

Science, Medicine, and Culture

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Featured Speaker

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In all of my work, I am interested in analyzing the language, images and narratives through which scientific theories (from genomics and from emerging infections) are depicted in mainstream culture and discussed in specialist journals. In some pieces, I show how popular media, from journalism to fiction and film, treat scientific themes and shape how the public understands the science. In turn, I argue that these depictions come to influence the practices of scientists themselves. In other talks and essays, I take a literary critical approach to non-literary works to show how certain assumptions and representational conventions are at play and how they affect the outcome of the scientific research. I am especially interested in how classificatory systems draw on familiar assumptions and conventions, which affect the research as well as how it is presented to specialist and general audiences. My two primary areas of inquiry are the epidemiology of emerging infections and the genome sciences.

I have nearly completed a book-length manuscript, *Contagion: The Anatomy of an Idea in the Age of Modern Medicine*, about the popular representation in fiction, non-fiction and film, of emerging infections, and I am currently at work on a book-length study, *Clones, Chimeras, and Other Creatures of the Biotechnological Revolution: Genomics and Popular Culture*, which considers the depiction of genomics in a variety of contexts: popular novels and films, specialty journals and mainstream news sources, legal cases and policy decisions. In that book, as in the classroom, I study the terms and stories through which the public learns about biotechnology as well as the language and images of scientists' descriptions of their research. I have found the scientists with whom I have worked extremely receptive to—actually, fascinated by—what they learn about their own assumptions by attending to their writing in this way.

I have presented this work widely, and I keep in mind the many audiences I have addressed, from medical professionals to biotechnicians, bioethicists to legal theorists, humanities scholars to policy analysts. I am working to fashion both a vocabulary and a set of concerns that will reach all of them. The issues raised both by epidemiology and by the genome sciences cannot be adequately addressed from within traditional disciplines. In one of the essays in my collection, for example, I show how the legal language used to respond to a man's claim that he had the right to profit from the immortal cell line derived from his excised spleen not only distorts the science, but also changes the ethical issues in the case. Through such examples, I demonstrate the importance of thinking about these questions across disciplinary fields.

Genomics Talks

What's in a Cell?: John Moore's Spleen and the Language of Bioslavery

Developments in biotechnology have important implications for the definition of “human being.” This talk uses literary critical analyses to consider the language, images and narratives through which these issues are being discussed and debated. In particular, the talk will address debates surrounding the development of immortal cell lines and transgenic experimentation. My focus will be on the use of the 13th Amendment to the U.S. Constitution (the amendment that prohibits slavery) in legal cases and journalistic discussions and of the metaphor of bioslavery in popular fiction and film. . I will discuss how the invocation of slavery reconfigures the debate about the ownership of gene sequences and body parts as well as how it registers anxieties about the ways in which genomics is reconceptualizing human being.

Suggested Reading/Viewing: Robin Cook, *Chromosome 6* and *The Planet of the Apes* (film, dir. Tim Burton, 2001); optional: *Planet of the Apes* (film, dir. Schaffner, 1967)

Blood and Stories: How Genomics is Rewriting Race, Medicine and Human History

This talk begins by examining the debate in medical and science journals over the past two years about race and genomic medicine. The debate centers on the question of whether or not “self-identified race and ethnicity” are useful classifications for scientific research on genetic disease. I begin by attending to the language of the medical and scientific articles and consider the social, scientific and medical consequences of reintroducing a biological definition of race into public debate in the U.S. at the present time. I then move to a consideration of the assumptions of population genomics, which is the site of the research on race and genomics that underlies the medical debates. My central text is Spencer Wells's PBS documentary, *The Journey of Man*. I show how this documentary, which argues for a revision of human history (specifically, the routes of human migration) based on the evidence offered by DNA, conforms to prior narratives of western progress and tells a familiar story. I show an attention to language, images and stories demonstrates where the science ends and the story-telling begins, and I argue for an understanding of genomics as an aspect of a contemporary western creation story (following Spencer Wells's own language in the documentary). I then return to the question of race and genomic medicine and suggest the importance of cross-disciplinary conversations in this area between scientists and cultural analysts.

Suggested Reading/Viewing: *The Journey of Man* (documentary, Spencer Wells, 2003); optional: Spencer Wells, *The Journey of Man* (book)

Emerging Infection talks

Imagined Immunities: Emerging Infections in Popular Perspective

Wolfgang Petersen's 1995 film, *Outbreak*, tells a formulaic story, tracking an Ebola-like hemorrhagic virus from a village in Zaire to a northern California town and chronicling how a team of epidemiologists contains the outbreak and saves the town. The film was one among the many fictional and non-fictional accounts of exotic disease outbreaks that proliferated in the 1990s and brought the problem of emerging infections to the American public. The topic quickly became the stuff of popular culture, from the mainstream media to fiction and film: the characteristic means through which scientific topics reach the public. Through these stories, we

can document the emergence of representational conventions—evocative images, stock phrases and predictable plot lines in the journalism and science writing as well as the fiction. Such conventions are inevitable; they help us to make sense of the world. But there are many ways to describe a scene or tell a story, and each such choice affects what we see and how we respond to it, powerfully shaping experience: in this case, the social and medical experience of disease. In this talk, I will draw on examples from a variety of fictional and non-fictional sources to explain the emergence of the “outbreak narrative” and the idea of emerging infections that it underwrites. I will discuss the social and medical consequences of that narrative and suggest an important role for the cultural analyst in the study of global health.

Suggested Reading/Viewing: Richard Preston, *The Hot Zone*; *Outbreak* (film, dir. Wolfgang Peterson, 1995)

Optional: Robin Cook, *Invasion*; Patrick Lynch, *Carriers*; Laurie Garrett, *The Coming Plague*

“Typhoid Mary” and the Concept of the Healthy Carrier

This talk considers the journalistic accounts of the first case of a healthy human carrier of typhoid, the notorious “Typhoid Mary.” Since George Soper first introduced her to the medical community in 1907, she has become a figure of reprobation, fascination, fear and pity from her own moment to the present. In my talk, I reconstruct the narrative that Soper fashioned to introduce a new scientific theory—the idea of the healthy carrier—and the nascent science of bacteriology that enabled it both to the medical community and to the general public. Using a literary work (Theodore Dreiser’s *Sister Carrie*) as well as medical and sociological writings on prostitution, I demonstrate the existence of narratives that preceded and helped to shape Soper’s story of Mary Mallon.

Suggested Reading/Viewing: Theodore Dreiser, *Sister Carrie*

Question: I can supply handouts of Soper’s writings on Mary Mallon. Would you like me to send you those?

Communicable Americanism: Theories of Space and Contagion in the Early Twentieth-Century Concept of the Ghetto

This talk explores the work of the first urban sociologists, notably Robert Park, to show how early theories of bacteriology, and the idea of contagion that grew out of them, informed their articulation of the spatial concept of the ghetto. Using a novel (Abraham Cahan’s *Yekl*), which had an important impact on the sociological theory of the ghetto, as well as several sociological studies of the concept, I show the mutual influence of ideas about contagion and immigration/assimilation and argue that the ghetto, as it was fashioned in fiction and sociology, offered an antidote to the paradox of assimilation. I suggest as well that the fashioning of the concept of the ghetto in early urban sociology in the U.S. offers important insight into the articulation of the concept of “culture” that still has purchase in American Studies and that registers the impact of biological theories of contagion. That impact can help to explain the implicit and often unnoticed pathologization of certain places, people and behaviors in the U.S.

Suggested Readings/Viewings: Robert Park, “The City,” *Journal of American Sociology*, 1915; Abraham Cahan, *Yekl*

Viral Cultures: Virology and Cold War Ideology in the 1950s U.S.

This talk chronicles the mutual animation of theories of virology and Cold War ideology in the U.S. in the 1950s. I document how the popular depictions of virology in the U.S. media in the 1950s (which was amplified by the development of a polio vaccine in the middle of the decade) and the discussions of U.S./Soviet relations during the same period gradually began to borrow each other's metaphors, which increasingly changed how both were conceived: viruses became "sneaky" and "sinister" while Communism became "contagious." I argue in this talk for the power of language and images to influence our lived experience, focusing in this case on medicine and politics: the transformed image of the virus helped to increase funding for virological research (at the expense of immunology) and the image of Communism as contagious helped to change the strategies through which the government addressed the alleged communist threat. In the second half of this talk, I consider the serialized story, novel and film versions of Jack Finney's *Body Snatchers* to show how popular fiction and film become cultural narratives that subtly reproduce conceptual connections. I conclude by suggesting a connection between the narrative developed through the multiple versions of *Body Snatchers* (themselves evidence of a cultural fascination) and the early epidemiological theories of HIV/AIDS.

Suggested Reading/Viewing: Jack Finney, *The Body Snatchers*; *Invasion of the Body Snatchers* (film, dir. Don Siegel, 1956; film, dir. Philip Kaufman, 1978)

'A Bug with Ambitions': The Invention of "Patient Zero"

This talk continues and develops the previous argument (from "Viral Cultures") by showing how the infamous "Patient Zero," the Canadian airline steward who allegedly introduced HIV into North America, was a logical "invention" in a predictable (and scientifically inaccurate) epidemiological account. I begin this talk by discussing the popular appeal of epidemiology and how this important science becomes, in the hands of popularizers, a kind of "epidemonology," an account that demonizes certain individuals, groups and places through their alleged role in an outbreak story. The account of HIV/AIDS developed especially in Randy Shilts's best-selling 1987 *And the Band Played On* (which also became a film) corresponds in important ways to familiar "outbreak narratives" (the popular fiction and non-fiction accounts of emerging infections that I describe in "Imagined Immunities"). The figure of "Patient Zero" in Shilts's journalistic account is scientifically impossible but familiar to the genre of the outbreak narrative. In addition to Shilts's book, I will begin with a brief discussion of William Burroughs's work and will later discuss works of fiction and film that feature "Patient Zero" in some form (eg. Chuck Hogan's *Blood Artists* and John Greyson's 1993 avant garde film, *Zero Patience*).

Suggested Reading/Viewing: Randy Shilts, *And the Band Played On*; Chuck Hogan, *Blood Artists*

Optional: *Zero Patience* (film, dir. John Greyson, 1993); Robin Cook, *Invasion*