

ATRIUM

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The Report of the Northwestern Medical Humanities and Bioethics Program

Bringing Out the Dead

"We shouldn't look at them? If we don't look, we'll never see what they offer us, especially the opportunities to promote and cope with the pain of empathy that arises across great, apparent dissimilarity."

—Ann Starr





About the artist:

Ann Starr has exhibited her work about anatomy, teratology, and mental illness and lectured on her drawings at venues including the National Museum of Women in the Arts, the National Portrait Gallery (London), the Yale Medical School and the University of Chicago Medical School. She has been an Artist in Residence at the University of Illinois at Chicago College of Medicine, and has taught workshops for the office of the chaplain at Rush Hospital.

As an Artist in Residence at Northwestern's Feinberg School of Medicine, Starr has taught for several years in the MH&B Program's winter humanities seminars. In this series, first- and second-year medical students select a small ten-hour class from a wide array of interactive humanities and arts options. Starr has taught "Alternative Anatomy," a class in which students explore the emotional and metaphorical aspects of the human body through drawing, and "Assuming Authority," a class that encourages students to assert their own authority within medical discourse by creating their own medical books. While teaching at Northwestern during 2000 and 2001, Starr became interested in the anatomy lab's collection of anomalous fetuses.

Starr objects to the idea that burying these fetuses is the "respectful" thing to do, because "it implies that the only function these persons/bodies have is to be gawked at." Instead, she argues forcefully for their preservation. "As I hope my drawings show, they can be treated as people worthy of portraits. We shouldn't look at them? If we don't look, we'll never see what they offer us, especially the opportunities to promote and cope with the pain of empathy that arises across great, apparent dissimilarity. I hope they will be returned to teaching—just like the other dead people in the anatomy lab. It is not undignified to employ them as models for embryology and cases for the ethical implications of the practice of selecting out 'flawed' genes and raising only 'designer' children. We have so much to learn from them. But we have to look at them to learn it."

Northwestern has purchased two of Starr's drawings to hang with the collection they reflect. "It gives me profound satisfaction to have these brief lives and their beauties recognized in this way," Starr said.

The Medical Humanities and Bioethics Program

Faculty

Kathryn Montgomery, PhD—Professor of MH&B and of Medicine; Director

Peter Angelos, MD, PhD—Associate Professor of Surgery and of MH&B

Tod Chambers, PhD—Associate Professor of MH&B and of Medicine

Joel Frader, MD—Professor of Pediatrics and of MH&B

Lester Friedman, PhD—Visiting Lecturer in MH&B

Kristi Kirschner, MD—Associate Professor of Physical Medicine and Rehabilitation and of MH&B; Director, Donnelly Family Center for the Study of Disability Ethics, Rehabilitation Institute of Chicago

Scott Moses, MD—Assistant Professor of Obstetrics and Gynecology and of MH&B; Director of Ethics Education, Department of Obstetrics and Gynecology

Douglas Reifler, MD—Associate Professor of Medicine and of MH&B

Mark Sheldon, PhD—Senior Lecturer in Philosophy and in MH&B

Katie Watson, JD—Lecturer in MH&B

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Laurie Zoloth, PhD—Professor of MH&B and of Religion; Director of Ethics, Center for Genetic Medicine

Fellows

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Jarred and Jarring:

The Unfolding History of a Museum of Anatomy

Katie Watson, JD

THE MEDICAL STUDENT

It's 1945, and a young woman in a ramshackle apartment out by the stockyards is in labor. Hysterical with pain, she looks to her aides—her mother, grandmother, and a medical student. It's his first week on obstetrics.

The Demerol tablets the student gives her seem to help. Family gathers as the delivery becomes imminent, and it emerges—the huge eye of a cyclops and a nose that looks like a penis. The family is horrified. The Demerol caused this, they say. The pills you gave her.

The student tells them to call the hospital as he resuscitates the baby. Everybody is scared when the baby coughs and gags, his central eye moving around. Everybody is upset. People from the hospital take the baby away, the student gives the mother care and advice as he's been taught, and then he opens the bedroom door to leave. The baby's father stands waiting for him. He holds a straight-edge razor. "Come here boy. I have dealings with you."

The student slams the door, turns the key in the lock, runs to the bedroom window and jumps onto the rickety fire escape, dragging his heavy medical bags behind him. He is sweating like you cannot believe. He is shaking like a leaf. He climbs to the el tracks that butt up against the building, crawls onto the platform and rides the elevated back to Northwestern Medical School.

Breathless, the student finds his mentor and tells of his rather horrifying experience. "My goodness, where's that specimen?" Leslie Arey, the most respected embryologist and anatomist of his day, author of a widely-used textbook that will be published for over 48 years. Kermit Krantz, orphaned boy pursuing an MD and a MA in anatomy, earning extra money as curator of Dr. Arey's Museum of Anatomy.

Kermit picks up the body at Michael Reese Hospital the next day. The baby died when they removed the catheter Kermit had inserted. They give it to him wrapped in something like butcher paper, and he holds it under his arm as he jostles with the rush hour crowd on the el. And. But. Yet. Suddenly the train stops with a jolt and the tiny naked body flies out from under Kermit's arm, Cyclops understudying Icarus in a very short show.

Pandemonium. Police await the young man with the dead baby at the next stop. Nobody dares to touch the monster, so Kermit retrieves it from the train and wraps it back up as best he can. Nothing he says can persuade the police this is right. He waits at the police station for Dr. Arey to arrive.

Back in the lab, mentor and protégé dissect the baby, then reinstate and embalm it, putting it in the collection. "It was a beautiful specimen," Dr. Krantz recalls. "I shall never forget the sight of that eye." Later, Dr. Arey puts it up over the entrance to the dissecting rooms. He tells the anatomy students, "This is so the all-seeing eye can keep its eye on you medical students to see that you are a success."

"There ends the story of the cyclops," says Dr. Krantz.

THE ADMINISTRATOR

It's 2004 and a thoughtful, good-willed medical school administrator is approached by the Chair of Obstetrics and Gynecology. For personal and institutional reasons, the Chair would like to honor the distinguished, deceased mentor and his now illustrious protégé. The hundreds of specimens remaining from the original 2,000 in their "Museum of Anatomy" need represervation. It won't take much money. It is a win-win.

Commitments are made, dinners shared, a ceremony held. In September 2004, the medical school officially names the specimens the "Arey-Krantz Collection" and announces that it will invest in its renovation, which will also include new labeling, graphics and incidence data.

THE MEDICAL HUMANITIES AND BIOETHICS FACULTY

A month later, a group of MH&B faculty tour the Mutter Museum as part of the ASBH conference. Many have strong reactions. Kristi Kirschner, MD, Associate Professor of MH&B and Director of the Donnelly Family Center for the Study of Disability Ethics, feels that the exhibit objectifies and dehumanizes its subjects, that it's something like a "freak show." The Mutter Museum makes us question the purpose and propriety of displaying dead bodies, and Alice Dreger's book influences what we think. We get curious about our jars.

In September, no one on the MH&B Faculty knew this ceremony was happening. We knew Northwestern had aging jars of anomalous fetuses, but a *Museum*? The word raises the stakes. No longer stray samples in an educational setting, more grand than a "collection" of 170 jars on anatomy lab shelves—a museum. That connotes broad display, and coming home from Philadelphia I began to think of our jars as a version of the Mutter, a collection I found troubling. Seeing the Mutter also gave me a different understanding of the first-year anatomy students who occasionally asked me, "What are they *doing* there? Why do *I* have to look at them?"

The first answer is usually that the collection is educational, or it has scientific value. This used to be true (for example, some specimens illustrate Dr. Arey's 1926 classic *Developmental Anatomy*), but I wonder if it still is. My understanding is that contemporary medicine has moved the conditions represented in the collection into one of two groups: anomalies virtually unseen today (because most women terminate after prenatal screening reveals conditions incompatible with life), and anomalies that advances in medicine and technology have rendered compatible with life. I haven't heard a convincing argument for the usefulness of the first category of specimens for research in prevention or treatment—the collection's current curator tells me you can't collect DNA from fixed specimens, and they're probably too fragile to take out of the jars for imaging. So while the sight of them might inspire a researcher to study cyclopia, it's hard to see how they would provide biological material that will aid him or her in that pursuit. As for the second category of conditions, the people who now live with disabilities like spina bifida have much more to contribute to treatment and prevention efforts than their pickled predecessors.

“If the collection is a museum, then let's create what the name implies—a multi-disciplinary educational experience that will help viewers decide what they think about it for themselves.”



A scientist might decry my analysis, saying that basic research can't promise results or identify applications before it's done, that the goal is preservation of potential knowledge—who knows what it might be or how it might come about. There's also a historical and artistic impulse toward preserving anything that doesn't come to us in this form anymore. And the fact the collector was a famous anatomist seems relevant too—if Charles Darwin had collected biological specimens while writing *The Origin of Species*, their lack of value to contemporary research wouldn't dampen our desire to preserve his work.

Medical ethics often seeks to speak on behalf of the disempowered, but what would that look like in this case? Is it to bury, as Dreger and Chambers suggest? Is it to celebrate and welcome into the human family, as Starr contends? And who, exactly, is disempowered in this situation? Persons living with comparable disabilities, who might feel the message of these jars is that they are freaks? The collectors, who might be dismayed to think a scientific endeavor they were passionate about could be perceived as disrespectful? The parents of those displayed without

parental knowledge or permission? Those anatomy students who resent it as a jarring backdrop of human misery that isn't used for teaching? Or, as Montgomery implies, is it the historically disempowered group of women making reproductive choices?

Narrative ethics teaches us to notice the gaps left by missing stories. I wish I could know how the impoverished mother felt about her one-eyed baby, and whether learning that he “went to science” would have brought her comfort, horror or something else altogether. And what of her hard-scrabble family, living by the stockyards 40 years after *The Jungle*? Were they immigrants navigating a new culture? Did they think an inexperienced medical student sent to practice on them was better than no help at all? Did the family lore come to include the witch doctor who perverted their offspring then flew out the window, or was the day never spoken of again? And finally, I wish I could hear an impossible voice—the story as narrated by a baby who looked to his family and his family screamed. Of a corpse kidnapped on the el who watched over generations of first-year medical students as they went to the anatomy lab to confront death and medicine. And who has sat for his portrait, released from his jar at last, if only on the page.

But perhaps the deepest impression these stories have made on me concerns the *realpolitik* of medical schools and hospitals everywhere: how ethical issues arise, who identifies them as such, at what point they are raised, and what impact the input of people with specialized training in medical humanities and bioethics does or does not have on decision makers. As our aforementioned administrator, Raymond Curry, MD, Executive Associate Dean for Education, said: “I think it's an interesting and important debate. I wish I'd heard it sooner.”

So in one sense, these events confirm the importance of ongoing ethics education throughout institutions, because non-ethicists must conceive of something as an ethical issue before ethics faculty will be invited to offer an opinion. But our story also confirms the importance of continuing education for ethicists! MH&B faculty have known for years that these jars existed and we never lodged a complaint. That's because we've just recently come to view them differently, so we make no accusations of insensitivity, no sudden claims of self-righteousness. Each year brings new developments in our own field, novel ways of looking at old problems. Our job as scholars is to generate some of those ideas, and our job as colleagues is to bring the good ideas of others home to those in different disciplines.

Personally, I think the collection has some educational value—it offers three-dimensional, life-sized illustrations more robust than you can see in a book, and viewing them can be a powerful experience. But the better argument is that the locus of the collection's significance has shifted. Its original relevance was to science and medicine, but its contemporary relevance

will be grounded in the history of embryology, the history of anatomy collections, and the role of what disability scholar Rosemarie Garland-Thomson calls “extraordinary bodies” in medicine and society. If it is to be “justified” in light of shifting norms for consent, exploitation, and spectacle, it will be on those terms. It’s still relevant, it’s still an illustration—but to and of what must change with the times.

As illustrated by the pages of this report, there’s a range of opinions within the MH&B faculty about the collection, but the option with the most shared energy behind it seems to be “teaching the conflict,” an idea originated by Gerald Graff in response to the “culture wars” about canonical texts in English literature. If the collection is a museum, then let’s create what the name implies—a small dedicated space (not just shelves in the anatomy lab) that supplies contextual material for the

viewer. In addition to medical, scientific and epidemiological data, let’s include the history of “freak shows” and voices of the anomalous individuals who participated in them. Let’s provide videos, or perhaps photographs with first-person narratives, of disabled people who currently live with conditions they might have been jarred for in another era. Let’s hang Ann Starr’s portraits, which offer another way to view these beings. In other words, in the spirit of a teaching program, let’s offer a multi-disciplinary educational experience that will help viewers decide what they think about the collection for themselves.

The obstacle to that vision is money and space. Our idea has generated a moderate level of interest, but it also isn’t at the top of the agenda for those who could make it happen. So back to *realpolitik*—what role should the MH&B Program play in creating the next chapter of the story of the one-eyed baby?

The Moral Status of the (Preserved) Fetus

Kathryn Montgomery, PhD

I count myself among those who are fascinated by fetal specimens, as weird as they (and I) may be. For me they’re not about science but about human possibility, and they offer a valuable, all-but-forbidden glimpse of the customarily unseen. So when Northwestern announced its decision to restore the fetal specimens in its 60-odd-year-old anatomical collection, I didn’t reach for my picket sign. I understand my colleagues’ objections: the parents didn’t consent to the school’s retrieval of the bodies or their display, and although ethical criteria were different when the specimens were collected, changing norms only explain the past, they aren’t enough to justify present acts; and, most compelling because ahistorical, there isn’t much pedagogical justification for such displays anymore. However, these objections don’t persuade me as much as they would in other contexts, because for me the issue hinges on the moral status of the fetus.

I am on principle unwilling to grant personhood to the unborn, so I reject analogies that say this collection is like the medicalized “freak shows” that exploited living people or “medical museums” like the Mutter Museum in Philadelphia that display bodies and body parts of once-living persons. In my view, these fetuses never acquired the status of “person,” and so our obligations are different. We don’t require burial for other aging collections of tissue samples or body parts that were (invariably) obtained without consent, and, even today, if consent is obtained for scientific uses of diseased body parts that have been removed, it’s merely a box to check on the hospital admission sheet and not informed consent. Yes, there is an emotional and social difference between a

three pound fetus and a three pound spleen in neighboring jars, and emotionally and socially, of course, I think fetuses are more than just body parts or tissue growths. But from a moral perspective, once the family has chosen to not claim the fetus for burial (a really recent possibility), I believe that for purposes of the respect and standards required of the medical profession, the fetus has more in

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common with that discarded spleen than with the body of Charles Byrne. I resist the objectification of people, but because fetuses are only potentially persons, they don’t have the same moral claim to my picket signs on this issue.

I acknowledge one wrinkle in my argument, which is that the collection also includes some who were born alive and lived for a brief period after the umbilical cord was cut. But on balance, this isn’t enough to change my view that feelings about the conflicted moral status of the (preserved) fetus is complicating this debate.

Thirty years ago a woman I knew finally got up the nerve to ask what became of the fetus she had miscarried and was told in an efficient way, “We stack ‘em up like cordwood and then incinerate them.” Preservation under glass for the awed regard of generations of medical students seems a far more respectful, dignified fate.

A Conversation with Alice Dreger

Tod Chambers, PhD

Northwestern's MH&B Program invited medical historian Alice Domurat Dreger to lead our Bresnahan Colloquium last November to talk about the historical treatment of people with unusual bodies and what our medical school should do with its collection of anomalous fetuses. We were also honored to be joined by Margo Miles-Carney and her daughter Margaret Carney, direct descendents of Eng Bunker, a conjoined twin who toured the country with his brother Chang Bunker in the 19th century.

Tod Chambers: As you know our central concern is not with the display of living people such as Charles Byrne, whose stage name was "O'Brien the Irish Giant," but with the display of such people as Byrne after they have died. As a historian, how much of your work depends on having access to such displays?

Alice Dreger: Such displays have never helped me write about the experience of the person whose body (part) is displayed. In other words, I haven't been able to write more, or more eloquently, about the lived experiences of people like Chang and Eng or Charles Byrne by looking at the display of their bodily remains. I think that's because their bodily conformations were well documented and described in primary source literature—so I didn't learn anything new about what their bodies were like. And you can't really learn anything about what it is like to be a fetus from looking at a fetus suspended in a jar. At least I don't think so.

That said, these displays have given me a greater understanding of the relationship between people with unusual anatomies and biomedical professionals. It's helped me understand the uneven power relationship (ever more uneven), as well as the aesthetic fascination of pathologists, medical students and others for human remains, as well as the protectiveness curators feel for science and scientists, a protectiveness that is played out via protection of collections. I think in this way it has helped me understand the depth of these relationships, and what role bodily remains have played in that.

The article in which I wrote most specifically about what these displays have taught me is "Jarring Bodies: Thoughts on the Display of Unusual Anatomies," in *Perspectives in Biology and Medicine* (2000).

My experience is that curators and pathologists will tell you that these collections are absolutely necessary to the progress of medical science. I have two basic problems with that: 1. I see very little, if any, evidence for that. 2. So what? Does the desire for scientific progress (typically a "progress" experienced by only a few) trump all objections? (And the answer, as it turns out, is no for remains labeled Native, and pretty much yes for everything else.)



One thing I do appreciate, as a historian, about these collections is that they are historical primary sources. They are artifacts of past human activities in science and medicine. But again, that doesn't mean we absolutely have

to preserve them.

Artists, as you know, have enjoyed using these collections. I'm not sure about the social effects of this.

TC: What do you think we should do now with these collections? Destroy them? Try and obtain permission from living relatives?

AD: At a recent discussion about this, you made the argument that the human remains contained in the collection should be respectfully buried. After additional reflection, and talking with a number of people (including my partner, an academic internist, and Cheryl Chase, founder of the intersex rights movement and herself a person with intersex), I've come to believe that you are right. I cannot figure any way that the display of these remains will not replicate—and inadvertently endorse—the questionable moral circumstances surrounding their collection and the message that people with unusual anatomies are freakish.

If one were to decide to keep a collection, the key to one's decision-making will be, I think, to figure out a way to acknowledge but not replicate the now-problematic original meanings of the collection—which I take to be that doctors are more powerful than mothers, fetuses, and even nature, and that notable difference and disability are necessarily bad. I do think such a collection may hold the potential to teach medical students to be better doctors—to get them to think about what makes an enlightened doctor-patient relationship, to consider mortality and whether it is the greatest enemy of humankind, to reflect upon the diversity of human experience and the inability of anyone to predict who will find joy and who will find suffering. But one probably can and probably should bury the artifacts and achieve those teaching goals in some other ways.

One could try, of course, to contact family members and obtain permissions, but I doubt you'll make any headway there, unless the person who collected the materials kept unusually good collection notes. I'm also not sure their permission is the issue—i.e., their permission would probably seem necessary, but not sufficient, to the continued display.

Alice Dreger's most recent book is *One of Us: Conjoined Twins and the Future of Normal* (Harvard University Press 2004), and we're delighted to announce that she will be joining us as a Visiting Associate Professor of MH&B in 2005-06.



The Gaze Toward the Beautiful Dead:

Considering Ethical Issues Raised by the Body Worlds Exhibit

“The Basketball Player” –Photo courtesy of Body Worlds

Laurie Zoloth, PhD

This February Chicago’s Museum of Science and Industry (MSI) became the second North American location to host *Body Worlds*, an exhibit that raises serious ethical questions about the nature and limits of the display of dead human bodies. *Body Worlds* is a complex work—ambiguously balanced between an art exhibit and a science display, it presents approximately 25 corpses that have been preserved and injected with plastic in a patented process. The corpses appear in naturalistic, non-clinical settings and pose with their skin removed, revealing the inner dimensions of the body to the museum goer.

This exhibit is a multivalent and challenging event. Deciding to show the work or to ban it, how to show it, and to whom, raises a complex thicket of moral response. I was honored to be included in a group of community and academic leadership the MSI called upon to reflect on the ethical and social issues raised by the work, and to consider whether the MSI should display it at all.

Our committee prefaced its work by asking, and researching with exquisite thoughtfulness, the first canonical bioethics question: How full and informed was the consent process in the case of each body that was donated? After concluding that the consent process seemed careful and the donations eagerly and voluntarily made, the ethical discourse turned to our initial struggle to define and characterize the exhibit. What exactly is engaged by the gaze toward the naked, dead body, normally a gaze reserved for lovers, morticians, and doctors entirely? How

can we account for varying cultural and religious interpretations of the meaning of the dead and standards about commodification and objectification of bodies? Is our fascination with the exhibit a sort of fascination with death itself, or a much better, more authentic way to do science?

The committee then deliberately moved to a casuistic method of thinking by reflecting on whether anything like this exhibit had historical precedent. What previous examples, traditions or texts could guide our responses? Is this use of bodies somehow prohibited, like an artist who uses slave labor, or perhaps uses graduate students oddly or cruelly in the creation of art? Is our concern like the concern of civic leaders that Buffalo Bill is not the right type of person to have in the Midway for the Columbian Exhibition? Or is it like the issues raised about displaying Native American artifacts, where the use of dead bodies is prohibited? Perhaps the entire exhibit is like a fossil collection in which the bones of others are on display. Is this like a display of Pompeii?

For many, the exhibit was intensely evocative of the imagery of the Holocaust, emerging from a certain set of historical sensibilities and cultural productions. The artist is German, the body donations largely German in this collection, so we were lead to ask: Is this display like reading Heidegger, or Paul de Mann, Nazi party members and scholars who held disturbing views? For others, the bodies were evocative of early medieval anatomical drawings—artistic in design, driven by early medical science. Are our reactions to this similar to how medieval clerics saw the drawings of the medieval anatomists like Vesalius? He also

used real human bodies for his life drawings, and he displayed his subjects amid odd or controversial settings, in extreme positions. On this question we decided that *Body Worlds* is in many ways like a continuation of a long tradition of studying the human body using visual techniques of visibly entering the body to study it. In the early modern period, schools at Padua, Italy and other great new European research universities used modeling in this way.

After our consideration of “like cases,” we turned to what felt new about the exhibit. One of the things we supported is the deconstruction of the seriousness of the body in medicine and the quasi-sacred account that dominates the literature of the medical school first year course—that the mere seeing of the naked dead, and the further study of the body as a sort of text, its interiority and intimacy, privilege the doctor with a near priestly power. In light of that narrative, it was interesting to reflect on what creator Gunther von Hagen calls “the democratization of anatomy” that *Body Worlds* provides anyone with \$21. In medical school, the anatomy class is seen as very special—the classic transitional experience of the first year. What does

“Body Worlds is a multivalent and challenging event. Deciding to show the work or to ban it, how to show it, and to whom, raises a complex thicket of moral response.”

it mean to offer a similar experience to thousands of non-medical people? Much is made in medicine about the formation of “detached concern” and doctors learn not to be personally affected by encounters with the dead. Is this “detachment” without training in concern a good thing to teach children in Chicago?

In the final analysis, it is the opportunity to confront the exhibit as it was presented that was seen as part of the learning experience itself. Over 100,000 people saw *Body Worlds* at the MSI in the exhibit’s first seven weeks, and our committee hopes they asked themselves some of the same questions we considered. Science is challenging, and not always simple or easy to think about. That unease is precisely the location in which ethics begins.

Anatomy Quintain

Alyssa Volk, Class of 2007

cadaver
generous, gruesome
teaching, astounding, intimidating
your face still veiled
corpse

Are Dead Bodies Necessary? Dissecting Prosections in Anatomy Lab

Aviva Goldberg, MD

I am a doctor, but I have never dissected a human body. When I admit this to most physicians, their reaction is usually one of incredulity, followed by a sense of unease. Can I be a member of the club if I have not wielded a scalpel on formaldehyde filled flesh? Am I really a doctor? With earnestness reminiscent of my failed efforts to get in the cool clique in junior high school, I point out that I have seen dead bodies, touched them and compared them to my anatomy texts. “I belong here,” I tell them. I didn’t sneak in the back door.

I am always pressed to explain the seeming inconsistencies in my story. Raised in a prairie city in Canada, I trained at the University of Calgary, a surprisingly liberal-minded medical school in the heart of the right-wing province of Alberta. Since its inception in 1967, the U of C has used prosected specimens (expertly dissected cadavers set out for display), plastinated models, and a heavy emphasis on self-directed learning to teach anatomy. Instead of the 250-300 hours students spend in the lab in traditional anatomy programs, the U of C only devotes 6 hours to formal anatomy teaching. We were then given 24 hour access to the lab and encouraged to form small groups for studying the prosections. Retention and comprehension are tested in practical exams at the end of each body system.

My former professor, Dr. Richard Hannah, Emeritus Professor of Anatomy at the University of Calgary, implemented our prosection program because he thinks traditional dissection is unnecessary. He says it is simply

too time consuming and labor intensive, especially when trying to fit it into the many competing demands of the modern medical school curriculum. Dr. Hannah agrees with most other anatomists that textbooks and computer simulations are insufficient tools on their own. “You need to see, touch and smell the body,” he says. But he doesn’t think the value of the “eureka factor”—the moment a student finally finds the structure s/he has been dissecting towards—is worth the “half-hour spent up to your elbows in fat and formaldehyde” looking for it. Instead, Dr. Hannah thinks viewing professionally dissected specimens confers the same educational value for less time and effort. It also allows the same structures to be reviewed later, something that can’t be done in a progressively dissected cadaver.

Then I didn’t skip out of a major rite of passage, right? Not according to Dr. Larry Cochard, Assistant Professor of Medical Education at Northwestern University’s Feinberg School of Medicine and Director of the anatomy laboratory. He thinks that prosections “aren’t a bad way of learning anatomy, but cutting helps the students learn a little better.” But Dr. Cochard is also interested in cadaver dissection’s ability to teach humanity. “A lot of students consider the cadaver to be their first patient,” says Dr. Cochard, who points out that many take the time to seek out families at the closing ceremony to express their appreciation.

Both Drs. Cochard and Hannah stress that the lab is, for many students, their first encounter with a dead body, and serves as the ultimate *memento mori*—a reminder that we, too, must die. Students in a prosection course tend not to identify with any one particular cadaver, although Dr. Hannah claims that the sense of “global humanity” gained from interacting with the cadavers yields the same results. I agree with Dr. Hannah when he says the faculty’s approach to teaching is more important than the type of cadaver used, and the well attended

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memorial services held at both schools speak to the deep impact that both types of cadavers have on medical students.

Is there proof that either type of program is superior? In terms of quality, I can’t find any literature to support a claim that there is an empirical difference in the skill of the physician produced by either method. In terms of cost, prosections seem like they would save time, money and cadavers, but the extra faculty effort that goes into preparing the specimens, refrigerated storage costs, and the need to replace 15-20% of the prosected bodies per term make it difficult to calculate whether prosection generates any real savings. That means that programs like the University of Calgary took a leap of faith when they decided to forgo a long-standing medical tradition in favor of something new and innovative, which I admire. And to Dr. Hannah, the proof is in the practice: he observes that first year surgical residents from across Canada possess the same general anatomy knowledge and surgical skills regardless of where they completed medical school.

So here I am, a Canadian pediatrician in Chicago, juggling joint fellowships in pediatric nephrology and bioethics. Do I feel inadequately prepared to pierce a kidney with my biopsy gun because I never dissected the back muscles on a cadaver? Do I feel less connected with the humanity of my patients because I did not cut into the preserved flesh of another human being? Absolutely not. And in fact, I think my school’s self-directed prosection approach to teaching anatomy helped to make me a well-rounded physician. It freed time for me to pursue communications courses and early exposures to pediatric clinics, and I was grateful to be treated as an adult and allowed to plan out my anatomical studies to meet my needs.

Yes, friends, I’m full member of the club—and I think more medical schools should consider this approach to teaching anatomy.

HAVE WE LOST OUR HEADS?

Douglas Reifler, MD


“Describe—on sensory, cognitive, and emotional levels—the first incision into your cadaver.” OR “Write an autobiographical account of your cadaver’s life (i.e., in the cadaver’s imagined words). Base your details on physical evidence.”

We now give this writing assignment to all of our first-year medical students in their Ethics and Human Values unit, about six weeks into Gross Anatomy. In class, students read their essays and poems to one another and discuss the experiences they convey. We have assigned our medical students to write about gross anatomy for the past 13 years, beginning with a humanities seminar that was later adapted for the entire class.¹ Why? Because writing underscores a multitude of lessons gross anatomy can provide in professional values, reactions, and behaviors.

Gross anatomy is a powerful initiation ritual that signals entry into the medical profession. It challenges students to look squarely at death, disease, and the graphic inner workings of human bodies. We offer no apology for these challenges—to function effectively in medicine doctors need to do these things. Each student responds to gross anatomy in his or her own way. Some struggle to develop clinical nerve. A more subtle—if more pervasive—difficulty is how to build clinical nerve without atrophying empathy.

Our students’ preparation for gross anatomy varies widely. Some have never seen a dead body, others have worked as paramedics or nurses. Some have never lost a friend or family member, others have. But regardless of their diverse cultural and personal backgrounds, all must overcome a degree of cultural taboo against desecrating dead bodies. Strong challenges provoke strong defenses, and the learning environment enables defense building. A mountain of material must be learned with little time for reflection. Graveyard humor is commonplace. Furthermore, the powerful experiences of gross anatomy are isolating—dinner conversations with friends and family outside medicine become awkward when the subject switches to human dissection.

Sociologist Frederick Hafferty has described anatomy cadavers as “ambiguous man” (or woman) to reflect their dual nature as part biological specimen, part formerly



living human.² Gross anatomy poses a central challenge for medical students to work with this ambiguity. (Living patients have parallel dual identities, so all of medical education poses this challenge.) Students in the anatomy lab often think in biological terms—focusing on the dissection task at hand and discovering proper scientific terms—as physicians must often do in clinical medicine. But just as an exclusively biological approach would be anathema to clinical medicine, human aspects of gross anatomy must also be addressed.

At times in the anatomy lab, students catch a glimpse of their cadavers’ humanity—hands with nail polish, an anguished face, a Caesarian section scar. At times they themselves are sad or elated, anxious or emboldened. Writing stories and poems based on experiences in gross anatomy—whether it is their own experiences or the imagined experiences of their cadavers—then discussing these writings in small groups allows students to address human aspects of gross anatomy. It helps them to process their own dramatic experiences, to reduce their isolation, and to retain a measure of emotional engagement in their new professional roles.

Does it work? We can only speculate about long-term impact on students, but faculty and students comment frequently on how useful and effective the gross anatomy writing exercise is. And the stories speak for themselves.³⁻⁵

¹ Reifler D: “I actually don’t mind the bone saw”: narratives of gross anatomy. *Literature and Medicine* 1996;15:183-199.

² Hafferty FW. *Into the Valley: Death and the Socialization of Medical Students*. New Haven and London: Yale University Press, 1991.

³ Grassi M: The gift. *JAMA* 1996;276:854.

⁴ Best J: Freckles. *Ann Intern Med* 1999;130:612.

⁵ Whyte A: To Papa. *MsJAMA* January 2001.

Gross Anatomy Writing Assignment, Chrissy Janowiak, Class of 2007

My cadaver was the one Dr. Cochard happened to use for the cadaver previews, so during my first introduction to her, he took out her hand and held it. The image of that lifelike scene greatly affected the emotional experience of my first incision, and continues to affect my experience in gross anatomy, as I am constantly reminded of and awed by the power of human hands.

The Power of Hands

Dr. Cochard held your hand—
Now my hand holds the knife.
With your cold fingers laced warmly in his
He introduced you to us, to me
As if you were both an esteemed professor
With much to teach
And also his dear, old friend
When he talked about respect,
Your hand shook his in agreement
I didn't need to be told twice
I couldn't stop the images from coming
Your hand...
Wearing a wedding band
Typing on a computer
Playing the piano

Holding the hand of a lover, a friend,
a child
Now in my own hand
The scalpel seems awkward and unfamiliar
And dangerous, like a violent animal
I need to rein in
But my hands are being summoned
to action by the group
“Cut from C to E” the roadmap says
Were these directions on your life's map:
Pass career and marriage, take a left after
the grandkids to cholangiocarcinoma,
then cut from C to E?
I wonder, as my hands invade your world
Eagerly and timidly at the same time
Questioning each motion
Can Camper's and Scarpa's fascia handle
the power in these hands?

Or are Netter's-Atlas-Watercolor-Perfect
organs at stake with this very cut?
As weeks go by
My hands grow confident
Suboccipital triangle, inguinal canal
Do your worst
My fingers will flesh out those nerves
No need for the professional distance
afforded by the scalpel
We are past those formalities
My hands dig deep into every crevice
Separating, palpating, isolating
The knowledge that you have to offer
And when your face accidentally peeks
out from its plastic covering
I don't even blink.
But I keep your hands in the bag.



In *Anatomy of Anatomy* (Third Rail Press 2000), photographer Meryl Levin documents the anatomy lab experience of Cornell University's Weill Medical College students, combining her images with their reflections. Thanks to a grant from the Greenwall Foundation, the touring exhibit of *Anatomy of Anatomy* hung in the reading room of Northwestern's Galter Health Sciences Library for a month. The exhibit was launched with a panel in which Ms. Levin, MH&B faculty, anatomy faculty and students discussed the ethical and medical significance of the anatomy experience, and the Greenwall Foundation and the MH&B Program provided every first year student with a copy of Ms. Levin's book.

Welcome to the ATRIUM

Kathryn Montgomery, PhD
Katie Watson, JD

For more than two decades, Northwestern's Medical Humanities and Bioethics Program (with its various names) has been focused on the study of medicine as a human activity: its values, its practice, its education, its epistemology. Ethics is an inseparable part of that, and so are the humanities and the values-oriented social sciences. They can't be separated conceptually or pedagogically. If bioethics describes and solves problems, the humanities work to create them—embracing ambiguity and uncertainty, complicating with historical and cultural perspectives, expanding conceptual boundaries through critical analysis—and we believe neither approach can flourish until it's intertwined with the other. We as scholars, and Northwestern as a program, represent the conviction that ethics does not belong only to philosophers but also to physicians and scholars in other fields, to writers, artists and performers, and to patients. It's a human concern.

ATRIUM grows out of that vision of “non-disciplinary cohesiveness.” Each issue will be inspired by a single theme, and the content will reflect our Program's balance between humanities and bioethics. Ideally, ATRIUM will model a multi-disciplinary approach to analyzing issues and working through problems in the classroom, at the hospital, and in policy-making bodies. As always, our goal is to do serious work without taking ourselves too seriously.

We chose to call this report ATRIUM for several reasons. Medically speaking, it references the human heart—oxygen-poor blood enters the right atrium, takes a journey, and returns to the left atrium enriched. Architecturally, an atrium is a central place that lets light and air into the middle of a building. But most importantly, for us “the atrium” is a place a few steps away from the coffee stand in Feinberg's oldest cluster of buildings, a sunny spot with comfortable chairs where professors and students meet.

This is where we live, and we'd like to invite you in.

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