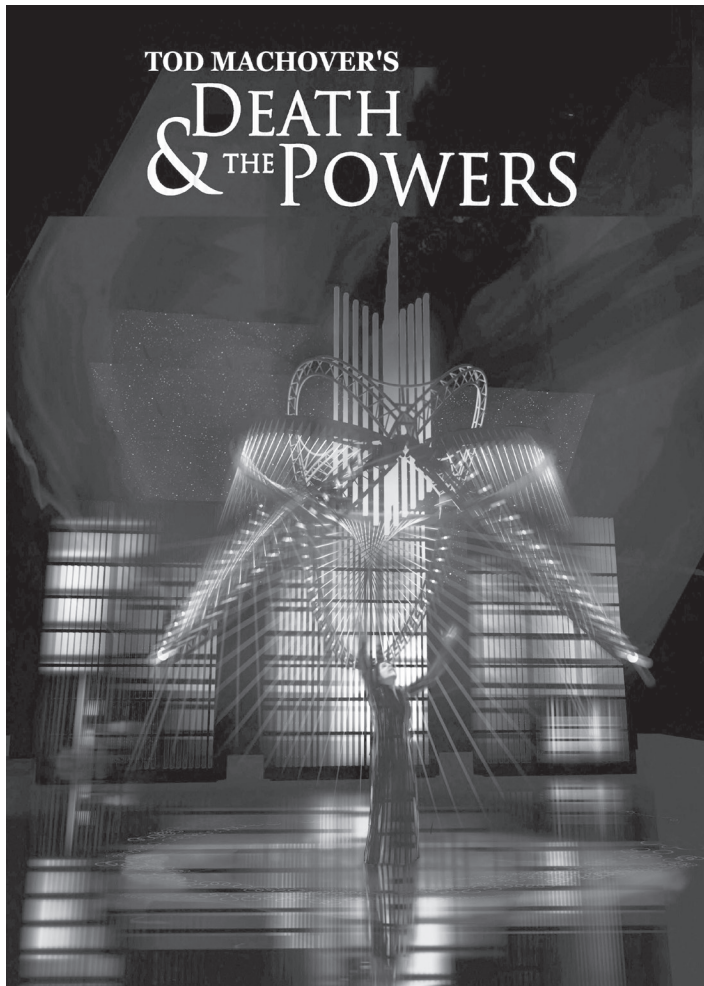


Twenty-one
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**composed by Tod Machover; libretto by
Robert Pinsky; directed by Diane Paulus**
featuring James Maddalena, Emily Albrink,
Sara Heaton, and Hal Cazalet
reviewed by Jen Gunnels

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

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Special 24th Year Begins Issue

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Jen Gunnels on Tod Machover's New Opera
Michael Swanwick on Three Lives
Charles Oberndorf on Roberto Bolaño
Darrell Schweitzer on rediscovered John Bellairs
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Gilbert Colon on Matthew Bradley
Plus: Readercon pictures and the future foreseen

Christopher S. Kovacs and Susan M. MacDonald **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*

(Continued on page 4)

Death and the Powers

continued from page 1

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 adaptation 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 Cazalet), 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 doing so is the right or best thing to do. While Evvy is merely reluctant for Simon to go through with the process, Miranda harbors a vague terror about the outcome. As they repeat the mantra "The matter is mortal, The System lives on," Simon enters the machine, but whether his consciousness has joined with it remains uncertain.

As Simon, monitored by Nicholas, slowly begins to awaken within The System, Simon's voice, fragmented and distorted, is heard as, bit by bit, The System comes to life, completely absorbing and becoming Simon, who finally shows conscious manifestation through the repeated phrase: "I am the same." But he isn't the same, yet only his daughter, Miranda, feels this. Nicholas tries to convince her that Simon's consciousness, now manifest in metals and silicon, is far superior to flesh. He offers himself as an example showing how his once broken and useless body can do more than the merely human. At this point, Simon demonstrates that he can fully interact with his family in all the same ways, to him, that he used to.

While the family becomes used to System/Simon, Simon withdraws more and more from the concerns of physical reality. For reasons not explained, Simon's entry into The System has acted as a catalyst for famine and unrelenting war in the world beyond the Powers family compound. Delegations from various world organizations arrive to ask for his help. Simon has the power to aid them but refuses, instead retreating into The System. Evvy has begun to commune with Simon via a headphone interface, ignoring everything and everyone, including her stepdaughter. Nicholas grows more obsessed with maintaining The System and Simon's presence within it. Miranda, neglected by everyone, finds herself isolated and alone.

Eventually, Evvy and Nicholas choose to be absorbed into The System with Simon, but Miranda refuses in confusion and horror over the potential loss of self. Left alone to face the tumult of what amounts to a world apocalypse, Miranda wanders through the world's misery made manifest: victims of famine, disease, and war converge upon her. In the midst of the convulsive suffering of the world, Simon manages for one final moment to create a simulacrum of himself. He appears to Miranda and tries to convince her of the wisdom and inevitability of joining with The System. She expresses multiple doubts about who/what she will become without her body; her body is the ultimate

expression of who she is. The music builds as Miranda questions over and over: "Who? What? When? How? Light. Death. Alone. Alive. Live." The music and lights build to a tumultuous, blinding combination of radiance and sound, then fade, merging back into the initial scene with the robots, who still do not understand the nature of the ritual drama, leaving only open ended and unresolved questions. However, as the robots state, "Questions are excellent."

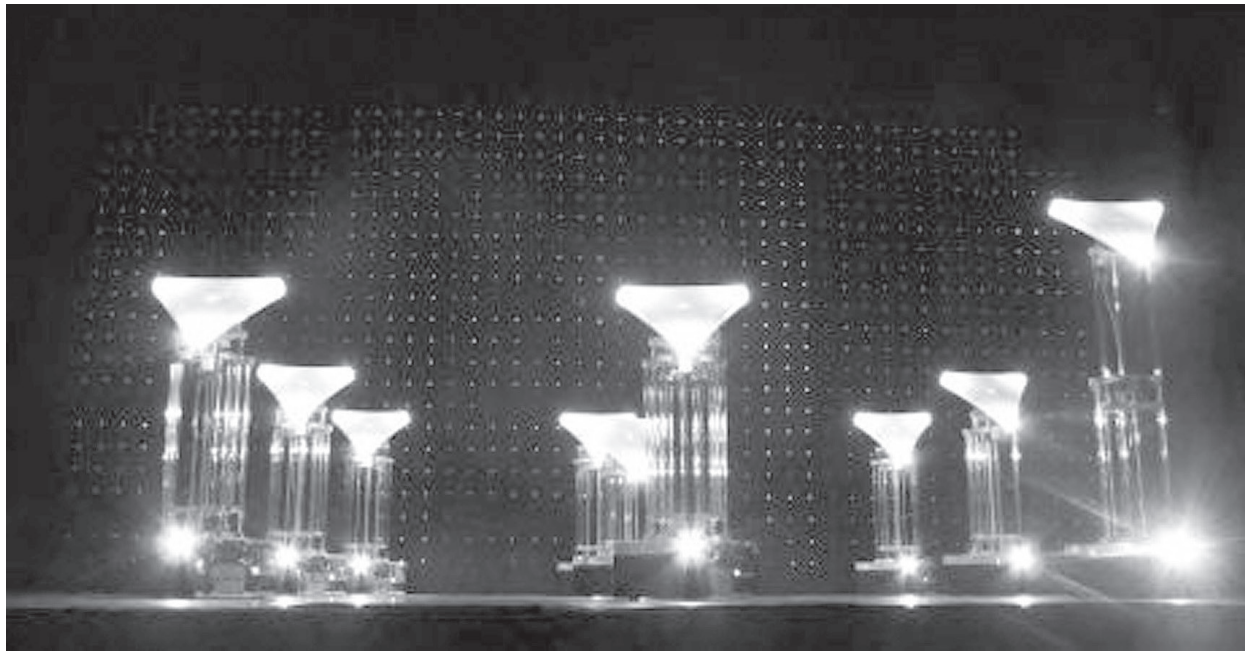
With *Death and the Powers*, composer Tod Machover has created a sonic tour de force. Anyone harboring the conviction that opera is a moribund art form incapable of resurrecting a new audience for itself would do well to familiarize themselves with Machover's extensive body of work and overall view of music. More traditional compositions sit beside experimentations in both his instrumental music, *Hyperstring Trilogy* for instance, and in operatic pieces such as *VALIS* and *The Brain Opera*.

Machover's work with the Opera of the Future and the MIT Media Lab has also led to innovative musical interfaces such as the creation of hyperinstruments, "acoustic instruments that are measured and sensed electronically in ways that affect the sound coming from each one" (*Nature* 7/15/2010). This innovation has found its way into our living rooms already—as *Guitar Hero* and *Rock Star*. He has also developed software that allows amateur musicians, even nonmusicians, to create their own compositions. He continually pushes the envelope of what can be done musically as he attempts to understand how we perceive music and how it communicates directly to and with our emotions. Hard to pin down, Machover's style encompasses elements of the classical and minimalist modernism, but to confine him to pre-defined musical movements would be to negate the innovation he brings to his art.

Gil Rose of Opera Boston guided a 15-piece orchestra through a score that veered from humorous play and light melodic lines to darker, penetrating expressions of both power and despair. Machover's composition moved from sounds not unlike a chorus of excitable electronic cicadas to the visceral merging of sound you could feel through your seat, accompanied by eye-searing light—the traditional broke musical bread with the electronic. At times, he seemed content to have the audience listen while at others he utilized innovative noninstrumental sounds to make the audience feel the music on emotional and physical levels.

Death and the Powers put me in mind of Philip Glass's soundtrack for *Koyaanisqatsi* (1982). In particular, Simon's mantra "I am the same" as he enters The System mirrored the opening voices of Godfrey Reggio's film droning "Koyaanisqatsi." Machover's work, however, sounded richer, more textured, layered, and constructed. The machines and the inorganic found representation in delicate electronic pings which were sometimes staccato while at other times produced electronic glissades that held a shimmering quality. The humans and organic ideas were expressed primarily through violin and cello with more traditional musicality, and yet beneath that there still lay elements of the electronic providing subtle bass tones and rhythm. At points Machover added stranger elements, such as "beat-box" (simulating complex drum kits with the voice) as Simon enters The System. He also eerily distorts the human voice, warping giggles and moans, as Simon attempts to awaken within the machine. There are moments of what some might label modernistic, atonal repetition, but these are few and appropriate to the scene's action. No matter how quirky, experimental, or untraditional the opera becomes, a melody runs through his music even when it deviates from the music's expected progression. Throw away your preconceived notions of modern opera being too abstract or musically annoying.

To this already rich canvas Robert Pinsky, who served three terms as United States Poet Laureate, added a libretto laced with equal amounts of humor and despair, playing between but not placing a judgment on either Simon's immortal System or Miranda's embodied existence and the misery bound to it. In his librettist notes, Pinsky likened our human creations—be they a business, a garden, or a work of art—to robots in the original Czech meaning of the word, "one who works," with connotations of drudgery but also of independent ability. The things we make—if they are all we hope them to be—imitate something of ourselves." As such the opera questions how we view our creations, ourselves, society, and immortality, in the process



The Operabots on stage

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 discreet 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 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



Hal Cazalet as Nicholas watches James Maddalena as Simon prepares to enter The System

into which he has been absorbed.

In order to blend the set and the lights, the *periaktoi* were faced with opaque white screens. The material allowed for intriguing light play ranging from straight washes of color to variegated, almost liquid, effects. Scenic and emotional changes were indicated by lights controlled by Maddalena's performance offstage. Shades of blue dominate the beginning of the performance. As the action progressed, red predominated over the blue, and near the end of the opera there was a slight homage to Hal from *2001* (1968) with a menacing red light concentrated in the central scene unit, blending outward to the others. But the scenic units were not relegated to only light. They also showed video—of Simon, of his memories, and of news headlines. Above everything hung a massive, three-winged, silver-spoked, articulated chandelier—itsself a musical instrument. Part futurist bird and part claw grapple, Nicholas's prosthetic arm and Miranda's toy in the first scene mirrored the same sweeping and sensual chrome curves. All of these served as embodiments of both The System and, eventually, Simon.

Often, composers, directors, playwrights, and dramaturges will have notes in the programs, and only very seldom do designers contribute commentary on their work. This particular production, however, did have one, and the content deserves a mention given the scope of the production and the integration of the design with both the opera's narrative and the actions of the performers. Much of the technology, designed by the MIT Media Lab, utilized innovative software and interactive material specifically for the opera. Over 40 computers ran the production, and each component shared information with any other component during the course of the performance. In addition, they utilized "3D visualization for monitoring and authoring the animation of robotic movement and lighting. If need be, puppeteers above the stage can assume manual control . . . An absolute position tracking system monitors the location of robots and actor onstage to help the robots navigate, as well as affect sound and visuals."

The robot chorus moved with brilliant precision in their interaction with one another and the actors, particularly in their scenes with Nicholas. Unlike the robots for *Robots* (which I reviewed in *NYRSF* #259), these were not constructed to experiment with form, function, and the human response to them. These robots instead explored the theatrical possibilities of both mechanical and embodied performance. The twelve opera bots looked exactly alike. Flat triangular "heads" lit when the bots spoke. These heads could

tilt horizontally or move up and down vertically making the bot range anywhere from approximately four to six feet tall depending on the need. The heads attached to clear, up-lit, acrylic tube "bodies" secured to a wheeled base. By varying their movement, the bots could look 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, spoked 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 machinelike sound, still conveyed a slippage of the human into someone/something else. Albrink married Evvy's eerie 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 instigate 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 melancholic 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 reveled 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 clichéd. 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, iPods, 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.

If you don't already spend enough time online, you can get more information on Tod Machover and *Death and the Powers* from these links: <opera.media.mit.edu/projects/deathandthepowers/>, <blog.ted.com/2010/09/17/tod-machover-talks-about-his-new-robotic-opera-death-and-the-powers/>, and <www.todmachover.com/>. ▲

Jen Gunnels lives in the world but dreams electronic dreams.

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