

**The Visual Image and the
Future of the Medical Humanities**
Galveston Texas 9-10 May 2014



"Anatomical Man" (also "Zodiacal Man"), Très Riches Heures du Duc de Berry (early 15th century)
 Limbourg brothers (1385–1416)

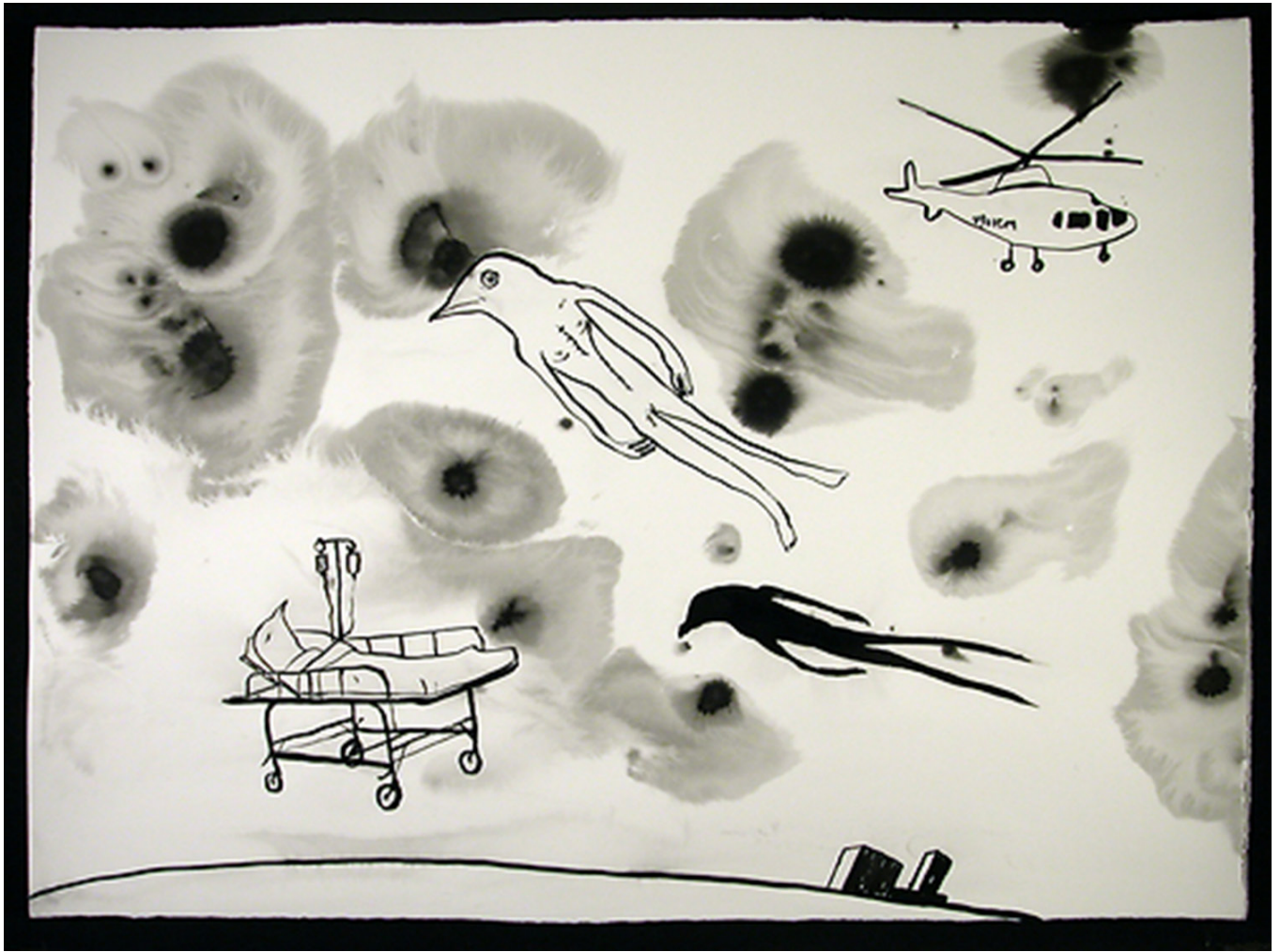
Introduction

Jerome Crowder, PhD; Daniel Price, PhD; Terence Wright, PhD

In the long history of medicine, images have often conveyed both basic information and maps for organizing our practice. The “Anatomical Man,” from the Medieval period, distributes the powers of the zodiac within the body, aligning anatomy with temperaments, and allowing an interpretation of health in terms of a coherent view of the body as integrated into the conceptual world. In more recent times, as digital technology has advanced, visual images are almost ubiquitous in medical practice, and yet they continue to serve both as documentation and conceptual frame.

Our intention for hosting this conference is to bring together professionals from the arts, humanities and health care to discuss the role of images in their everyday practice and to consider how this will change in the future. We recognize that images play a large role in how we communicate with each other, so as the media of images evolve, our understanding of each other must, as well. To this end, The Visual Image Conference is a collaborative event, one in which we will listen to each other and develop new ideas and projects together, working beyond our established areas of practice to forge unique proposals and multidimensional products.

This catalog serves as a commemorative document for all future readers to know the many creative and thoughtful ideas which were originally submitted, in hopes of continuing the influence beyond the scope of the few days we will have spent together in Galveston. We anticipate that readers will share the same appreciation for the breadth and scope of the ideas presented and expect them to have a long-lasting effect on those who consider the role of the visual in understanding what it means to be human.



Nancy Andrews "Delirious" (2012)

Patient Agonistes:

Nancy Andrews' Transmedial 'Delirium' of Form

José Alaniz, PhD

In 2005, the artist and filmmaker Nancy Andrews underwent a complicated surgical procedure. She then spent two weeks in the ICU, suffering drug-induced delirium and, after her discharge, post-traumatic stress disorder, cognitive issues, depression and other problems. A number of her experimental film and comics works, such as *Delirious* (2012) and *On a Phantom Limb* (2009), address her difficult recovery and mind-altering after-effects of the operation. The proposed paper examines Andrews' representation (and struggles to represent) the experience and its lingering psychological traces for how her work reflects current discourses on neurodiversity and cognitive difference and how it pushes transmedial artistic form to extremes. I argue that Andrews' experiments with conventional comics/film form resonate with her own altered consciousness after the trauma of her ICU delirium, as well as her efforts to come to terms with a new mental reality. Combining Comics Studies, Film Studies and Disability Studies, the proposed paper (part of a longer study on disability in alternative comics) resonates with the conference theme "The Patient's Self-image."

José Alaniz Associate Professor in the Department of Slavic Languages and Literatures and the Department of Comparative Literature (adjunct) at the University of Washington - Seattle, published his first book, *Komiks: Comic Art in Russia* (University Press of Mississippi), in 2010. He currently chairs the Executive Committee of the International Comic Arts Forum (ICAF), the leading comics studies conference in the US. His current projects include *Death, Disability and the Superhero: The Silver Age and Beyond* and a history of Czech comics.



Jonathan Martin, London's Overthrow, c. 1830. Courtesy of Bethlem Art and History Collections Trust.

**Not Guilty, On the Grounds of Insanity:
Monomania, Creativity, and the Art of Jonathan Martin**

Amy Andres, MA, MLIS

In 1829 Jonathan Martin received notoriety after attempting to burn down York Minster. Medical testimony during his trial indicated a diagnosis of monomania and Martin was sentenced to Bethlem Hospital for the remainder of his life. Prior to the incident in York, Martin had been consumed with the belief that the Church of England and its clergy were corrupt. He believed his life's mission was to expose the corruption and save England from further destruction. Martin's religious fervor was further inspired by prophetic dreams that he documented through both writing and drawing. Many examples of his creative work have survived including the fantastical artwork produced during his confinement at Bethlem. Drawing upon a selection of primary sources, my research considers Martin's diagnosis of monomania within the context of nineteenth century Britain and provides an overview of the themes and symbolism represented in Martin's artwork as they reveal the association between his creativity, psychopathology, and self-identity.

Amy Andres is the Art History Librarian at Virginia Commonwealth University in Qatar. She earned her BA (Art and Design) and MA (Art History) from California State University, Fresno and her MLIS from University College London. She taught art history for several years before entering librarianship. Her research interests focus on the documentary and artistic representation of illness in nineteenth century Britain.



Planche XXIII.

ATTITUDES PASSIONNELLES

EXTASE (1878).

"Passionate expressions," a phase of the grand hysterical attack according to the school of Charcot. *Iconographie photographique de la Salpêtrière*, 1878. Courtesy of the Truman G. Blocker, Jr. History of Medicine Collections

**Object and Performance in Early Medical Photography:
The Cases of Duchenne du Boulogne and Jean Martin Charcot**

Richard H. Armstrong, PhD

Medical photography developed rapidly after the technical innovation of the wet plate collodion process in the 1850s. This technique allowed for quicker exposure times and easier processing, and was quickly adapted to scientific pursuits. In France, the neurologist Duchenne du Boulogne (1806-1875) trained as a photographer in order to preserve his electrophysiological experiments in fixed images. At the Salpêtrière Hospice in Paris, Jean Martin Charcot (1825-1893)—an admirer of Duchenne—sponsored the formation of a photographic service to augment a larger representational network that included traditional wax modeling, anatomical slides, drawings, data charts, and live demonstrations of patients in weekly public lectures.

These early forays into medical photography provide excellent case histories in epistemic rupture when a new technology of visualization enters the scene of medical science. Assumptions were rapidly made about the privileged status of the photographic image as a genuine trace of reality; and yet the images are haunted by complicating factors that tear at these naïve assumptions. The photos reveal their intersection with pre-existing trajectories of visual culture, such as the compositional strategies of painting, the aesthetic normativity of the human figure, the psychological significance of expression, and religious and dramatic theatricality.

Questions arise from this scenario that remain relevant to the use and circulation of the medical image to this day. How does the fixity of the image play to cognitive prejudices about the fixity of knowledge? How can we resist the temptation to fix dynamic and complex phenomena through imagistic capture, segmentation, or representation? How well do we analyze the conventions and mechanisms that frame the medical image? How is the moment of imaging framed by the imagination?

Richard H. Armstrong is Associate Professor of Classical Studies in the Honors College and the Department of Modern and Classical Languages at the University of Houston, and an Associate Member of the Institute for the Medical Humanities at UTMB, Galveston. He is author of *A Compulsion for Antiquity: Freud and the Ancient World* as well as numerous book chapters and articles on the reception of ancient culture. He is currently completing a book, *Theory and Theatricality: Greek Drama in the Age of Grand Hysteria* for Oxford UP.



*Liver Die A Print Action for Health - Hepatitis C, Corcoran Gallery of Art, Washington, DC Photography: Herman Farren
March 31-April 3, 2005*

Among Other Things, Art

Eric Avery, MD

In the 1970's, The Institute for Human Values funded five “dialogues between the disciplines” designed to examine the intersections of the humanities and medicine and medical education. The Visual Arts and Medicine Dialogue Group began meeting in 1976. I was one of two artist physicians invited to participate.

At the time, there was growing concern that medicine would become “the paradigm of a technocratic anti humanism, in which man himself becomes an abstraction”. The turn to the humanities might counter this dehumanization. Visual art was the least charted of the new medical humanities. I will ground my presentation in this history and review our discussions about the instrumental and intrinsic values of visual art to medical education. As part of my dialogue with the group, I began to make images in the liminal space between art and medicine.

Thirty eight years later, sitting in front of the Electronic Medical Record, or utilizing imaging technologies which make patient narratives almost superfluous, one might ask if the visual medical narrative has become the doppelgänger of medical dehumanization?

As we ask again about the visual image and the future of the medical humanities, the use of art and art making by medical students is increasingly used to develop the intelligent eye, and as a reflective interpretative project believed to foster reflection, creativity and humanistic values in medicine. This move of art into medicine is accepted pedagogical practice.

My research project within the medical humanities is related but in the mirror direction. I moved my medical practice into the protected aesthetic spaces of art museums and galleries, trying to fuse horizons and use the subversive potential of art to educate, change culture and nurture a community of understanding.

For my presentation, I will show two of my art medicine actions: “Healing Before Art: Public HIV Blood Testing” at the Contemporary Art Museum, Houston and Mary Ryan Gallery, New York City in 1994; and LIVER DIE A Print Action for Health - Hepatitis C at the Corcoran Gallery of Art, Washington DC in 1995. Negative curatorial response to my art/ medicine actions was a deja vu of medicine’s early barriers to the medical humanities. In the increasingly visual practice of medicine, fluidity between disciplinary boundaries will be needed to define the new visual medical humanities.

In 2012 I retired from UTMB and clinical medicine after twenty years as an AIDS psychiatrist to work full time as a visual artist in New Hope PA. Presently, I am Emeritus Associate Professor, IMH, Galveston. My social content prints explore issues such as human rights abuses, and social responses to disease, death, sexuality and the body. My art medicine actions have given form to the liminal space between art and medicine. I have had numerous solo exhibitions and my prints are in many collections, including the Fogg Art Museum at Harvard University, The Library of Congress, Philadelphia Museum of Art, Smithsonian American Art Museum, Washington, DC, Blanton Museum of Art, Austin Texas, The Boston Museum of Art, The National Library of Medicine.

IT CAME UP AGAIN WITH MY GP.
SHE ACTUALLY SAID TO ME,
MORE OR LESS,
'OH, I
THOUGHT
YOU MIGHT BE
INTERESTED
IN THIS
BREAST
PROSTHETIC,
MARY,
BECAUSE LOOK,
IT'S SO GREAT.
THEN WHEN YOU'RE GOING OUT
AND PLAYING BALL OR WHATEVER,
THEN, YOU KNOW,
YOU CAN JUST
BE ONE OF THE GALS.'
AND IT'S LIKE,
'WHAT ABOUT ME DON'T YOU
UNDERSTAND? I DON'T PLAY BALL.
AND I'M NOT ONE OF THE GALS.'

From the installation, *Resistectomy*, Chase Joynt and Mary Bryson (2012)

Visualizing the Face of Mastectomies

Olivia Banner, PhD

This paper examines recent breast cancer art in order to consider the politics inscribed in the standard practice of illustrating the breast cancer case through the close-up on the chest. Two of these artworks are explicitly resistant: one, a body-painting project, went viral on the Internet and was banned on Facebook, which led to heated controversy; the other, an art installation by two cancer patients, one lesbian and the other transgender, challenges the heteronormativity of medicine's treatment of the breast cancer patient. I contrast these resistant visualizations to the presentation of breasts within oncology journals, which typically mark out only the chest as a relevant space for the gaze. Although the absence of the face is framed in medical discourse as an issue of patient privacy, in resistant artwork such practice is seen to implicitly construct the breast as an object, supporting a broader structuring of the gaze as heteronormative and objectifying. The artworks and the controversies they have provoked suggest that such a gaze is supported by visualization and narrative practices that divorce the breast from the face and the person from the broader social context. Finally, I examine what a seminal text for medical humanities, Audre Lorde's *Cancer Journals*, and the readings it has generated in medical humanities might suggest for medical humanities methods and visual culture.

Olivia Banner's scholarship focuses on the intersection of media, medicine, and literature. Her book, *Biomediations: Identities after the Genome Projects* (forthcoming, University of Michigan Press), considers health in the age of digital media. Her work has appeared in *Signs*, *Discourse*, and the collection *Identity Technologies*. She teaches at Rice University in the English department and is a member of Medical Futures Lab in Houston.



"Woven Florence", torn-paper-weaving, 11 × 10 inches, © Deidre Scherer, 2014, Used with permission of the artist.

**Ageing, Alzheimer's & the Human Spirit:
Images, Insights & Interventions from the Arts**

Sandra Bertman, PhD, FT

The arts wash from the soul the dust of everyday life. Each of us needs periodic re-inspiration to invigorate our imaginations and spirits. A painting, poem, lyric, cartoon may be just the prod to shake us out of the ruts of ordinary perception to approach suffering and the unbearable in fresh and strangely bracing ways. Synthesizing visual, literary, [fine] and creative arts, this presentation illuminates traditional and contemporary images—serious and humorous—of the joys and strains of aging, and more specifically, the fears and hopes regarding Alzheimer's disease, end-of-life and bereavement. A variety of techniques and resources readily accessible and easily adaptable to engage areas of the brain that help reawaken identity, dignity, connection and hope for people with Alzheimer's, chronic, serious or life-limiting illness and for those who care for them will be demonstrated. "See one. Do one. USE ONE." Participants will be armed with insight, resources and techniques immediately adaptable to their own clinical and educational settings, and hopefully, with reconnection to the creativity, renewal and joy in their chosen work. A seven-minute multimedia epilogue, "Reflections on Wholeness" invites us to be in community: to reflect on and honor our own vulnerabilities and foibles as well as the suffering and humanity of those we serve in both our professional and personal lives.

Formerly Founding Director of the Medical Humanities Program and Arts at UMass Medical Center and currently Distinguished Professor of Thanatology and Arts at the National Center of Death Education, Bertman authored *Facing Death: Images, Insights and Interventions*, *Grief and the Healing Arts: Creativity as Therapy*, and *One Breath Apart*. Honored by the American Academy for Hospice and Palliative Medicine for integrating humanities into end-of-life care, she is the 2013 recipient of lifetime achievement awards from both the Global Society for Arts & Health (formerly the Society for Arts in Healthcare) and the International Workgroup on Death, Dying and Bereavement.



InSight Visualizing
Health Humanities

Edited by Bonnie Sadler Takach,
Pamela Brett-MacLean, Aidan Rowe
and Geo Takach

Foreword by Alan Bleakley

InSight 2

engaging
the health humanities

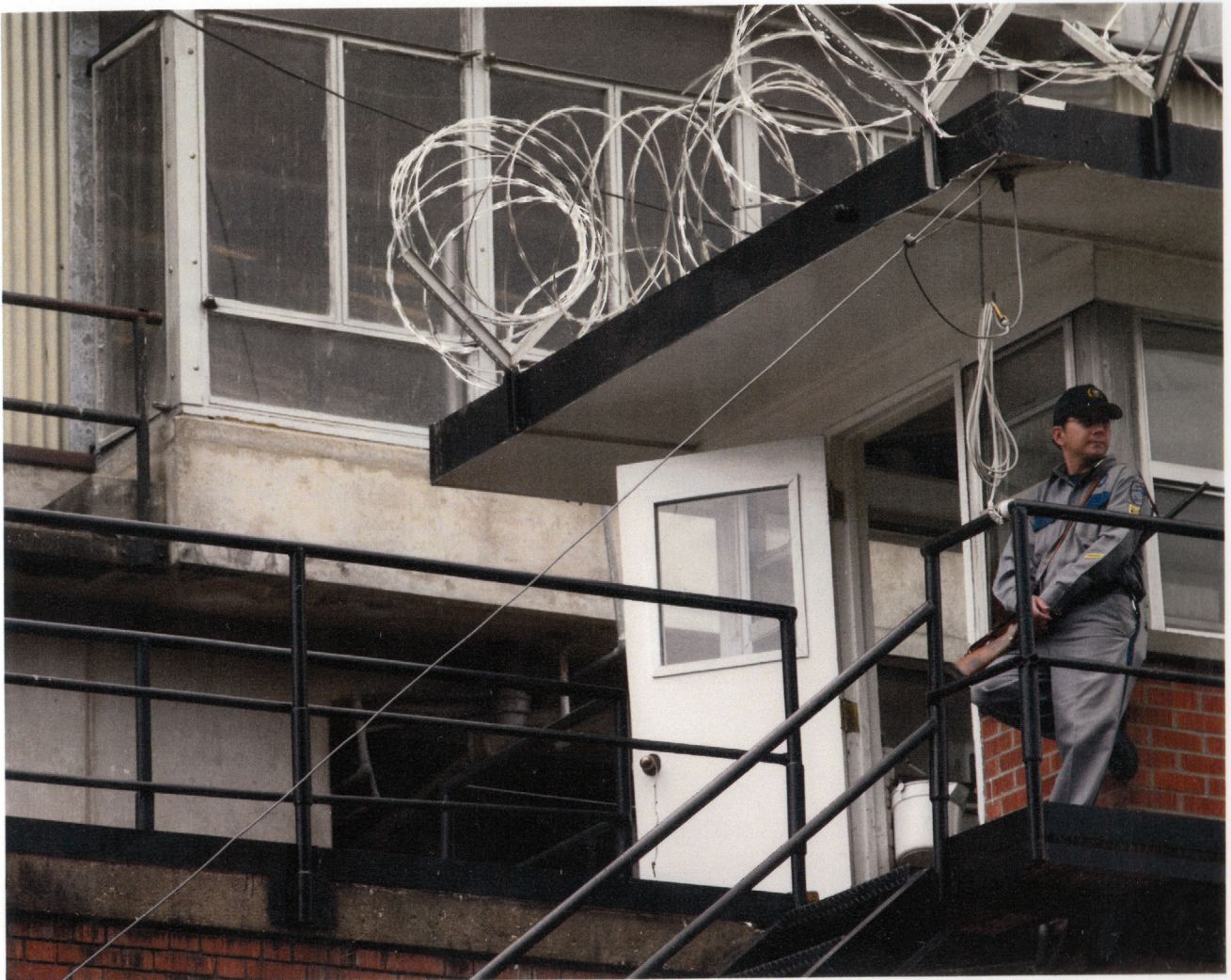
an international exhibition at the nexus of design,
the health humanities and community

Visualizing the Medical/Health Humanities at the University of Alberta

Pamela Brett-MacLean, PhD; Bonnie Sadler Takach, MVA; Aidan Rowe, MA

Straddling interdisciplinary worlds encompassing art, design, health and medicine, aware of a variety of humanities-related initiatives and vibrant scholarship in these areas campus-wide, we are exploring potential undergraduate and graduate health humanities program options we could develop within our institution through a multi-year exhibition project. In 2011, we invited our university community to explore the possibilities by visualizing interdisciplinary connections at the University of Alberta. A call for exhibit submissions was extended to all faculties across the University of Alberta, along with others having meaningful connections to the university. The *InSight: Visualizing Health Humanities* exhibition along with a dedicated website and publication encouraged exploration of connections and links (<http://insight.healthhumanities.ca>). In his foreword to our book, Alan Bleakley recognized the value of “first exposing local contributions to the emerging dialogue,” but encouraged us to extend our reach. Building on the success of the first exhibit, we expanded our exploration to include national and international input and perspectives. *InSight2: Engaging the Health Humanities* included an exploratory workshop, an international exhibition, book publication, 2-day symposium, and an interdisciplinary course (<http://www.insight2.healthhumanities.ca>). Together, the two projects have enhanced our appreciation of the possibilities of the health humanities not only in relation to our university, but also as a continuously evolving field. Other schools should consider the potential of a community-engaged, collaborative art and design approach for informing the development of curriculum, program and other innovations relevant to art and design, and medical/health humanities education.

Collaborating across disciplines at the University of Alberta, Pamela Brett-MacLean is an Assistant Professor, and Director of the Arts & Humanities in Health & Medicine Program in the Faculty of Medicine & Dentistry (pbrett@ualberta.ca), and Bonnie Sadler Takach, Associate Professor (Visual Communication Design) (bbs@ualberta.ca) and Aidan Rowe, Associate Professor in Design Studies (Interactive New Media) (aidan.rowe@ualberta.ca) are both in the Department of Art and Design, in the Faculty of Arts (Aidan is also currently a Visiting Professor at Fachhochschule Münster in Germany).



Huntsville Unit, 815 12th Street, Huntsville, Texas (1705 males) Phyllis Carrier 2008

John P. Carrier is currently a Faculty Associate in The Institute for the Medical Humanities at the University of Texas Medical Branch in Galveston, Texas. He holds degrees from the University of Houston, The University of North Texas, and received the PhD in History from Vanderbilt University in 1971. He also holds two degrees in theology from Southwestern Seminary in Fort Worth, Texas. His career as a teacher, administrator, and scholar includes appointments as professor of history, dean of arts and sciences, academic vice president, and president at three institutions of higher education, Texas A&M University-Commerce, Concord College, and West Virginia University Institute of Technology from which he retired as President Emeritus in 1999. He has been a university consultant, teacher, and volunteer in several foreign countries. For the past several years he has volunteered service as a chaplain and team member of religious organizations working in six Texas correctional facilities, including the Hospital Unit of the Texas Department of Criminal Justice in Dallas, Texas. He has also served as a consultant to the American Center for International Policy Studies in Dallas, Texas. He currently resides in Dallas.

Seeing Through the Walls:

Visualizing the Medical Environment in Prisons as Threat and Opportunity

John P. Carrier, PhD

In answer to the question of Michael Tonry, Director of the Institute of Criminology, Cambridge University and Professor of Law and Public Policy at the University of Minnesota, "Has the Prison a Future?" this proposal responds with an absolute affirmative if a conceptual clarity of the public mind about its threats and opportunities to public health and to the general welfare can be achieved. This paper examines the unique set of obstacles that have distorted the images and confused the public mind about what the reasonable and humane purposes, values, and goals of prison systems should be.

Historically, the evolution of systems of incarcerating human beings as a way to contain crime, protect society, and punish offenders has followed identifiable patterns leading up to the current modes of holding vast numbers of inmates for longer periods, "correcting" their behavior and then releasing them back into the same society that rejected them. How prisons are viewed, their images in the public mind, created often by those who profit by distortion, illusion, and sensation, has affected the way prisons globally are designed, constructed, and operated. How those distortions have inhibited or misdirected the health care of inmates, prevented wellness or, in some cases done actual harm to their physical and mental conditions, is treated here.

Visualizing the health environment in prisons is made difficult by the "walls" that surround them, the actual and metaphorical barriers. How and why prisons are designed to confine, control, constrain, conceal and segregate their populations in institutional settings isolated from the very public that sustains them and to which they will return is a subject that the humanities, especially the medical humanities, can address. Artist, historians, philosophers, psychologists, and scholars of religion and ethics have a role to play in understanding and exposing the myths and illusions about prison environments, trace their roots, and offer new imaginative views on how to close the gaps between myth and reality concerning the health environments in correctional institutions.

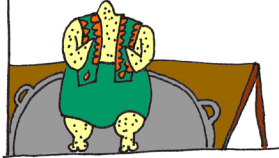
This paper will use images presented in films, literature, photographs, paintings, and sculptural forms to show how the public perceptions of prison conditions and situations were formed and how they have influenced public policy makers, legislators and litigators, prison personnel, health care providers, and both the families and victims of the incarcerated. It concludes that new images are needed if the changes required to provide humane, accessible and quality health care for the nation's almost three million individuals behind the walls and the bars. The Medical Humanities, together with the medical sciences, social and behavioral and legal human science, can together develop new approaches to the actual and present dilemmas related to inmate care as a public health phenomenon.

WHEN I WAS A KID,
Amelia Bedelia WAS MY
FAVORITE BOOK.

she's a maid and she does
literally everything her boss
says & gets in trouble.



SO, FOR EXAMPLE,
AMELIA IS TOLD
TO DRESS THE
CHICKEN. SHE DOES.



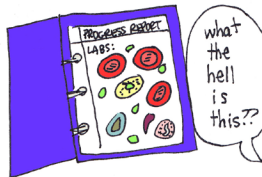
I COPIED AMELIA WHEN
MOM SAID, "DRAW THE DRAPES."
MOM NEVER THOUGHT IT
WAS FUNNY THOUGH.



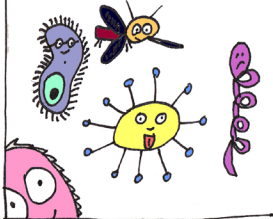
WHEN A PATIENT IS
ADMITTED TO THE HOSPITAL,
THE ORDERS ALWAYS
CALL FOR THE NURSE
TO DRAW BLOOD.



THE DOCS NEVER
THOUGHT THIS WAS
FUNNY EITHER.



IN NURSING SCHOOL,
PATHOGENS MADE SENSE
TO ME AS CHARACTERS.



AND I ALWAYS
EXPLAIN THINGS TO
MY PATIENTS THIS
WAY.



IT USUALLY WORKS.



I guess what I'm saying is
I was kind of
destined for
this Comics &
Medicine
thing.



BUT I HAD NO IDEA
THERE WERE OTHERS
OUT THERE WHO THOUGHT
THE WAY I DID.



Graphic Medicine:

The Use and Creation of Comics in Healthcare

MK Czerwiec, RN, MA (Comic Nurse)

'Graphic Medicine' is a term coined by UK physician Ian Williams to refer to the interaction between the medium of comics and the discourse of healthcare. Graphic Medicine represents comics created by people living with illness and caregiving, as well as classroom work created by medical students, doctors, nurses, occupational therapists, and other health care professionals. Comics created by those living with illness and caregiving have revolutionized the iconography of illness. Reading these memoir comics can provide a window for health care providers, through which we can visualize new perspectives into the lived experience of illness and caregiving. Comics are also mirrors - they reflect back to us patient and family perceptions of our encounters with them. Creating comics in the medical and health care environment can also be beneficial. Through the reflective drawing comics require, we can unique access our own experiences as patients and caregivers, often revealing narratives that have been suppressed, the medium providing a pathway toward encountering them anew. Comics can be a tool for enabling empathy, and comics themselves have the potential be 'medical interventions.' Examples of comics on medical themes span a broad range of diagnosis areas and arise from from internationally published works as well as locally distributed 'zines.

MK is the artist in residence at Northwestern Feinberg School of Medicine where she developed and teaches her "Drawing Medicine" seminar to first and second year medical students. MK has a BA in English and Philosophy, a BSN in nursing, an MA in Medical Humanities and Bioethics. Her clinical experience is in AIDS and hospice care. She has been making comics under the pseudonym Comic Nurse since 2000. With Dr. Ian Williams in the UK, she co-runs GraphicMedicine.org. She is on the organizing committee for the annual International Comics & Medicine conferences, and in the editorial collective for the Penn State University Press Graphic Medicine book series. The first book in this series is titled, *The Graphic Medicine Manifesto*. She is currently working on her first graphic novel, working title, *Taking Turns: A Careography*.



"Studying for the USMLE Step 1 Board Exam." (anonymous second year medical student, 2008). This was an assignment for the medical humanities course that all students at USF-MCM are required to take, it is a visual response to a prompt on expressing their challenges in medical school. Created in "Paint," printed ink on paper. 8 1/2 x 11 in.

The Visualization of the Medical Environment Reflections of Medical School: Visual and Verbal Insights

Mia Djulbegovic, MSIII; Amanda Holup, MA

“The medical curriculum is dehumanizing.” – Wenzel

From the perspective of most of us attending this conference, the above statement provides a strong critique of the not-too-distant past; it makes us glad that we are in medical school NOW.

Although, medical students are still required to study and memorize information presented in lectures/traditional texts, most are now assigned required humanities courses that parallel the basic sciences. The inclusion of stories via poetry, literature, and various forms of art allows students to move beyond the absolutes in search of ambiguities, complexities, and nuances found in patients, families, and themselves. Our e-book project illustrates the story of *medical students* as they progress through four years of study. Using a collection of visual and verbal responses from medical students over the last 20 years, this e-book explores themes that complement and enhance the traditional medical curriculum. Topics range from subjects commonly discussed in anatomy and cadaver lab (i.e., the foot or heart) to a student’s emotional response on the first day of school, the anxiety of preparing for the board exam, and his or her response to death after reading *The Death of Ivan Ilyich*. The artwork, whether simple or sophisticated, reveals subjective perspectives about relationships, challenges, interests, and fears during the four years of training. Ultimately, the e-book is a story of the medical student’s unending journey, one that only begins with medical school.

Mia Djulbegovic is a third year medical student at the University of South Florida Morsani College of Medicine. She graduated with a B.S. in Biology *summa cum laude* from the University of Florida with a minor in art history. She is passionate about integrating science and humanities in medicine.

Amanda A. Holup is a doctoral candidate in Aging Studies at the University of South Florida. She earned a B.S. in Biochemistry from Eckerd College and a M.A. in Bioethics and Medical Humanities from the University of South Florida.



Hidden History: Over 100 years mapping the invisible.

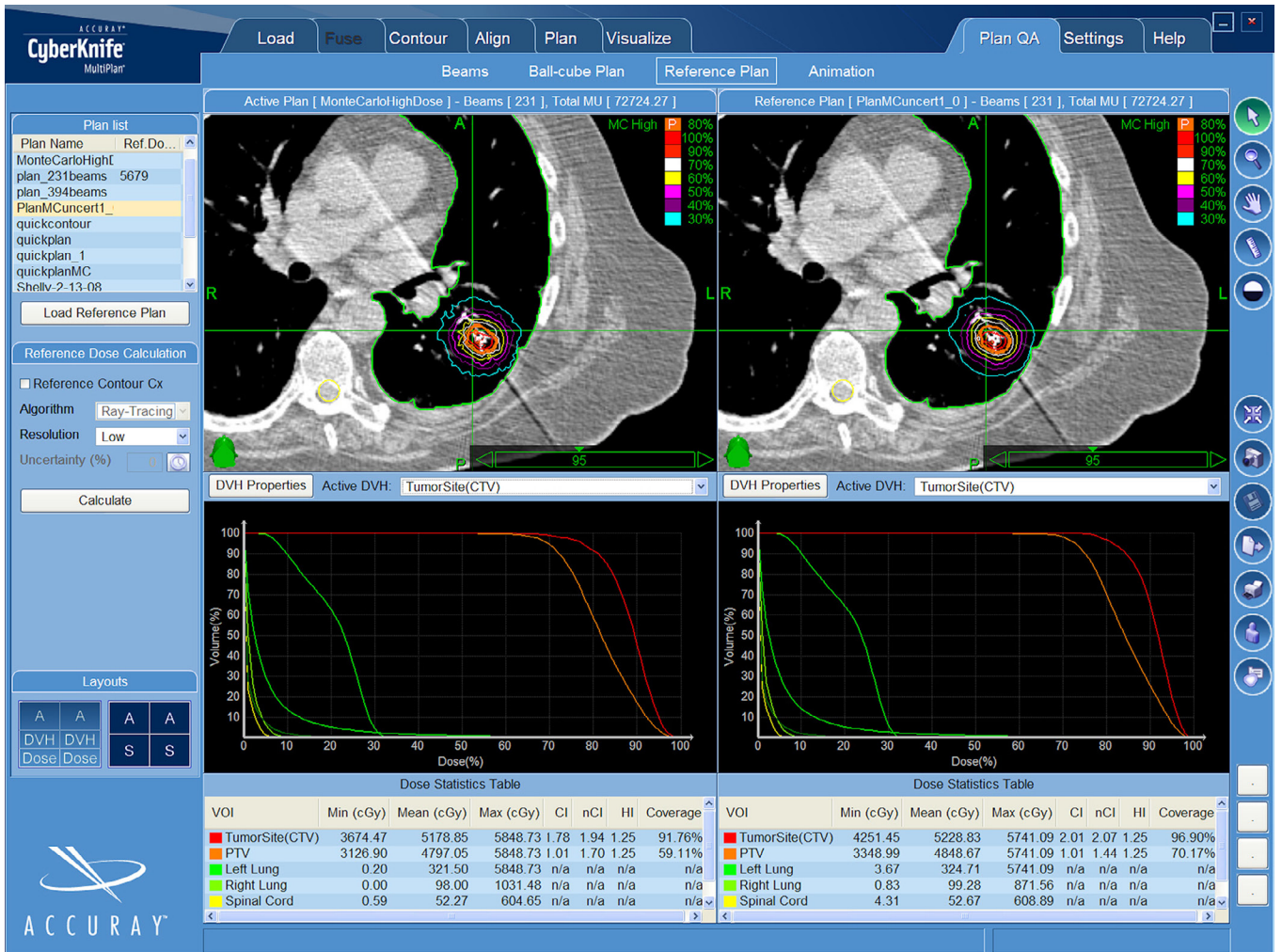
Professor Karen Fleming; Gabrielle Finn, PhD

Dermatomes are areas of skin supplied by a single spinal nerve and are important in illness and anaesthetics. There are standard maps of dermatomes in most medical textbooks. Often colorful illustrations of the male anatomy position, dermatome posters decorate consulting rooms around the globe and are used by doctors on a regular basis. Every medical student learns them yet there is a large degree of confusion about their exact location and the visualization of them has not always been evidence based.

An artist (Fleming) and an anatomy teacher (Finn) rigorously mapped the 2D data in four influential 'maps' of the modern era onto living anatomy. The research revealed areas of convergence and dispute, significant anomalies in the texts that had not previously been appreciated by professionals familiar with them.

At the turn from the 19th to the 20th Century Sir Henry Head (1861-1940) a physician at the Royal London Hospital, published black and white maps that described the rash patterns of Herpes Zoster (shingles), at that time sometimes a fatal illness. Otfrid Foerster (1873-1941) is sometimes wrongly credited as the first to describe dermatomes and produced photographic maps in the 1930's. Shortly afterwards Keegan and Garrett's 1948 map gained wider circulation and has greatly influenced current illustrations and web-disseminated maps. The paper explores how evolving artistic conventions, prevailing design values, ethics, politics and rebranding in successive illustrations have influenced the scientific interpretation of what purport to be neutral objects.

This work was funded by a Wellcome Trust Large Arts Award



Pre-planning radiation surgery

Screenshot of the graphical user interface of the Accuray MultiPlan software for the CyberKnife radiation surgery system. With the help of the software physicians can e.g. mark tumors and sensitive tissues within radiological image data as well as assign different intensities of radiation represented by color scales. Additionally, the pre-planning software provides interactive tools to visualize and simulate the later treatment by high-energy radiation. Source: http://www.accuray.com/sites/default/files/vpk_assets/plan_comparison.jpg (last accessed: March 15th 2014), Copyright by Accuray Inc.

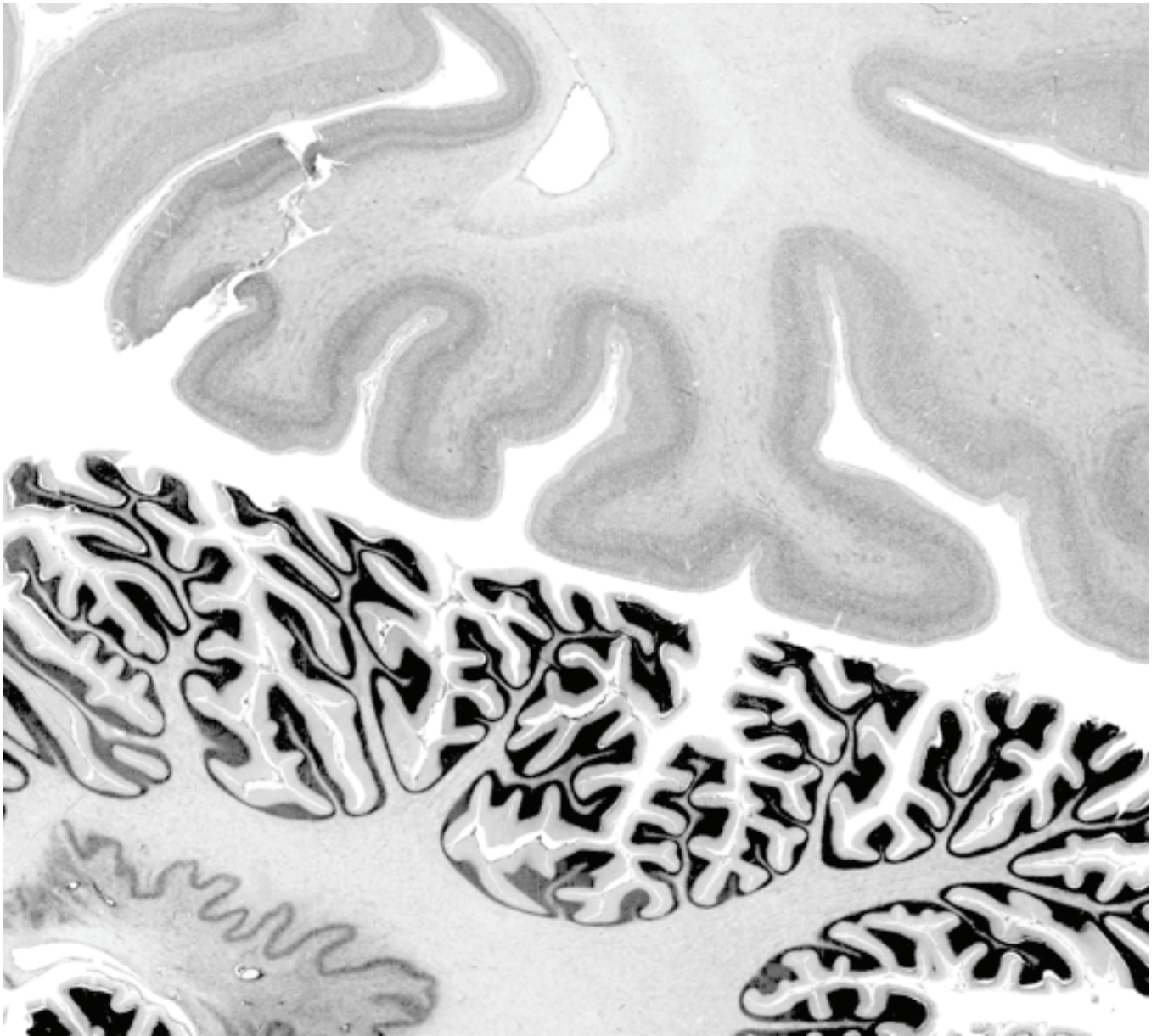
**The future is now:
the ‘sightcraft’ and digital materiality of radiation oncology**

Katrin Friedrich, PhD

Creating and using digital visualizations is a *sine qua non* of radiation cancer therapy. Tumor detection is for the most part effected solely by applying imaging techniques because histological samples cannot be assayed. Additionally, digital visualizations become the keyhole for treating patients with radiation, since the overlay of pre- and intra-operative images guides the beam of the linear accelerator. Hence, visualizations acquired by diagnostic imaging technologies guide the process of detecting tumors, planning treatments and finally carrying out radiation. This need to rely on digital images to diagnose, plan and provide treatment challenges the visual expertise of physicians and technical staff. Understanding the epistemic and pragmatic impact of images as well as the different instances of visual knowing requires a theoretical concept that focuses on the relations between visual expertise, the patient, multiple imaging techniques, aesthetics, and interactional visual operations. This paper will propose the theoretical notion of ‘sightcraft’ to grasp the fact that physicians’ visual operations extend to the materiality of the patient’s body. As visualizations operate, e.g. robotic systems, they transfer the thought and sight of physicians into actions, and finally affect materiality. One needs to ask how digital images actually matter in radiation oncology without assuming linearity between sight and skills or preplanning conceptions and final treatment.

By drawing on Ludwik Fleck’s notions of thought collective and thought style, sightcraft captures the multilayered digital entanglements of expertise, technology, operations, and materiality by means of (implicit) knowing and aesthetics. It thereby further exemplifies how fundamental interdisciplinary theoretical reflections are for image-guided medical interventions.

Katrin Friedrich works as a Research Associate in the Image Guidance project at the Humboldt University Berlin’s *Image Knowledge Gestaltung* cluster of excellence. She was previously a member of the collaborative research group Embodied Information. ‘Lifelike’ Algorithms and Cellular ‘Machines’ (Academy of Media Arts, Cologne, and Free University Berlin), where she focused on the role of computer-aided design in synthetic biology. She studied media, law and sociology and her PhD project investigates the status of digital media technologies in diagnostic radiology.



Detail of histological section 2191 of the BigBrain online medical atlas. The BigBrain was created by slicing a 65 year-olds woman's brain into 7404 histologies and scanning each with MRI at a resolution of 20 microns, making it the most detailed brain dataset available to researchers.

Dialogic Possibilities of fMRI

Leonard Grant, MA

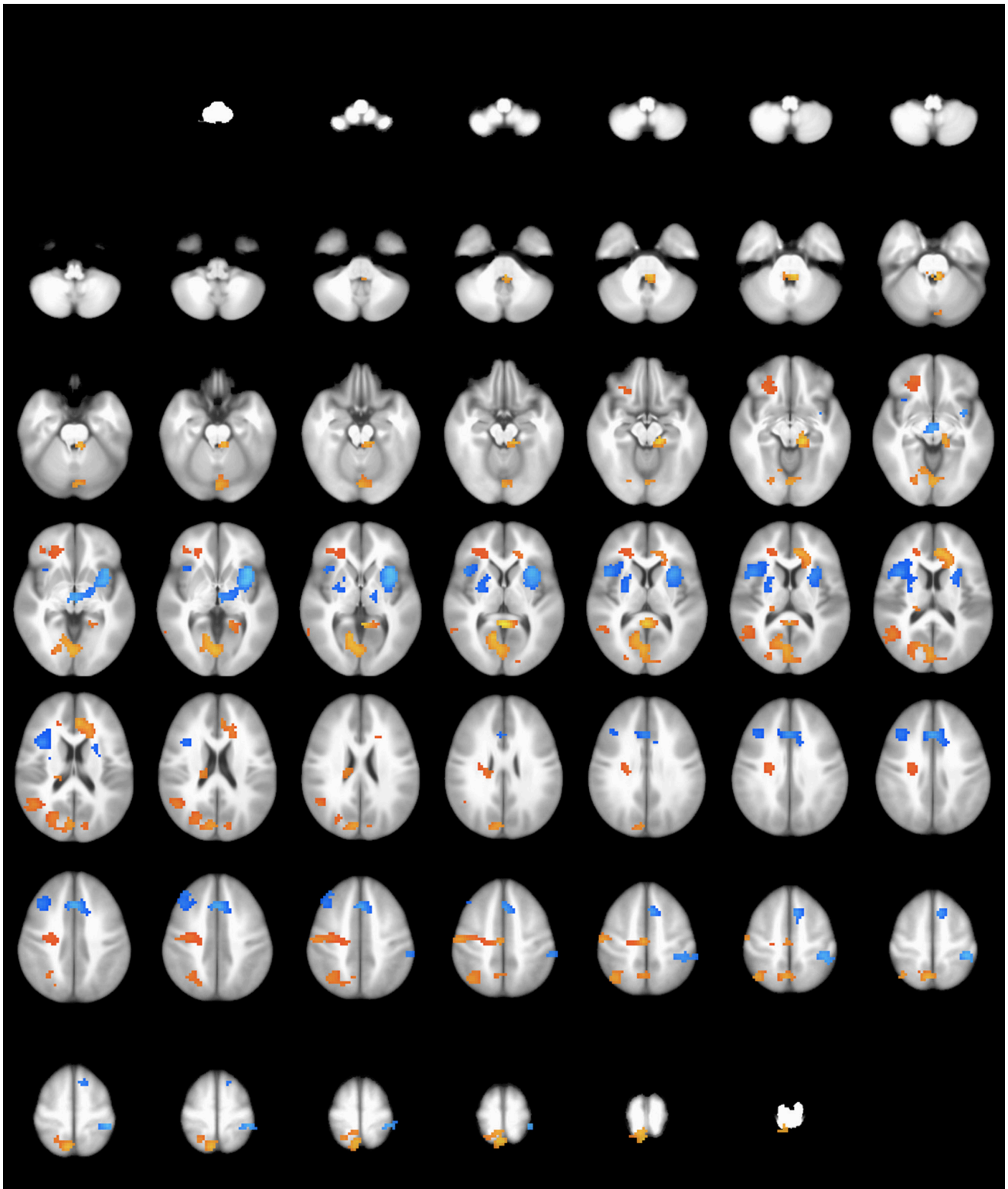
Historically, images in medical atlases have been displayed as authoritative ideals, to which human bodies must be compared, thus creating a dialog centered upon disparity between the real and the ideal. However, the launch of The Big Brain Project at McGill University demonstrates both the rhetorical nature of medical images and the possibilities for images of patients' brains to be placed in a more equitable and salutary dialog.

More than a 3D model or a "reference brain," the Big Brain is comprised of high-resolution visual reconstructions of 7404 histological sections of a brain. It also houses a database of information from these neuroimages that permits researchers and medical professionals to incorporate fMRI data from their patients into the database to create new brain images that can be used for prognosis rather than diagnosis.

This presentation examines fMRI as the product of a complex rhetorical ecology, a site of interdisciplinary discourses, deliberations, and dialog. This theoretical ecology is constructed from interviews with applied mathematicians, biophysicists, and neuropsychologists who develop and employ this technology. Applying Flusser's and Bakhtin's notions of dialogism to their relationships with fMRI demonstrates that these medical images are themselves rhetorical because of the deliberations that have brought them into being.

Lastly, I build on the work of neurorhetoricians like Jack and Gruber to make the case for teaching professionals that medical images are rhetorical objects that are best understood in interdisciplinary dialog.

Lenny Grant is a PhD student in Virginia Tech's Rhetoric and Writing Program and a South Atlantic Graduate Humanities Fellow. His current areas of research include medical rhetoric, mental illness in visual culture, and teaching narrative writing to older adults.



Brains on Drugs.

Averaged brain activity for young adult chronic marijuana users. The blue indicates greater activation relative to non-using controls; the orange indicates lower activation relative to controls. February 17, 2014. The image is unpublished, but it is based on the research of Prof. Jim Eliassen at the University of Cincinnati.

**Brain Images in the Court Room:
Pretty Pictures of the Guilty or the Innocent?**

Valerie Gray Hardcastle, PhD

The use of neuroscientific evidence in the courtroom has increased almost exponentially over the past five years. Part of the appeal of these data is the images of brain scans that lawyers can use to help explain their clients' mental states and functional deficits. However, there are also considerable dangers using this type of visualization in discussions of responsibility, competence, and mitigation. In particular, these images conflate individual brain parameters with group tendencies, and – more importantly – ignore the difficult question of how to understand the notion of responsibility in a purely material and reductionistic world. Taking neurobiological markers for addiction as my stalking horse, I will discuss how brain images are being used in a variety of legal settings today, comment upon their scientific limitations, and analyze their value in deciding responsibility. For example, the verdict of Not Guilty by Reason of Insanity requires that defendants either have delusions so severe they literally cannot comprehend what they are doing or that they cannot distinguish right from wrong at the time of the act. These criteria would still hold, even if we understand what is happening biologically in an individual at the time. How does the fact that we can illustrate why addicts reason and then act as they do connect with their putative responsibility for their actions?

A Scholar-in-Residence at the Weaver Institute for Law and Psychiatry and Director of the Medicine, Health, and Society Program, Valerie Gray Hardcastle is Professor of Philosophy, Psychology, and Psychiatry & Behavioral Neuroscience at the University of Cincinnati. An internationally recognized scholar, Valerie is the author of five books and over 120 essays. She studies the structure of interdisciplinary theories in the mind sciences and has focused primarily on developing a philosophical framework for understanding human nature responsive to neuroscientific, psychiatric, and psychological data. Currently, she is investigating the neuroscience of violence and its implications for the criminal justice system.



Roman votive offering from 200 BCE-100 CE. As the ancients offered tokens to the gods to heal various afflicted parts, the blinded patient offers his or her identity in exchange for the medical *regard*. Wellcome Library, London.

Beholding the mask:**Power, objectivity, and identity in medical photography**

Trahern W. Jones, BA, MMC; Melissa Rethlefsen; James S. Newman, MD

The practice of masking the eyes of patients in clinical photographs is nearly as old as medical photography itself. This practice was usually performed through the use of a black strip placed across the eyes of the patient, ostensibly in order to preserve the anonymity of the subject at hand. In a deeper vein, however, the authors argue that the masking of patients betrays subtler, historical biases of the medical profession. By “de-identifying” the patient, medical professionals removed the most humanizing features of the individual, thereby objectifying the subjects of research and reifying the signs and processes of disease. Thus, such practices represented an attempt to divorce the pathophysiology of conditions from their human context. Moreover, these “masking” techniques were also a signifier of the power gradient between professional and patient. It is significant that of all the recognizable features that could be masked, the eyes of the patient were blindfolded by the black strip – for it was the physician who was the spectator in this realm, looking upon the signs and processes of diseases, while the patient was perceived to be “blind” to his or her own condition.

Trahern W. Jones, B.A., M.M.C., is a fourth-year medical student at Mayo Medical School, College of Medicine, Mayo Clinic, Rochester, Minnesota. He was a recipient of the Mayo-Cronkite fellowship, graduating with a master's degree in journalism from the Walter Cronkite School of Journalism and Mass Communication at Arizona State University, Phoenix, Arizona. Having previously received awards for his medical essays, he is now a guest editor of Virtual Mentor, the American Medical Association's online ethics journal.

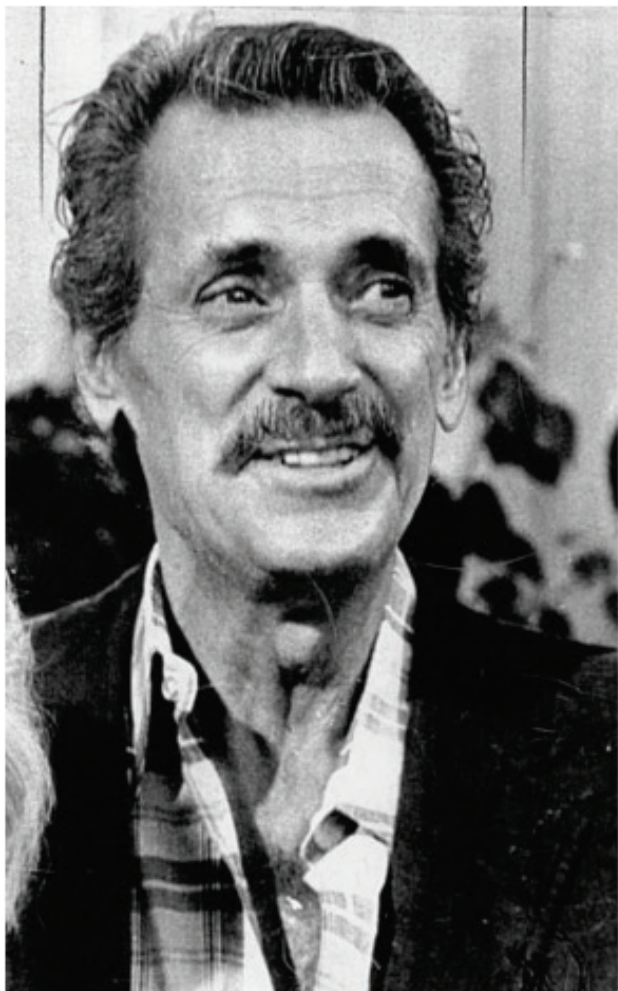


Fig. 1a.



Fig 1b.

Photography As Illness Narrative

Muriel Lederman, PhD

Photographs of ailing and dying bodies expand the sphere of what counts as illness narratives. In contrast to writings that have two stories, one intended by the author and a second created by the reader, the image is a blank slate with a single narrative, the one evoked in the viewer. Such images are shocking; they force us to revise a previously constructed story or create a new one. Rock Hudson suffering from AIDS (Fig. 1a) is astonishing in comparison to his iconic movie star persona (Fig. 1b). According to Roland Barthes, this shock also contains the realization of the immanence of death. If photographs stop time, as Richard Avedon says, they may be a way to halt the inevitable.

The relationships among the photographer/subject/object/viewer are complex. The photographer's power may turn the person being photographed into an object, which is a version of death, paralleling the authority of the caregiver over the patient. Being resurrected and regaining one's subjecthood/identity is political, played out both culturally and politically; it may be as simple as taking a self-portrait. This liberatory act subverts the aggression of the photographer, reverses the suicide inherent in being the object of a photograph and obviates the power of the care provider; it is ethical in that it retains for the subject the ownership of her own image and body.

Photographs that center on the body challenge the Cartesian primacy of the mind. They also contest centuries-old denigration of the female body through a link to contagion, as in *The Testament of Cresseid* and *Daisy Miller*. Aging, illness and death negate corporeal sex; photographs of de-sexed bodies not only stop time, they reverse time, eliminating the gender duality that causes cultural tension.

Muriel Lederman is retired from Virginia Tech, where she carried out research in molecular virology in the Department of Biological Sciences. She taught in the Program in Women's and Gender Studies and is the co-author of *The Gender and Science Reader*.



Mary Jo met Donald in a nightclub 26 years ago and helped him clean up his life, and nursed him through several major illnesses. She told me that when she saw him she knew she wanted to heal him. I took this photo in their adobe home in Santa Fe, New Mexico. (August 2012)

**Aging in America:
A Geriatrician's Viewpoint**

Jeffrey M. Levine, MD

People over 85 are the most rapidly growing sector of the American population. They will increase from 4 million in 2010 to 19 million in 2050. In twenty years, for the first time in human history, the number of people over age 50 will be greater than those under 17. We are in the midst of a demographic transition that is unique in history, and little has been done to prepare society, the health care infrastructure and workforce for its arrival. The poet Alan Ginsberg said, "Whoever controls the media – the images – controls the culture." Our media is largely devoid of images of aging. Aging is therefore not recognized by our culture as a normal part of the human life cycle. Our culture teaches us that aging is a lifestyle choice rather than a reality. This false assumption permeates not only the mass media, but the way medical care is delivered.

As a geriatrician I am constantly aware of the common human destiny of growing old and the need for a view of aging that inspires and teaches, and I travel in search of images that reflect the diversity, breadth, and strength of human life in old age. I like to show how human beings can thrive as they journey into old age, and probe their spirituality. My goal is to open a door to the fullness of the life experience and come into closer creative contact with my own aging.

Dr. Levine is an internist, geriatrician, and wound care specialist in New York City. He was trained in Geriatrics at the Mount Sinai Medical Center in Manhattan. He has a hospital-based wound care practice and is on the teaching staff Mount Sinai Beth Israel Hospital, and holds the rank of Assistant Professor of Medicine. Dr. Levine has an interest in art as applied to medicine and medical education. He studied at the Art Students League, the School of Visual Arts, and the International Center for Photography, all in Manhattan. He has photographed elders in his medical practice and throughout the United States and internationally. His images have caught the attention of the caregiving community, and call attention to the gap between the needs of the growing elderly population and the number of qualified caregivers. His photographs have appeared in textbooks and journals, magazine covers, and exhibits.

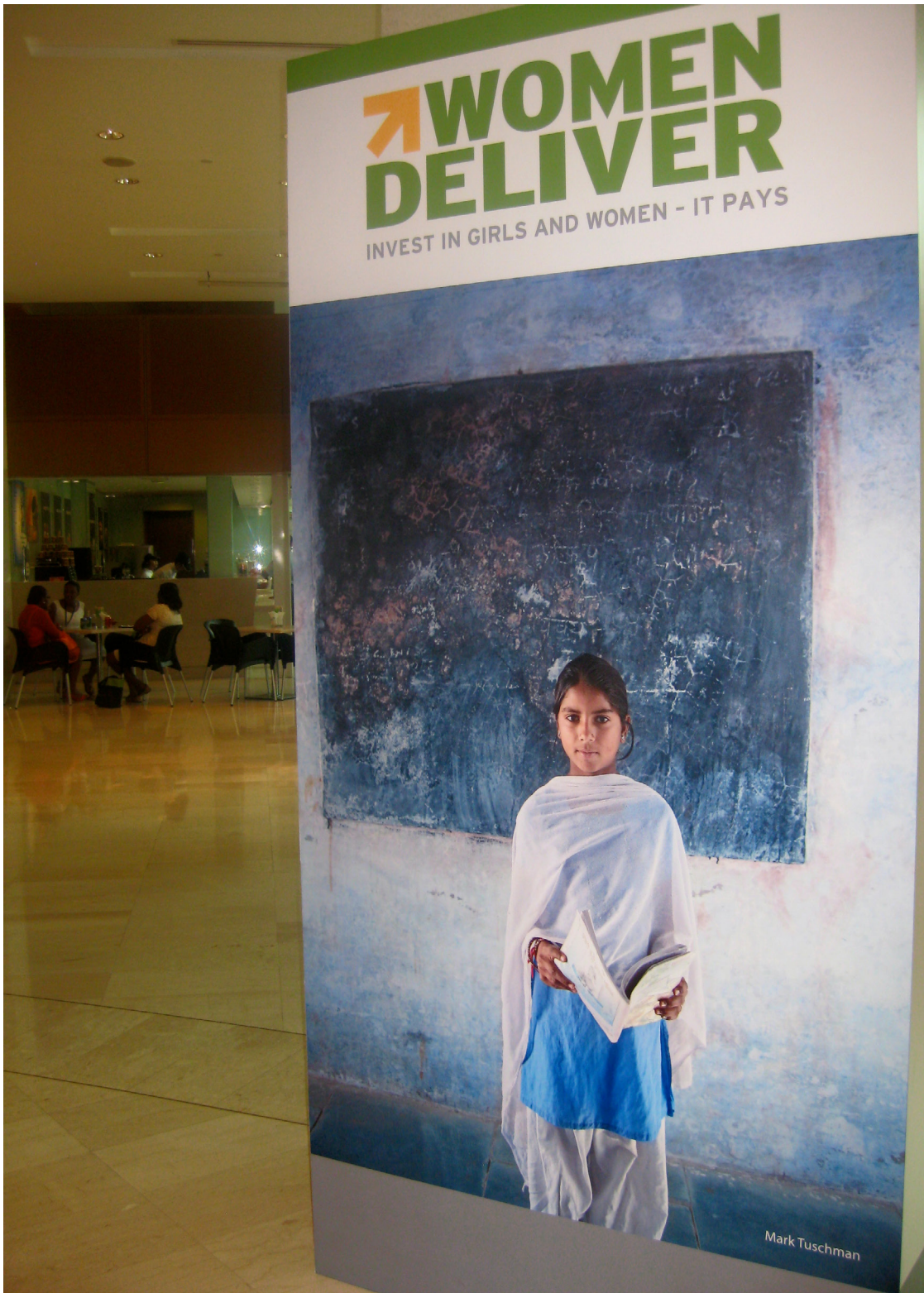


Image installed in the foyer of the Women Deliver conference venue, Kuala Lumpur, Malaysia, June 5 2013. Photo by author.

Visual imagery in global campaigns to reduce maternal mortality

Margaret MacDonald, PhD

Does humanitarianism still need a suffering body? (Fassin 2011; Malkki 1996; cf Laqueur 1989). In the image world of maternal mortality today – the visual images that are produced and circulated in global campaigns to reduce maternal mortality – the themes of *hope* and *aspiration* are emerging as part of a new humanitarian logic. In this paper, I reflect on the aesthetic and narrative conventions of the image world of maternal mortality at a time when the importance of images has been scaled up in the count down to the Millennium Development Goals end date in 2015. (Reducing maternal mortality is MDG 5). I argue that “humanitarian reason” (Fassin 2012) may be fomented not solely through images of suffering which stir our sense of shared humanity and urge us to act, but by the depiction of hope and aspiration for ‘developing’ or ‘suffering’ others. For example, the poster child for reducing maternal mortality is now a pre-adolescent schoolgirl who, if the story unfolds as we hope, will stay in school, avoid early marriage, delay childbearing, and seek prenatal and delivery care at a biomedical facility. As humanitarianism emerges as a powerful force of globalization, this paper attends to the role of visual images in shaping how we understand distant others and our relationships to them, and the biopolitical work of depicting futures to which we hope they will aspire.

Margaret MacDonald, PhD, is an Associate Professor in the Department of Anthropology at York University in Toronto, Canada. Her research in the anthropology of reproduction encompasses the fields of medical anthropology, science and technology studies, and visual anthropology. She is the author of several articles and a book on midwifery in Canada, *At Work in the Field of Birth: Midwifery Narratives of Nature, Tradition and Home* (Vanderbilt University Press, 2007). Her current research is an anthropological project tracking the discourses, images, and technologies of global maternal health policy over time.



Alexa Miller

Photograph by David Hilliard

David Hilliard, *Wiser Than Despair*, from *The Tale is True*, 2012. C-Print.

Hilliard's work asks of the viewer to navigate aesthetic territory with an actively questioning state of mind.

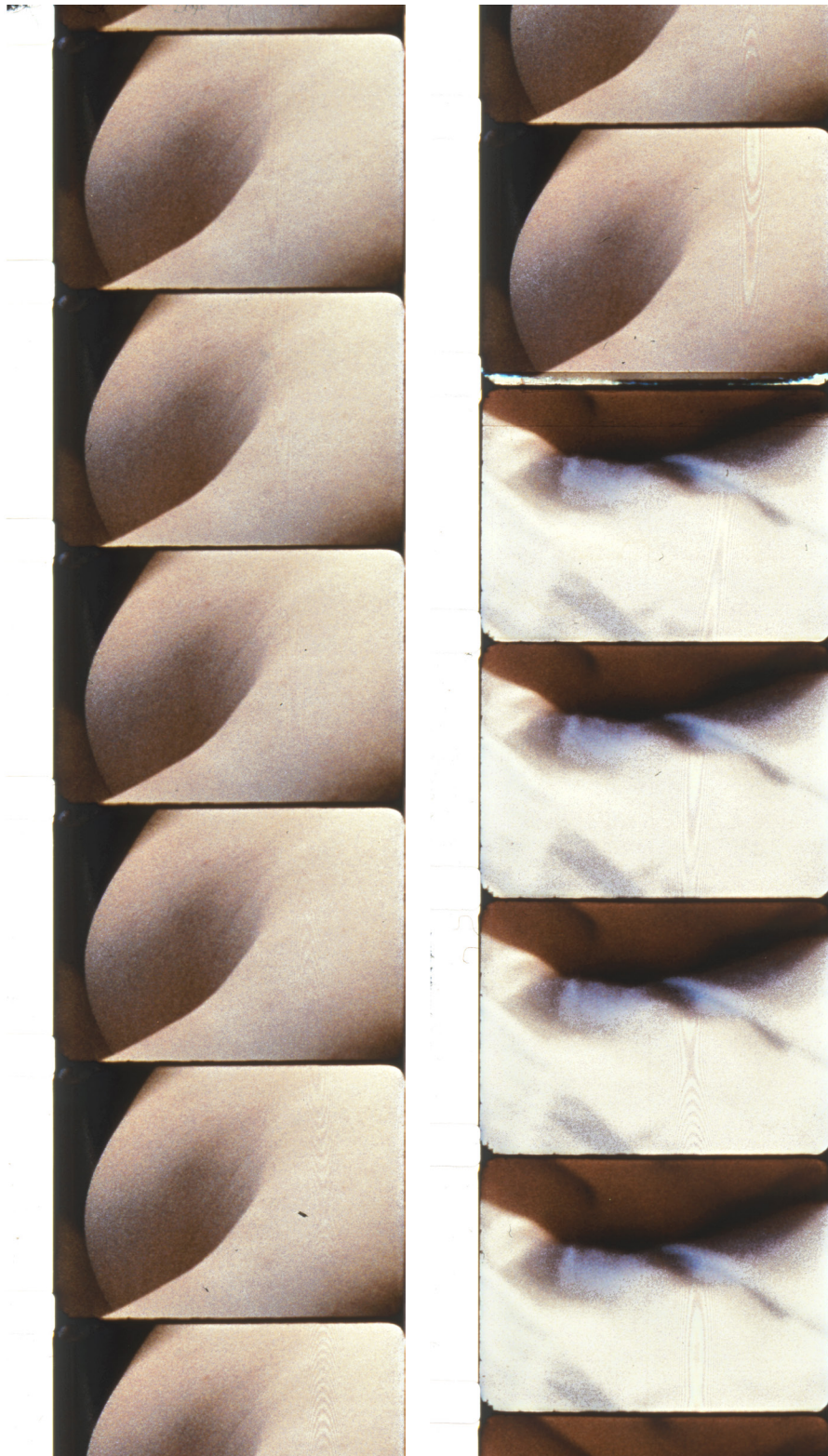
**Aesthetic Attention:
Art-Viewing Skills and Clinical Performance**

Alexa Miller, MA

A growing number of partnerships between art museums and programs in medical and nursing education engage care providers in intensive experiences viewing and discussing works of art. What happens in art-viewing? Where do encounters with works of art differ from those with other kinds of visual material, and where do they intersect? What does this mean for the medical humanities and for quality healthcare?

In this paper, I will propose a role for art-viewing in the future of medical humanities, arguing that the skills and dispositions of aesthetic learning are associated with the kind of effective reasoning that marks expert clinical performance. I will address the skills at work in art-viewing, describing them as “aesthetic attention”: attunement, navigation of uncertainty, flexible thinking, and group communication. I will detail these four skill-areas, and provide examples of how they show up in relationship to specific works of art from my own experiences at various medical schools teaching with the Visual Thinking Strategies methodology. I will further reference studies on the impact of art-viewing on learners across the broader education literature, including the K-6 and art museum education fields, as well in the medical humanities literature. I will conclude by discussing the implications of these skills in the context of medicine, drawing primarily from the literature on medical misdiagnosis that casts insight into where and how failures in clinical reasoning occur and highlights needs for improved clinician skill in data-gathering and data-synthesis.

Alexa received her BA in Art History from Swarthmore College and her MA in studio painting from the Wimbledon School of Art. She has received awards from Creative Center for People with Cancer and New England Museum Association. A frequent presenter to medical and general audiences, Alexa has written and contributed to research in peer-reviewed publications, including *General Journal of Internal Medicine* and the *Journal of Museum Education*. Alexa’s curiosity about ambiguity and clinical cognition stems from her experience growing up in a family touched by longtime misdiagnosis.



Window Water Baby Moving (directed by Stan Brakhage, 1959) Image courtesy of the Estate of Stan Brakhage and Fred Camper (www.fredcamper.com)

**Co-Creation for Doctors and Patients:
Celluloid Lessons for the Digital Age**

Kirsten Ostherr, PhD, MPH

This talk will explain how doctors and patients have used moving images to tell stories about health and disease throughout the twentieth century. I will focus on instances of collaborative co-creation between doctors and patients and explore how these cases offer opportunities for new forms of communication and new ways of understanding patient engagement. My case studies will be two films from the 1950s: *Window Water Baby Moving* (Brakhage, 1959) and *All My Babies* (Stoney, 1953). The former is an avant-garde experimental film and the latter is a documentary-style educational film. Despite their differences in style, form, and mode of address, the films were both used extensively for health education and were also screened together frequently in art cinema settings. Both films were critically acclaimed and were also considered obscene. By analyzing how these films came to be made and how they were used in the celluloid era, I will provide a framework for considering current opportunities and practices in collaborative co-creation between doctors and patients in the digital age.

Kirsten Ostherr is a media scholar who specializes in health and medical visualizations, historical, present and future. She is Professor of English at Rice University and, with the support of the Mellon Foundation, she is pursuing a Master of Public Health degree at the UT School of Public Health. Her most recent book, *Medical Visions: Producing the Patient Through Film, Television, and Imaging Technologies* (Oxford, 2013), explores how audiovisual media – from x-rays to 16mm film to television and the Internet – have trained physicians and patients to see and understand health and disease. Her first book, *Cinematic Prophylaxis: Globalization and Contagion in the Discourse of World Health* (Duke, 2005) explains how visual media have shaped the field of global health by constructing images and narratives of contagion.



The Waiting Room Projects, "Gray Matters," Melancholy Tableau with audio sound track, 2012. Post-Freudian couch/therapy office chair upholstered with custom velvet burnout fabric, etched with molecular diagrams of Prozac, neurons, synapses, and serotonin receptors, Victorian-style opera length glove of glass beads and crystals and "Exquisite Suffering" audio compositions *Lullaby*, *Shame and Memory*. All rights reserved Marguerite Perret, Bruce Scherting, Stephanie Lanter and Robin Lasser.

The Waiting Room Projects:

Image, Embodiment and Public Engagement

Marguerite Perret, MFA; Bruce Scherting; Stephanie Lanter; Robin Lasser

The experience of sitting in a waiting room is rich with physical, psychological, and socio-economic complexities. The tension between the non-medicalized outside world and the maze of corridors leading into examination and treatment rooms is manifest. The physical and emotional distances travelled by those in waiting rooms (often unspoken) are compounded through their condition of waiting, and the subsequent array of medical interventions that can be dehumanizing, often defined by opaque walls, bureaucratic processes and a lack of communication or misunderstandings between patients and staff. But it can also be a place where patients, and their family and friends, experience supportive social situations and make breakthroughs. Since 2008, the *Waiting Room Projects*—an ongoing international collaboration of artists, writers, social scientists, designers and healthcare professionals lead by principal artists Marguerite Perret, Bruce Scherting, Stephanie Lanter and Robin Lasser—has explored the symbolic and embodied nature of the medical waiting room, and by consequence, healthcare and access more broadly, through a series of visual art installations that combine image, sculpture, sound, performance and social interventions. Dialog is encouraged through interactive and experiential activities in which participants contribute personal stories and visual images through on-site activities and social media engagement, which in turn drives thematic development. Collectively, these inquiries examine the power of art to lend content to the waiting room, which is generally experienced as empty, silenced, inhibiting, and reframe that space as empowering, healing and full of agency. www.thewaitingroomprojects.org

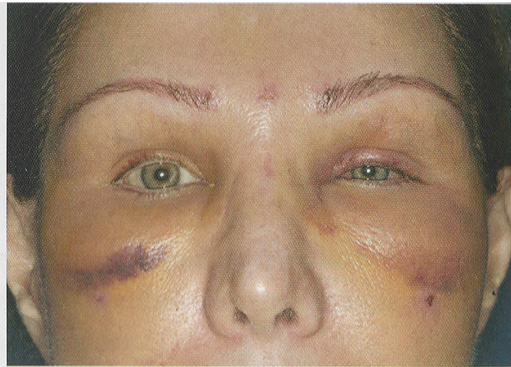
Marguerite Perret's arts-based research and social issue engaged studio practice confronts the promise and complications inherent at the nexus of art, science and medicine. To this end, she collaborates with other artists, scientists, writers, public agencies, museums and healthcare professionals. She is the lead artist for the international and interdisciplinary dialogue "The Waiting Room Projects," and has presented her collaborative work nationally and internationally in Boston, San Antonio, San Jose, Washington D.C, Falmouth, UK, and the Netherlands. Commissions, temporary public art projects, installations and exhibitions include those at the University Museum, Groningen, the Netherlands, the International ZERO1 Biennial in San Jose, California, the Spencer Museum of Art, the Loyola University Museum of Art, Chicago, the Wichita Art Museum, and the Fisch Haus XX6 International Invitational. Additionally, she has been awarded a variety of artist residencies at the Montalvo Arts Center, Anderson Center for Interdisciplinary Arts, Salina Art Center, and the Ragdale Foundation. Publications include *A Waiting Room of One's Own: Contexts for the Waiting Room* (2011), and "things you should know about"/*Speak Loudly* booklet series (2013 and ongoing). She was the 2008 recipient of the A. Roy Myers Excellence in Research Award, and has received project grants and support to travel internationally where she documents natural history and medical museum collections as part of an ongoing project that explores the specimen/artifact as a product of how we represent and consume nature and our bodies.

Perret is currently an associate professor of art and design at Washburn University in Topeka, Kan., where she teaches digital imaging, foundations design, 21st Century Art Practice and special topics courses in art and ecology, and science and art. She lives and maintains a studio in Lawrence, Kan.

Bruce Scherting is the Director of Exhibits and Design at the University of Kansas Biodiversity Institute Natural History Museum and teaches in the Museum Studies Graduate Program. Previously he worked at the Field Museum and the Shedd Aquarium, both in Chicago, and the Natural History Museum at the University of Iowa, where he also taught in the Museum Studies Program. Scherting has worked collaboratively with Marguerite Perret to develop art installations for more than 15 years. bruce-s@ku.edu



Preoperative



6 days postoperatively



5 weeks postoperatively



1 year postoperatively

Anti aging strategies 1911-2013 How Cosmetic/Plastic Surgeons view and present their patients
Top image taken from "Plastic and Reconstructive Surgery" by Fredrich Kolle (Appleton & Co. 1911, p. 332).

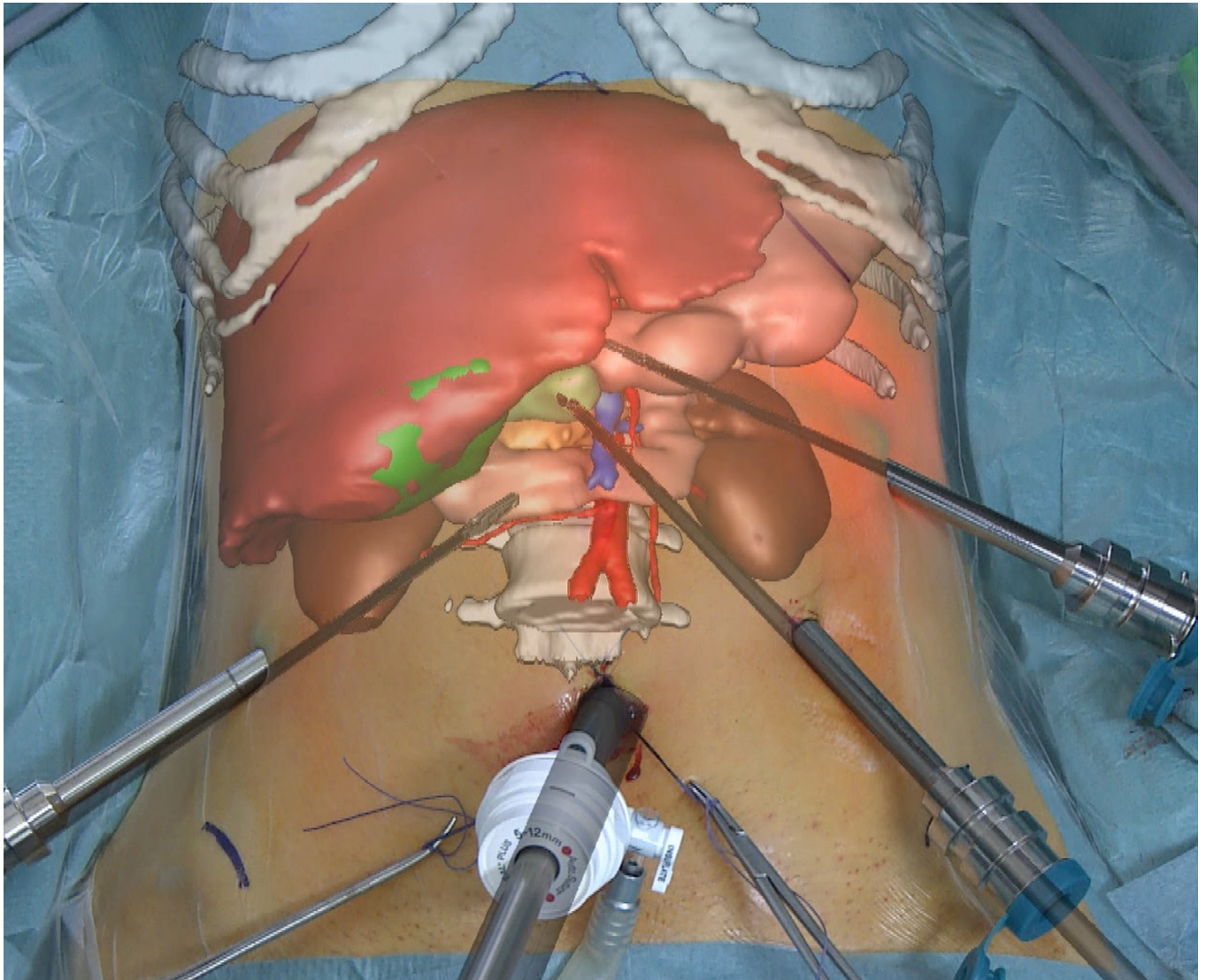
Bottom image taken from Coleman's chapter, "Structural Fat Grafting: Basics and Clinical Applications in the Hand, Face and Nose", in "The Art of Aesthetic Surgery" by Foad Nahai. Image by Sydney R. Coleman. (CRC press 2010)

Cosmetic Surgery and the Imagined Body

Jane A. Petro, MD, FACS

Visual imaging (the clinical exam) is a declining skill in 21st century medicine. Being able to look and see in both the practical and philosophical sense are being supplanted by radiologic imaging and laboratory testing with computerized algorithms for treatment which avoid direct contact with the patient. In cosmetic surgery, failure to accurately recognize and imagine (image) what the patient wants/sees when they seek body alterations results in a disastrously disappointed patient. Outcomes research indicate that 20% of cosmetic patients believe their outcome is unsatisfactory. How do we teach the necessary skills for looking at patients, hearing them, and determining what exactly would best meet their needs/expectations? Minimal invasive technology, injections with toxins and fillers have expanded the pool of “cosmetic surgeons.” Liposuction is the most commonly performed surgery in the world today. Body image, it’s manipulation through technology, and patient expectations are part of a 22 billion dollar/year enterprise. This presentation will explore the use of imaging in preoperative evaluation, and the use of psychosocial evaluations of patient expectations in relation to the training and expertise of the physician. The conflict between cosmetic surgery and cosmetic medicine as it relates to body image will be explored in the context of this commercialization and the ethical issues it creates.

A retired plastic surgeon with 35 years of academic experience including burns and microsurgery, breast reconstruction, and cosmetic surgery. Visual imagery is crucial to the field of plastic and cosmetic surgery both for documentation, outcomes research and patient education. Over the years I have worked with Eric Avery on visual representations of medicine, relating to AIDS/HIV, imagery of practice (especially surgical) and exploring the role of art in medicine. I co-authored the book “Rising from the Flames” with Howard Carter, Jr, placing burn survivorship, and the role of fire, into a literary, historical and philosophical context.



Augmented Reality Surgery. Institut de recherche contre les cancers de l'appareil digestif. URL: <http://www.ircad.fr/software/images/AR-Surg-im.jpg>; 1.2.2014

The medical image between vision and visualization

How Augmented Reality is going to change the surgeon's point of view

Moritz Queisner, PhD

The trend towards minimally invasive and robot-assisted surgical procedures confronts medical treatment with a dilemma: on the one hand, there are possible benefits for the patient, such as less trauma, shorter hospitalization, and an improved recovery process. On the other, these procedures involve fundamental difficulties for the surgeon, whose ability to access the operation field and to navigate the instruments is diminished in comparison with traditional open surgery. This increased surgical complexity results from the fact that in image-guided surgical interventions the patient's body needs to be accessed remotely with special instruments that have to be guided by visualization techniques instead of interventions executed within the range of the physician's hands and eyes.

Performing surgery via visual interfaces such as screens or optical devices introduces a layer of iconicity between physician and patient that presents new challenges to iconic knowledge, clinical practices and technical solutions. Major visualization deficits of image-guided interventions include the limitation of the surgeon's field of vision, the lack of immersive hand-eye coordination, and the gap between three-dimensional perception and two-dimensional images. Despite the introduction of flexible camera angles, force feedback systems or stereo video endoscopy in response to those deficits, minimally invasive surgery is still far from achieving the direct visualization advantage of open surgery. In order to tackle that problem the paper will present and evaluate current approaches from medical augmented reality and computer vision research that promise to close this visual gap by displaying the operating field from the surgeon's perspective. It will address the methods and discuss the problems that go along with the goal to eliminate the disparity between vision and visualization by augmenting the point of view with visual images. The paper argues that the implementation of augmented reality into medical therapy corresponds to a form of iconic knowledge that represents a key task for the medical humanities.

Moritz Queisner is a research associate in the Image Guidance project at the Humboldt University Berlin's "Image Knowledge Gestaltung" cluster of excellence. He holds a Master's degree in European Media Studies and is a member of the "Visibility and Visual Production: Hybrid Forms of Iconic Knowledge" research training group at the Institute for Arts and Media of the University of Potsdam and the Potsdam University of Applied Sciences. His PhD thesis *Augmented Vision* investigates the technologization of visual practices in the context of augmented reality. Research focus: image theory, augmented reality, theories of visual perception, augmented vision, image guidance, optical devices, cultural techniques of vision, Medical Humanities, German media theory.



Life Space (2007)



Embodied Workspace (2007). Photos taken by General Practitioners in research study.

A bio-photographic study of doctors' inhabited workspace and self-image

Frances Rapport, PhD; Marcus A. Doel, PhD

Introduction and Aims: New performance-related contracts affect the work of general practitioners (GPs) and re-define roles with considerable social and institutional pressure brought to bear on reappraising practice structures. In such a climate, this study explored GPs' perceptions of how they inhabit their workspace, and the relationship between practice, environment and sense-image. In addition, it considered the potential for bio-photographic material to inform health research.

Method: 12 GPs were randomly recruited from all registered Swansea practitioners, stratified according to seniority: within 3 years of appointment; over 3 years; and senior partners. GPs took photographs of work environments and wrote biographies about space and practice – analysed using visual content and context analysis, and thematic analysis.

Results: Mixed-method analyses revealed 4 themes: (1) the *work* of space, which tends to efface the labour of GPs; (2) the embodied *re-appropriation* of instrumental workspace, primarily through personalization, domestication, and dissimulation; (3) the expansion of workspace beyond healthcare to embrace a more holistic sense of *life space*; and (4) the division of workspace into *sacred* and *profane* spaces. Overall, GPs appeared ambivalent about their work environments, spending time and energy creating 'best fit' spaces, with a tendency for malfunction and misfunction to become an habituated part of daily routines. However, whilst some seem helpless in the face of change, many make their presence felt through embodied, personalized, and auratic spaces.

Conclusion: Bio-photographic data can enrich understanding of the impact of environment on practice, whilst results complement findings in other fields: the more aesthetic the work environment, the greater the ability to maximize 'best practice'. This has implications for developing healthcare settings to engender a more productive relationship between individual practice, sense of self and inhabited workspace.

Frances Rapport is a social scientist with a background in the Arts. She is Professor of Qualitative Health Research at the College of Medicine, Swansea University, Director of The Qualitative Research Unit, and Director of Qualitative Enquiry Supporting Trials. Frances has Visiting Professorships in: Norway, Bournemouth, The US and Saudi Arabia, and research interests that include: Methodological advances in health research, qualitative methods in clinical trials, and public perceptions of chronic illness and trauma. Frances has published over 75 journal articles and 3 books, most recently a book describing Holocaust survivor testimonial in ethnographic poetic formats. She currently supports the Graduate Entry Medicine Programme, examining the impact of narrative reflective writing on professional development.

Professor Marcus A. Doel is Professor of Human Geography and Co-Director of the Centre for Urban Theory at Swansea University, Wales UK. He is also the Deputy Head of the College of Science and the Deputy Pro-Vice-Chancellor of Swansea University. Marcus has written widely on social and spatial theory, the history and philosophy of Geography, and patient-centred professionalism, and he has a particular expertise in poststructuralism, postmodernism, and deconstruction. He is the author of *Poststructuralist Geographies: The Diabolical Art of Spatial Science* (Rowman & Littlefield), and the editor of books including *Jean Baudrillard: Fatal Theories* (Routledge), *The Consumption Reader* (Routledge), and *Moving Pictures/Stopping Places: Hotels and Motels on Film* (Lexington).



Body and narrative in medical acupuncture practice.

A visual anthropological essay in clinic framework

Gilles Remillet, PhD; Lucia Candelise, PhD

Some medical documentaries are centered on the relationship of care within the medical framework [IE: *Hospital* (F. Wiseman, 1970), *Les patients* (C. Simon, 1989), *Ils ne mourraient pas tous mais tous étaient frappés* (M.A. Roudil, S. Bruneau, 2006), or *La consultation* (H. de Crécy, 2007)] but the approach they offer is seldom medical and anthropological. In this presentation, we propose to offer our reflection on anthropological-films shot in France about the physician/patient relationship during acupuncture sessions (within hospital or private consultation framework).

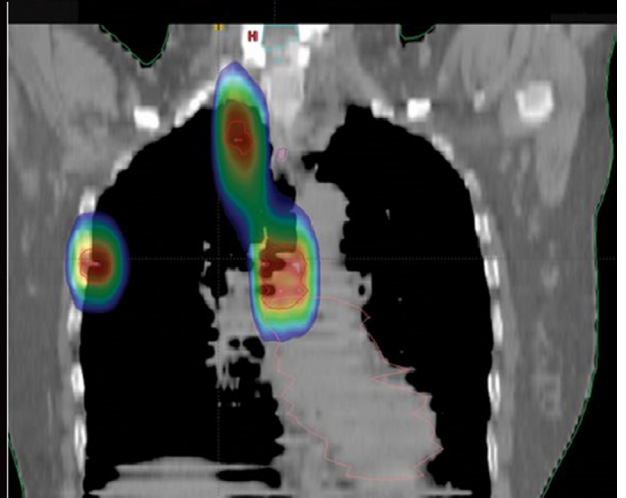
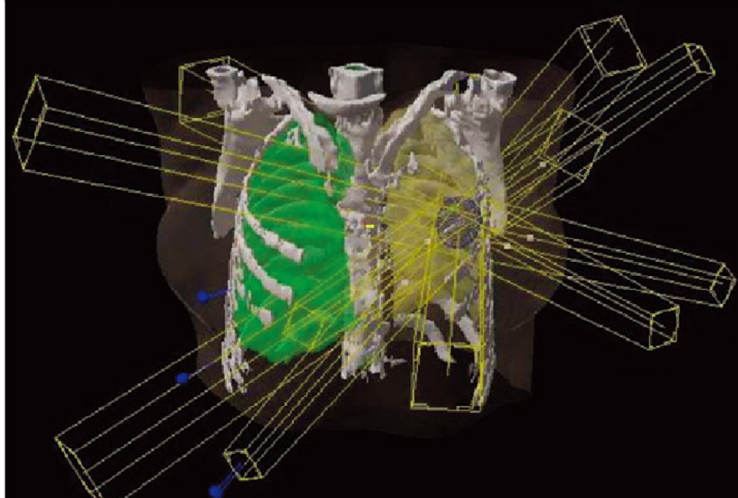
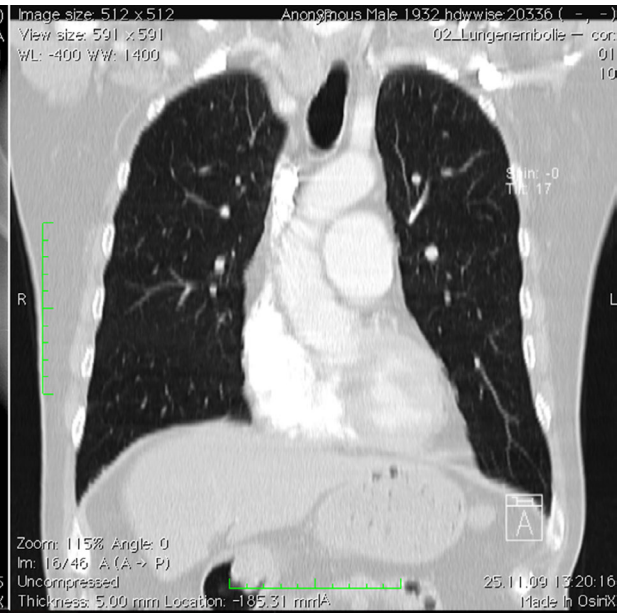
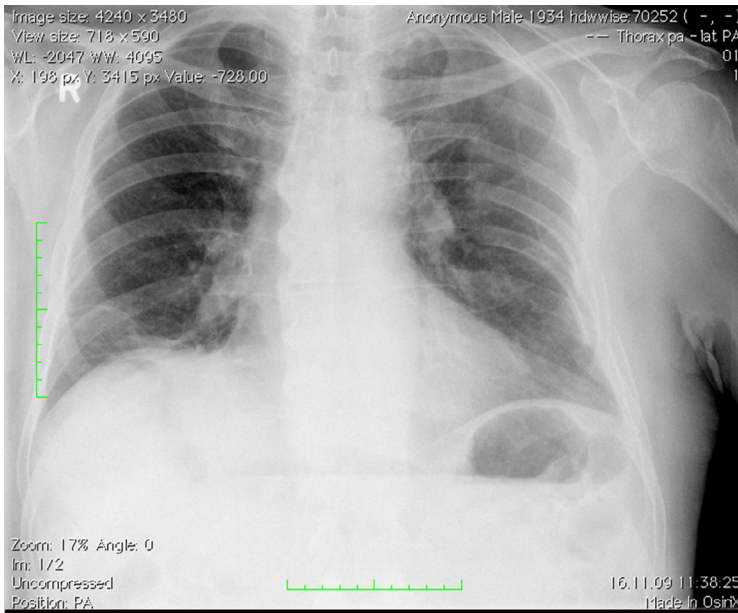
In France acupuncture as medical technique is frequently perceived as a reaction against or a complement to biomedical knowledge and practice. Indeed, acupuncture tends to be presented as more open than regular medicine to a medical approach that integrate a global vision of the Human Being and as more attentive to the patient's narrative about their suffering and emotions.

This raises the question of the way medical interpretations could be formulated from the patient's narrative about his suffering?

In the case of acupuncture therapy, where the healing process is done on the spot (the acupuncturist needles stand in for the conventional physician drugs), we want to show that the use of films as survey practice can be particularly productive to provide medical anthropological data and their analysis. We also want to evaluate the efficacy of epistemological and methodological propositions set up by visual anthropology in the medical fieldwork.

Gilles Remillet is anthropologist and film-maker. He is member of *Histoire des arts et des représentations (H.A.R)* research team below the Université Paris Ouest Nanterre la Défense where he is professor (*Maître de conférences*). He is also member of *Comité du film ethnographique, Paris* (<http://comitedufilmethnographique.com>) and researcher associated to the IREMAM, CNRS-MMSH Aix-en-Provence. He teach history, theory and practice of visual anthropology. His researchs are on visual anthropology, documentary, the worker's milieu, helth and medicine.

Lucia Candelise is historian of medicine and medical anthropologist. She is *Maître assistante* at the Gender Studies Institute, Sociology Departement of the Geneve University. She is also member of SPHERE (Science, Phylosophy and History), UMR 7219, CNRS/Paris 7; the *Institut universitaire d'histoire de la médecine et de la santé publique* (IUHMSP-CHUV), Lausanne and the *Centre d'études sur la Chine Moderne et Contemporaine*, UMR 8173, EHESS, Paris. Currently she works on the integration of Chinese healing practices in the European medical contexts.



Visual Epistemics in Thoracic Imaging and Intervention - CR, CT, SBRT, and Tomotherapy. Images on top by author, below on the left SBRT, URL: <http://synapse.koreamed.org/ArticleImage/0036CRT/crt-45-155-g001-l.jpg>, on the right Tomotherapy, URL: <http://ar.iiarjournals.org/content/33/2/655/F1.large.jpg>

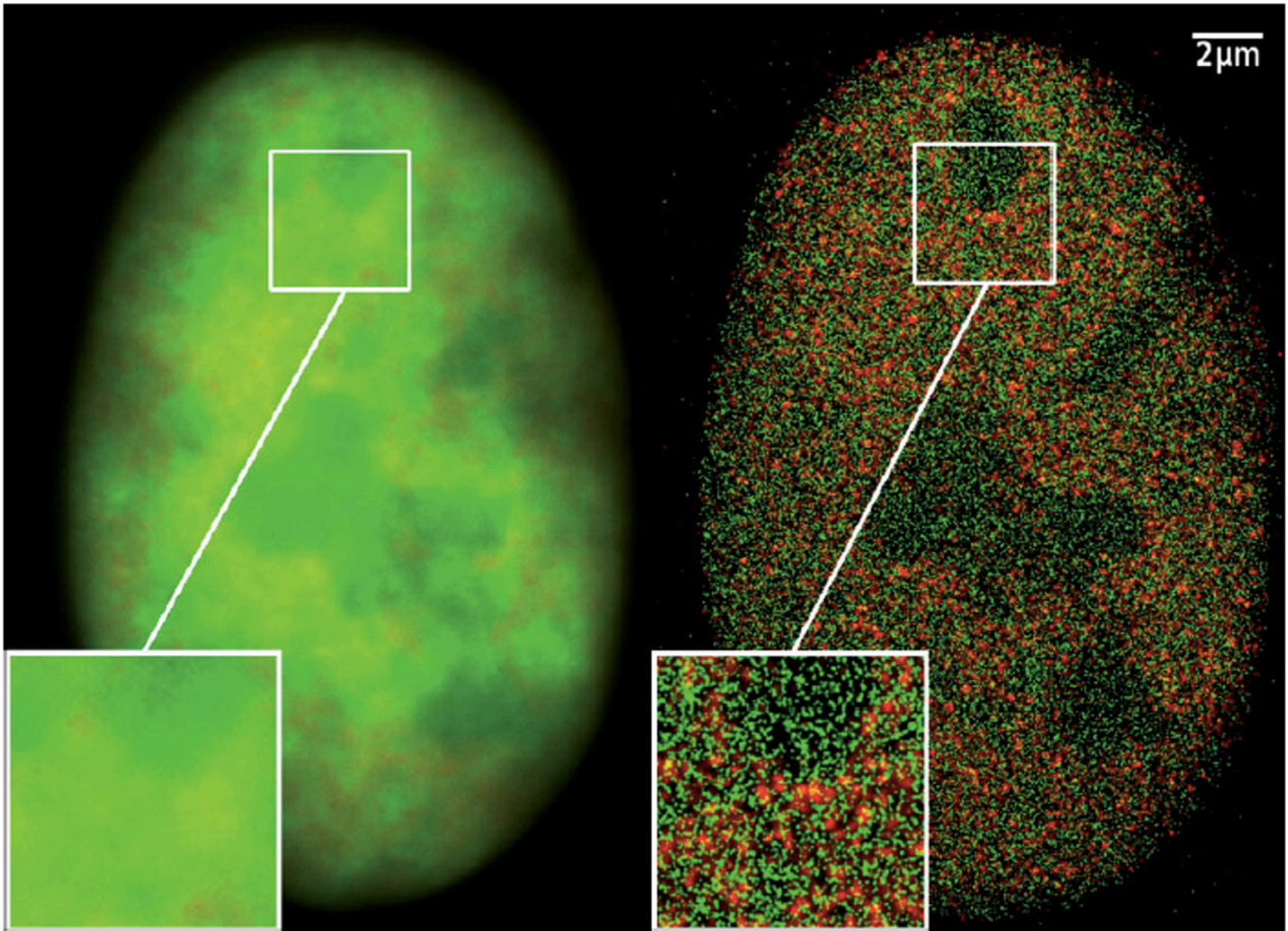
Talking Images:

Visual Epistemics & Epistemic Shifts in 20th Century Medical Imaging

Anna L. Roethe, MD, MA

Rooted in visual cultures of anatomy and pathology, the epistemic complexity and capacity of medical images in clinical practice nowadays postulate a profound understanding of the multidimensionality to which medical visualizations implicitly – and often invisibly – refer. Having been significantly expanded during the past 100 years' evolution in medical imaging technologies into new research areas (such as physics, nuclear medicine, radiosurgery, computer graphics, and design), current scientific approaches require decidedly interdisciplinary methods that are able to include both historiographical structures of medical science and technology on the one hand and visual culture's evolution towards a complex, image-centered and digitally manipulable, this ephemic, epistemic practice on the other. The paper therefore starts by exploring, the basic epistemic dimensions of the visual medical image, including its specific cultural impact. It goes on to consider epistemic key determinants in clinical diagnostic routine, and concludes by focusing on recent epistemic shifts in image-guided therapeutic interventions. Examples of sectional imaging techniques (conventional and computed radiography, computed tomography, magnetic resonance imaging) will be used to trace development in image evolution and interpretation, with reference to observation that tend to consider medical images not only as 'epistemic things' (Rheinberger) but also, progressively, as clinical instructions and epistemic actions themselves. Thus, by defining noticeable paradigm shifts in medical image usage, an appropriate rethinking towards a more image-based research approach in commonly text-based medical humanities will be outlined.

Anna L. Roethe is a physician and cultural scientist. She studied medicine, literature, Jewish culture, Philosophy, and art history, and currently works as a research associate at the DFG Cluster of Excellence *Image Knowledge Gestaltung* at the Humboldt University Berlin, implementing her primary research interests – visual epistemics in diagnosis and treatment situations, roles of visual (medical) Knowledge in public health discourse, cultural narratives of health and disease – Within the projects *Image Guidance And Gesundheit And Gestaltung/Health And Design*.



Christoph Cremer: Microscopic images from a cancer cell. Comparison between conventional fluorescence microscopy (left) and localization microscopy (right), 2011.

[Reprinted from: Cremer, Christoph. 2011. "Lokalisationsmikroskopie: Lichtmikroskopie unterhalb des Abbe-Limits." *Physik in unserer Zeit* 42 (1): 21-29; here: p. 21.]

Biological Knowledge At The Threshold Of A Media Shift

Nina Samuel, PhD

Contemporary visual epistemic practices in the biological sciences raise new questions of how to transform aniconic data measurements into images, and how the process of an imaging technique may change the material it is 'depicting.' This talk investigates microscopic imagery, which is used by medical scientists and biologists alike. The core argument is developed around the analysis of two recent methods, developed between 2003 and 2006, indicating a major media shift: localization microscopy and photo-induced cell death. Far from functioning merely as illustrations of work done by other means, images can be determined as tools for discovery in their own right and as objects of investigation. Both methods deploy different constellations of intended and unintended interactions between visual appearance and underlying biological materiality. To characterize these new ways of interaction, the talk introduces a new notion of 'operational images' and 'operational agency.' Despite all their novelty, operational images are still subject to traditional conventions of seeing and depicting. To enable the migration between different cultures of seeing, scientific images become an aesthetic and epistemic battleground between data, imagination, and the psychology of perception. Grappling with theoretical considerations by Gaston Bachelard, Ian Hacking, and Sybille Krämer, the talk attempts to give a new answer to one of the key questions of visualization in the medical humanities: as to whether images have the capacity to intrinsically change the depicted subject matter itself.

Nina Samuel is an art and science historian and independent curator based in New York City and Berlin with a PhD in Art History from Humboldt University, Berlin. Her thesis, entitled "The Shape of Chaos", investigates visual epistemologies in the field of complex dynamics and drawing as a mode of thinking. After various research positions, among others with the 'Technical Image' group at Humboldt University and with the Max Planck Institute for the History of Science, Berlin, Nina spent the academic year 2011-2012 as Visiting Assistant Professor at the Bard Graduate Center in NYC where she curated *The Islands of Benoît Mandelbrot: Fractals, Chaos, and the Materiality of Thinking*. Nina's current exhibition project, *My Brain Is in My Inkstand: Drawing as Thinking and Process* explores techniques of drawing in contemporary art and science and opened at the Cranbrook Art Museum in Bloomfield Hills, Michigan, Nov 15, 2013. From December 2013 on, Nina accepted a new position as Postdoctoral Researcher at the Center for Literary and Cultural Research (ZfL) in Berlin where she will investigate instrumental images from cancer research, psychology, neuroscience, and trauma surgery to analyze the discrepancy between their practical uses and their masked or hidden epistemic preconditions. Nina has received scholarships and research grants from the Fulbright Program, the NCCR Iconic Criticism: The Power and Meaning of Images (eikones), Basel, and the Max Planck Institute for the History of Science, Berlin. She has lectured at institutions nationally and internationally, including the School of the Art Institute of Chicago; University of British Columbia, Vancouver; KW Institute for Contemporary Art, Berlin; Concepción Cuarentaiuno, La Antigua, Guatemala; and The Pavilion, Leeds, UK.



The Diagnosis (oil and chalk pastel on canvas, 6'x5') by Jac Saorsa
This drawing is from the *Drawing Women's Cancer* project: drawingcancer.wordpress.com

The Diagnosis

Jac Saorsa, PhD

Dr Jac Saorsa is a visual artist, researcher, author and educator, based in the UK. Her practice is deeply rooted in the Medical Humanities and constitutes an exploration of human experience in terms of an existential dialogue between sickness and health. It embraces an eclectic mix of emotion and intellect, contextualised in a broad Deleuzean aesthetic, where the symbiotic relation between theory and practice is a crucial and intrinsic factor. Current research includes the *Drawing Women's Cancer* project. Jac has published extensively and presented her work internationally. She is Director of The Broadway Drawing School in Cardiff, UK.



Portrait of Dorothy from the series *Equivalents*
Graphite on silk. 2008.

Universal Themes

Judith Selby Lang, MA

The portraits in my series *Equivalents* pose the conundrum of aging. As I draw (graphite on silk) the faces of elderly women, I marvel at what time and gravity has accomplished. With an impartial eye I delineate both the wrinkles and the grace of a life well lived. I look beyond the contemporary fascination with youth and celebrate the marks of wisdom.

Over the years I have created many portrait projects exploring such themes as AIDS, aging, and Alzheimer's. Each of my projects is posed as a question, an investigation of my private concerns about the face as a site of identity. It is my intention that the answer be transposed into the universal themes of growing up, growing old, growing closer, growing wiser. Time, process, and personal relationships along with traditional art media inform this process. Since each project is a response to a dynamic question there are always the challenges and opportunities of the unexpected. Even though there are rules and structure, I never know what I will discover. And, although I am often exploring difficult social issues, the formal aspects of beauty, composition, form, and craft are primary.

A portrait is not just a drawing of the outer person, it is a summation of the life lived: the lines and crevices, the events and junctures of experience. My *métier* is the human condition. It is my hope that through my renderings we can really see another person and in them, reflections of ourselves.



**Visualization and the Empathic Response:
The Use of Movies and Literature to Foster Empathy**

Sally B. Shigley, PhD; Lauren Fowler, PhD

Visual cues can be an important part of feeling empathy. Literature is also a good vehicle for eliciting empathy. This study was designed to assess the ability of literature to elicit empathic responses in pre-health professional (PHP) students and to determine if seeing a visual image of an emotional experience affects people differently than reading about the same experience. Margaret Edson's play *W;t* was used to attempt to foster an empathic response in PHPs who either read the play or watched the HBO movie production of the play. Participants were assessed on self-report of empathy, including their own perceptions of how to define empathy, both prior to and immediately following reading *W;t* or watching the movie. Because self-report is susceptible to bias, participants were also assessed on physiological measures of empathy, including facial electromyography and galvanic skin response. Results demonstrated that exposure to both formats of the play increased empathic response in PHP students. However, seeing the movie had a much stronger effect on both self-report and physiological expressions of empathy. This study supports the idea that we can help train those in the medical professions to express empathy, and that using a visual representation of literature can be an effective means to accomplish this.

Sally Bishop Shigley, PhD is professor of English at Weber State University. She is currently pursuing research on pedagogy in medical humanities classrooms and establishing a medical humanities presence in her local medical community. Lauren Fowler, PhD is a Professor in the Psychology Neuroscience Departments at Weber State University. Fowler's research involves studying the effect of fatigue on performance in medical, military, and pharmacy personnel.



How Richard Selzer’s “Four Appointments with the Discus Thrower” illustrates the role of visual images in the medical setting

Mahala Yates Stripling, PhD

Richard Selzer’s six-page patient sketch, “The Discus Thrower,” shows us how the humanities are crucial in enhancing both empathy and clinical acumen. By identifying issues that connect us with the patient’s plight, it offers ways for healthcare professionals to respond meaningfully without shutting down and feeling inadequate.

In this reflective writing, Selzer enters the intimate space of a hospital room, tends to his patients wounds, answers questions, and fields his request for a pair of shoes (phantom limb syndrome). Then the doctor lingers outside of the door, bearing witness to the suffering of his bedridden patient, a blind double-amputee who is rebellious during the last days of his life. In his “vile repose” he asserts himself in the only way he can: he repeatedly throws his breakfast plate against the wall, an image Selzer aligns with the classical discus thrower who is as eternal as the patient is mortal.

In a culture of “How are you feeling today?,” the nurse or doctor may not be really listening to the patient. S/he has to rush on to do at least five other jobs at once in the hustle and bustle of diurnal hospital life. But the riveting image with sparse dialogue becomes a jumping off point to discuss a difficult patient. While it is not in the “When a Doctor Hates a Patient” genre, the challenge for the nonjudgmental caregiver is to understand what the patient is saying (and needing) with his actions. The beauty of the experience offered here – four glimpses of a patient – is that, while it offers no conclusions, it opens up dialogue.

Issues: Suffering, communication, and body image in the patient experience; dying and death; loneliness and rebellion; and the doctor-patient relationship. Caring for a traumatized patient often results in “compassion fatigue” due to the inability to process emotions. Selzer asks, what would you do to develop a more humanistic relationship with this patient?

Literary values: Selzer dramatically brings more than medicine into this scene by symbolically aligning his patient with an image from outside of medicine; irony abounds. We learn, along with Selzer, how an eavesdropping surgeon observes the unfolding action and creates art.

References: Myron. “The Discobolus,” a Greek bronze sculpture at the end of the Severe period, circa 460-450 BC. It exemplifies athletic harmony and balance but is considered unrealistic. Selzer, Richard. “Four Appointments with the Discus Thrower.” *The Doctor Stories*, Picador, 1998: 227-230.

Mahala Yates Stripling, PhD, a Yaddo and UTMB-Galveston fellow, is an independent scholar from Fort Worth, TX. She is the author of *BIOETHICS AND MEDICAL ISSUES IN LITERATURE* (2nd edition, U CAL MH P, 2013), a reference used worldwide. Dr. Stripling has lectured at Yale Medical School, the University of Texas Medical Branch-Galveston, and in the Great Hall of the Atheneum on Nantucket Island. See her website for recent journal publications, a readers’ theater presentation, and information on her forthcoming biography of Richard Selzer, M.D. <http://medicalhumanities.net/>



Image: (Detail) Relations of Cord segments to Spines, William Keiller, 1921. Reproduced Courtesy of the Truman G. Blocker, Jr. History of Medicine Collections, University of Texas Medical Branch. Photograph: Jerome Crowder, PhD

Contexts of creation, circulation and use

Paula Summerly, PhD, MSc, MPhil

My research focuses on repurposing and exhibiting historical visual images, drawing on my interdisciplinary academic background in the history of medicine, palaeopathology and photography. I have begun to see the practice of curatorship as archaeology. I now “dig” in archives and museums exhuming papers, images and artifacts. In 2012, I curated an exhibit of anatomical drawings by William Keiller (1861-1931) entitled *Abstract Anatomy*. In 1891, Keiller became the first professor of anatomy at the University of Texas Medical Branch, he was also an artist and curator of the anatomy museum. Several hundred of Keiller’s drawings lay largely undisturbed in the archive following his death in 1931. The exhibit featured close-up photographs of a selection of Keiller’s drawings to reveal the influence of mainstream artistic traditions, such as art deco on his anatomical drawings.



'Medulla' – visualisation

2. Final stage image: a 3D CGI rendering of human kidneys from clinical renal angiogram MRI data. Represented as glass-like structure rather than soft organic tissue. (Created by J. McGhee)

**The Claude Glass:
the role of the transparent body during the consultation**

Fionagh Thomson, PhD; John McGheem PhD

Historically, a patients' body 'belonged' to the doctor and the medical consultation was a one-way communication; where the patient offered up information on the 'body' only on request from the doctor. Today, in a shift towards patient-centred care, individuals are increasingly involved in their healthcare, which relies on an understanding of what is happening to their physical body, in order to make informed decisions with their health professional to develop care plans. Visual images, such as Magnetic Resonance Images (MRI), are proposed to be a useful communication tool in bridging the gap in knowledge between patient and health professionals. However, the purpose of the MRI has only been diagnostic since the early 1980s and their interpretation is restricted to the trained eye of the medical practitioner.

This paper focuses on the exploratory research of a 3D CGI artist (John McGhee) during a two-year residency in a radiology department; in response to an invitation to 'improve the realism' of existing MRI images and develop a communication tool with patients. The paper explores the question: in making new transparent representations of the somatic body, are communications improved between patient and doctor within the consultation space?

Dr Fionagh Thomson: I am a methodologist with an interest in how to create the space and time with participants to think through and describe their everyday lives: focusing on what people do rather than what they think they do. I work with video, camera, paper and conversation. Current research interests include: different representations of the 'body' in medical spaces, the extension of our senses through technologies in meaning-making, hermeneutics (Gadamer, Ricoeur & Ihde) and the challenges of accessing everyday embodied experiences not easily represented through pen or voice. My background includes educational philosophy, human geography and visual anthropology. Fieldwork locations include the rainforests of Papua New Guinea, the islands of the Scottish Hebrides and the consulting spaces of English NHS hospitals. Based in Geography at the University of St Andrews, I currently work on a blood donation project 'This study explores the relationship between creative arts and wellbeing in later life from participants' perspectives. Previous research projects include: Creativity, wellbeing and ageing (Newcastle University), the role of IT within health professional-patient interactions during the consultation, and the social and ethical implications of a European Nanomedicine (lab-on-a-chip) project.

Dr John McGhee is a 3D CGI artist, researcher and lecturer whose work explores arts-led modes of visualising complex scientific and biomedical data using 3D CGI techniques employed in the visual effects and animation industries. His research has resulted in a variety of collaborative projects across the visual arts and sciences. Examples include projects in clinical imaging, microscopy, asthma care and infection control, with a view to improved models of working between artists, patients, the public and healthcare professionals.



"Soldier with Facial Wounds" by Henry Tonks (1862-1937), 1916-1918. Courtesy of the Hunterian Museum at the Royal College of Surgeons of England

Face Value:**Patient Portraiture by Physician-Artists**

Nobue Urushihara Urvil, PhD

In today's health-care settings, consent is needed to represent patients. Despite the restrictions, physician-artists can create valuable windows into patients' pain and suffering and serve to maximize the recovery of the victims of various types of traumas.

The English surgeon-artist Henry Tonks (1862-1937) is known for his portraits of soldiers whose faces were wounded in World War I. In Tonks's time, patient autonomy was unheard of, and the physician's authority and medial paternalism were taken for granted. According to Tonks's biography he abandoned surgery to pursue art but returned to medicine as an orderly when the war broke out and thought he could not help the soldiers with ruined faces as a surgeon but could only treat them as an artist.

Roy Calne (1930-) is an organ transplant specialist and artist. His drawings and paintings of his transplant patients suggest that there is a dramatic change of patients from passive recipients of medical intervention or health-related decision to active participants in art as a therapy and a means of public education. Calne's art works demonstrate the surgical and technological possibilities of medicine and the spiritual and emotional support that art can grant.

In elaborating the significance of those physicians' portraits of patients, the medical humanities can play a vital role in deliberating patients' active involvement in their care from the angle of art's therapeutic effects and viewers' more empathetic participation in art in the future.

Nobue Urushihara-Urvil received BA in English language and studies and MA in American literature and taught English to undergraduates in Japan. After she received a Ph.D. in the Medical Humanities from the IMH, she worked as a studio assistant to the psychiatrist-artist, Eric Avery, MD, former faculty of the IMH. She serves as a group facilitator in the HEP of the Practice of Medicine 2 and the medical humanities segment of the POM1 at UTMB. She works on translating Japanese narratives of illness into English and studies the narratives of caregiving, healthcare and insurance system, and aging culture in Japanese society.

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