s daughter, Miranda (Sara Heaton), look on and question whether Simon really wants to become Simon, who finally shows conscious manifestation through the repeated phrase: “I am the same.” But he isn’t the same, yet only the machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality. The machines and the inorganic found representation in delicate electronic glissades that held a shimmering quality.
raising more questions than it answers. Pinksky's humorous, ruthless, and sometimes uneasy libretto falls well within science fiction's traditional exploration of the nature of consciousness and the fallout of achieving Singularity via mind uploading. *Death and the Powers* relates to such novels as Robert Sawyer's *Mindscan* (2005), wherein a man with a terminal genetic defect opts to upload into an android body while his old, intact, physical self is shipped off-world. It also echoes Greg Egan's *Permutation City* (1994) in its questioning of whether or not there is any difference between a real person and a simulated one. In contrast to the usual sf motif of the real versus the “simulated” consciousness of an individual, R. Scott Bakker's novel *Neuropath* (2008) delves into neuroscience, illustrating the likelihood that any sense of consciousness is merely an illusion, a by-product inseparable from the chemical/electrical responses of the “meat.” *Death and the Powers* takes the stance that consciousness can be separated from physical embodiment but questions the cost of doing so and its repercussions on our connection with what makes us human.

As with many other performances I've reviewed, traditional structuring and parsing of the production elements is impossible. More and more performances merge the discrete aspects of the design with one another and with “liveness” as well. *Death and the Powers* was no exception. One of the most intriguing aspects of this particular performance stemmed from the introduction of “disembodied performance,” whereby a performer, no longer physically on stage, must be represented by a surrogate (in this particular instance the set) performing in his/her stead. This happened at multiple points in the production to great effect.

Initially the robotic chorus at the beginning had to transform into the four main singers. Prior to this the singers were only present vocally through these mechanical avatars. This simplistic instance only required their voices, an easily accomplished thing. The more complicated instance arose after Simon became a part of The System. Although the character no longer required a human body, Maddalena and Nicholas still had to act upon the stage.

Mirroring the relationship between machine and organic body present in the opera's narrative, the technique of disembodied performance transferred Maddalena's performance to the set and lights, using these to express the character even though his organic presence was no longer on stage. After Simon uploaded into The System, Maddalena left the stage and went to the orchestra pit to stand in a specialized isolation booth in front of the conductor. Once inside the booth, Maddalena continued to perform, and the measurements of his breathing, voice, gestures, even muscle tension, were read by a computer and translated into the set and lights onstage.

Alex McDowell, responsible for the production design on films such as *Minority Report,* lent his sf sensibility to the design of *Death and the Powers.* In the above film, the PreCrime unit utilizes multiple, heads-up, interactive computer interfaces. The same sweeping utilization of interactive, bodily manipulated displays was also present in *Death.* At the beginning of the opera, as the robots begin the ritual drama, they must first become the characters of the performance.

Lowering a scrim in front of the four robots slated to become Simon, Evvy, Miranda, and Nicholas, each robot was highlighted in turn. Behind the robots, a rectangle of green *Matrix*-like vertical code appeared on the cyclorama, or “cyc,” a large rectangle of specialized fabric which allows a designer to create large washes of colored light or use projections. The bot could be viewed through the scrim while a video overlay projected onto it in front of the robot itself. At first the scrim in front of the robot mirrored the code playing behind, but as the “download” and subsequent transformation of the robot began, the projected images showed rapid intercuts of both still photos and videos specific to each character. Upon the completion of the download for all the bots, there was a blinding flash of hot, white light from high-powered lamps, at far stage right and left, pointed straight into the audience—which made viewing anything on stage impossible and uncomfortable. When vision finally cleared, the robots had been replaced with the singers themselves.

Other, nontransformed bots monitored The System in the computer laboratory. Robots separated, converged, and reordered themselves as needed, providing Nicholas with various types of control interfaces for The System. At times, the interface between human and machine became just as much a choreographed dance as a way to access The System.

The lighting for this production was quite honestly the most complex I've ever seen. In fact, I'm rather hard-pressed to describe it. The lights (designed by Donald Holder), with the assistance of computerized interface and programming on a fully mobile set (visual and software design by Peter Torpey, and media design by Matt Checkowski), made the performance space **live.** The three massive *periaktoi* (three-sided set pieces sometimes used in ancient Greek scenic practices) towered over everything. Sitting in the audience further distorted the proportions, making them look even taller. The sides of all three were covered with a black grid of rectangles, meant to evoke book spines, all climbable as evidenced by Cazalet's scaling of one. These represent both Simon Powers's house and The System.
Flat triangular “heads” lit when the bots spoke. These heads could embody performance. The twelve opera bots looked exactly alike. Instead explored the theatrical possibilities of both mechanical and form, function, and the human response to them. These robots in scenes with Nicholas. Unlike the robots for Robots affect sound and visuals.” of robots and actor onstage to help the robots navigate, as well as control . . . An absolute position tracking system monitors the location lighting. If need be, puppeteers above the stage can assume manual monitoring and authoring the animation of robotic movement and shared information with any other component during the course of innovative software and interactive material specifically for the Much of the technology, designed by the MIT Media Lab, utilized with both the opera’s narrative and the actions of the performers. Much of the technology, designed by the MIT Media Lab, utilized inquisitive (as in the initial scene questioning the purpose of the ritual drama), innocuous (when representing the control panels for The System), or subtly menacing and alien when interacting with Miranda (revealing her perspective on the technology).

The costuming was relatively ordinary in comparison to the lights and set, but that didn’t mean a lack of whimsy or complexity. Most of the costumes utilized current fashion—for instance, a simple white shirt and slacks for Simon. In a humorous take on all bureaucratic suits looking alike, the representatives of the United Nations, the United Way, and the Administration all wore the same suit with slightly different ties. Amusingly, when facing upstage, the symbols on the backs of the suits allowed the audience to keep the players straight. The only unusual costume belonged to Nicholas. The clothing made the character’s past as a severely disabled child and his subsequent redemption by Simon very evident. The Tron-like graphics on the pants and heavy belt hinted at the mechanical assistance required by his body. The complex prosthetic continuously drew the eye to Nicholas’s left arm and foregrounded his cyborg nature. Chromed, spiked at the shoulder, the curves mimicked the musical chandelier hanging above the set.

Maddalena, a baritone with extensive experience in contemporary American opera, gave Simon Powers a charisma and charm that made him likable yet still managed to imbue him with a subtle edge of autocratic arrogance. Maddalena’s ability to project himself into the stage was nothing short of astonishing. Though he physically left the stage, the sense of character easily and seamlessly transferred to the set and lighting. Heaton’s light but powerful soprano matched well with Maddalena’s resonant baritone and wasn’t overpowered by either his voice or his charisma. The use of the set as a character could have easily overpowered Heaton in terms of size and “presence,” but she utilized Miranda’s vulnerability, physical and vocal, to create a different and corresponding strength in Miranda.

Fellow soprano Albrink’s more luxurious voice lent motherly warmth to her portrayal of Evvy. She gave good and much needed contrast between Evvy’s love of both Simon and Miranda and her decisions to put on the headphones and tune out. While wearing the headphones, Evvy hummed, ignoring everything and everyone around her. Albrink’s humming carried an insectoid quality, an
aria interpreted by an extremely talented bee, which, while not crossing into a machine-like sound, still conveyed a slippage of the human into someone/something else. Albrink married Evvy’s eric communion with Simon to the mannerisms of barbiturate addict—a woman sleepwalking through life while solely focused inward, already partially absorbed by the machine. While Albrink’s character mentally turned away from reality, Cazalet’s Nicholas remained mentally present as his body became more like the machines he tended. Many of my problems with opera stem from a puzzling inability for some singers to sing while acting naturally or moving (and vice versa). Cazalet’s lightly rich tenor voice was pleasant—he is good at what he does—but his physicality while singing was what made him very compelling. The character of Nicholas is centered in the human body—an argument of how far the body can be augmented and still be human—and Cazalet kept attention there in his energetic movement, a product of both Cazalet’s physicality and the choreographer’s vision. Choreographer Karole Armitage focused her abilities on fusing organic and artificial movement, in one scene recalling and reinterpreting the scene of the worker at the dial from Fritz Lang’s Metropolis (1927).

While the overall whole largely left me sitting with my mouth hanging open, two niggling instances were bothersome. The first involved the scene encompassing the visit of the world organizations to the Powers family compound. The representatives came in order to ask for help and determine if The System and Simon were truly one and the same. While moments were comic as obviously written, the scene lacked a crisp energy that would have tightened both the action and the elements of comedy. The tension one would expect at this point in the performance seemed somewhat hit and miss, and while a great deal was going on onstage, the delegates lacked a sense of urgency.

The second problem was more of a missed opportunity—a hesitation that prevented a scene from becoming a chance to ingest thought and the opportunity to employ an amazing set piece/instrument more fully. I mentioned the musical chandelier earlier. The spokes were actually wire strings much like overly large, long versions of guitar strings. Albright played them in the scene which was supposed to be an erotic encounter between Evvy and System/Simon. The chandelier was certainly phallic when closed and lowered to the stage level, and the slight opening and closing also evoked a giant hand stroking Evvy. In return she begins to play the chandelier, presumably representing a return of sexual intimacies.

The random stroking of the strings, however, read as more melancholy than erotic. If Albright was attempting to touch the chandelier in an arousing way, I would think that she would be more experimental and choosy in her stroking, gradually escalating the movement. Instead of becoming exceedingly uncomfortable with the sexuality of the encounter—a combination of too much information and a voyeuristic curiosity about how one might involve an entire house-wide computer system in the process (there was a later masturbatory moment, but it took me a while to “get it”)—I had the impression of someone stroking a pet, not getting down and dirty with a now incorporeal husband turned computer. It may have been good for her but not so much for me.

Although the above bugged me a bit, Death and the Powers contained a number of extremely beautiful and powerful stage pictures. Director Diane Paulus has a proven record in directing musicals and operas and a feel for creating amazing scenes that work brilliantly at blending music, movement, and raw emotion. My favorite moment in the opera came when Miranda ventured out to witness the world’s miseries. The crowd of victims of famine, torture, crime, and disease looked dangerous as well as horrifying. Their convergence on Miranda—piling onto her, tearing at her, and carrying her above their heads—created a stylized terror putting me in mind of a modern rendition of a Bosch or Bruegel canvas where the grotesque becomes beautiful.

Because operas are largely tragic, I had to reassess my operatic expectations. No one died. That’s the tragedy. Instead of dying, the characters turned from the world, but turning away from reality appears to be a luxury only for the rich. A repeated motif from Simon was, “I have billions of bucks. And I can still sign checks,” leaving the impression that the only important part of immortality was not continued interaction with his loved ones, but continued control of his own material world which he then eschews. The System may live on, but the matter was money.

As the action of the opera continued, each character removed him- or herself by varying degrees. Simon lost interest in the world entirely once he entered The System. In order to be with Simon, Evvy put on a set of headphones and tuned out from reality herself, at the expense of everything else. Nicholas, the cyborg, was halfway to being a machine himself. Even in the scene where he revealed in his body’s abilities, there were moments when he did not initiate movement—his cybernetic arm did. So who/what was really in control? They readily and without thought abandoned Miranda, the child, opting to upload into The System. In the closing scene, Miranda sang that she is her misery, claiming it as part of being human. Without it, she wondered who and what she would be without direct experience of the world.

Our relationships with current technology are often spoofed, almost cliché. YouTube and sitcoms offer up people who walk into signs while texting or show someone having dinner with a loved one while talking on a cell phone. Smart phones, iPads, the omnipresent video recorders of proud parents who experience their child’s important events exclusively through a lens—even I’m guilty as charged as I type this on an iPad to efficiently pass the time as I wait to pick up my son—we’re often guilty of removing ourselves to our own electronic environs. Just how often do you check email during an average day? While uploading is still the exclusive purview of science fiction, how close are we to cybernetic Nicholas or Evvy and her headphones? Only Miranda fully engages with the world. I might, possibly, think about being uploaded. It would be interesting to interact with my many times great-grandchildren, but I would miss chocolate and martinis.


Jen Gunsall lives in the world but dreams electronic dreams.

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