dents to compete for seats in seminars on film, philosophy, or even Foucault?

The exercise of considering elysian terrain in which sciences and the humanities function in the same socialist economy is meant to raise the possibility that the value of science-humanities interactions might extend beyond alterations in ways that doctors think about clinical issues or that humanities students converse about scientific matters. Such interactions might force a rethinking of the humanities portion of medical humanities in addition to the medical one. Engagement with literature is rightly assumed to make better medical practitioners. But would serious consideration of medical or scientific training make for different literary theorists? What might emerging scientific practices teach humanists about humanism? What new forms of collaboration, knowledge production, or dissemination might then emerge? By what means, and to what ends?

More radical still, such engagement might move beyond a discourse in which one discipline enhances another to an analysis of the ways in which literature and science are at times deeply, philosophically, and methodologically at odds. Here, attention might be paid not only to the aspects of science that can be mastered in a three-month semester like Davis's but also to the nuanced aspects that continue to elude, resist, or offend humanities sensibilities after three years or three decades of study.

In this anything-but-service economy, the sciences, too, would benefit from articulating their own disciplinary assumptions in relation to those of other points of view. And the interaction between science and literature would move past a relation in which one discipline is asked to breathe a finer spirit into another, to more respectful and ultimately more productive forms of interdisciplinarity.

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We Have Never Been Biological

We have never been biological. Across disciplines, human beings are hybrids, to use Bruno Latour's formulation, inhabiting the realm of what Donna Haraway calls "natureculture." Literature and biology, art history and physics, chemical engineering and philosophy approach the question of "human being" differently, but the tacit acceptance of a hybrid (natureculture) world is common to all these fields. So why does the question of the biological seem to be looming larger in the humanities in recent years?

The news media give us one answer. If the 1950s witnessed the dawning of the space age, the 1990s found us ensconced in the genome age. Genomic research offers the possibility of new forms of diagnosis and treatment in every area of medicine, new theories of human history, and new ways of thinking about human being. So the headlines proclaim, and the arts have responded. Genomics is at once promising and terrifying, utterly new and disturbingly familiar, amplifying questions that have long been resolved. The currency of genomics might help to explain what appears to be a contemporary spike in interest in the longstanding field of medical humanities and its offshoots in the cultural study of science and medicine.

Genomics is, of course, not the only topic in the news, and literary critics have contributed significantly to debates about other pressing issues, from torture and terrorism to global warming and religious fundamentalism. We are, after all, educators, and these are the defining issues of our time, inflecting our contemporary art and affecting the institutions in which we work. Moreover, we are custodians of cultural memory, and the concerns, the threats, and the possibilities humanity faces are anything but new. We have much to learn about human endeavors, anxieties, catastrophes, and potential from centuries of culture and criticism worldwide. Walter Benjamin called it *Jetztzeit*: the past animated by the present and the present illuminated by the past. The turn to biology the papers in this panel advocate should be understood in the context of broader discussions of what literary critics might

https://doi.org/10.1632/S0030812900109599 Published online by Cambridge University Press

add to human beings' collective understanding of their lived experiences across cultures and time. I join Jonathan M. Metzl in underscoring the opportunity that cross-disciplinary work offers us to articulate the nature of our own projects as literary critics and theorists.

The difference in the kinds of questions asked by bioethicists and by literary critics or theorists, for example, underscores the distinctive contribution that each makes to debates about the implications of scientific research. Bioethicists are increasingly turning to literary and cinematic works, as Jay Clayton has pointed out, because those works dramatize ethical dilemmas and stage how people might experience developments in biotechnology and medicine. Bioethicists are therefore most interested in plot. A literary-critical approach, by distinction, builds on the insight that literary works can give into how the circulation of language, images, and stories constitutes lived experience. These works animate assumptions embedded in everyday language and can thereby help us see how public perceptions are shaped. *Microbial warfare*, for example, is a conventional and apparently unremarkable expression that describes the "battle" between human beings and microbes. Researchers in infectious disease and epidemiology seem unable to resist ascribing human characteristics to microbes in their discussion of infectious-disease outbreaks, and literary criticism offers the tools to think about how the tendency to personify microbes both reveals and influences underlying conceptions of infectious disease; the way experts envision disease, in turn, affects its diagnosis and treatment.

The terms and concepts that circulate in specialist publications readily become the stuff of popular culture, where they are amplified in dramatic scenarios. *Microbial warfare*, for example, becomes—in popular fiction, film, and even video games—battles between monstrous human-virus hybrids and heroic scientists. This dramatization puts on display the assumptions embedded in the phrase. It shows how communicable-disease outbreaks are understood primarily as medical problems with medical solutions (vaccines, drugs, quarantine). Understanding outbreaks in these terms obscures the social dimension of the problem: how global poverty fuels pandemics. Malnutrition, overcrowding, and especially lack of access to health care are the most efficient vectors for the spread of disease. The popular manifestations offer insight into how *microbial warfare* demonizes the microbes as well as the particular human beings, practices, and locations associated with them, masking how disease expresses social inequities worldwide. As experts trained to read these stories, we have the tools to highlight the embedded assumptions and potentially redirect debates.

All the papers in the panel raise the question of audience. To whom are we speaking? Scientists? Policy makers? University administrators? Broader publics? Ourselves? The answer: potentially to each of these audiences, but not at the same time. Different audiences and occasions require different presentations, and the differentials of power and prestige between the sciences and the humanities on which each paper remarks return us to Metzl's call for incentives and to Clayton's point that we are not part of conversations to which we have much to contribute. Humanists are glaringly absent, for example, from Francis Collins's call, in a special issue of *Nature Genetics* on race and genomics, for "more anthropological, sociological and psychological research into how individuals and cultures conceive and internalize concepts of race and ethnicity" (S14). The omission speaks to how expertise is understood across fields and disciplines. If humanists want to engage in dialogues with scientists and policy makers, we need to articulate the nature of our expertise. Cross-disciplinary conversations can be frustrating: what constitutes evidence in the sciences significantly differs from what constitutes evidence in the humanities, and that is an especially difficult divide to cross. But cross-disciplinary conversations also provide us with opportunities for productive introspection. Addressing an audience that does not share our disciplinary assumptions can lead to thought-

https://doi.org/10.1632/S0030812900109599 Published online by Cambridge University Press

ful articulation and, in some cases, renovation of our methods and approaches.

The theories we fashion about art and the world are technologies of sorts. I mean by that analogy to reimagine both sides of the humanities-science equation (as befitting the project of biocultures). Each of these technologies shows some aspect of experience from a new perspective—magnified, telescoped, defamiliarized. And all act on, as they are a part of, the world. "The universe is made of stories," Muriel Rukeyser once wrote, "not of atoms" (467). Biocultures address the knowledge we in the humanities and our colleagues in the sciences produce when we start from the assumption that human beings are hybrids, made of both atoms and stories, and that change is indeed the condition of existence.

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Funding the Humanities through Biocultures

In *Profession 2005*, Louis Menand complained that the same theoretical paradigm has dominated the humanities during the last few decades and that new ones are sorely needed: "What [humanities departments] need to do is hunt down the disciplines whose subject matter they covet and bring them into their own realm" (14). Biocultures may be one of the new paradigms he was looking for, both theoretically and practically.

Biocultures refers to older and newer ways of thinking about the body. In research on breast-feeding, biocultural approaches define the contribution of physical anthropology to debates about infant feeding. In this context, such approaches are supported by evolutionary theory and can promote the kind of essentialism we often associate with a quasi-eugenic view about making better babies. But a biocultural perspective on breast-feeding also strategically injects arguments grounded in biology into debates about infant feeding, debates that some anthropologists felt were too focused on a bracketed sense of the cultural. In this sense, biocultural approaches seek to reorient the relation of culture to biology by suggesting their imbrication and mutual influence.

Lennard J. Davis's inauguration of biocultures as an emerging paradigm in humanistic disciplines is a similar kind of intervention—it rethinks C. P. Snow's "two cultures" conception through intellectual projects that break down or resituate barriers between the cultural and the biological. (Any feminist working the theoretical boundary between [or within] "sex" and "gender," as I have, knows that this is intellectually and existentially rich territory.) In the medical humanities, especially the subfield of cultural studies of medicine, the model of biocultures demonstrates one way in which disciplines can assert a mutual relation rather than comment on each other's practices. The exponential rise of bioethics as a field of inquiry and practice in the last few decades suggests that understanding the relation between the biological and the cultural will be crucial in the near and distant future. All of us on the panel agree that scholars in the humanities will not want to miss out on this development.

It is easy in the humanities to be cynical about the contribution that any of us can make in the realm of public debate and policy considerations. In my response to the panel, I focused on the way in which biocultures might revitalize the humanities, both internally and in the context of public culture.[1] The humanities suffer a diminished profile on many of our campuses and in the public sphere. The MLA has thoughtfully addressed this latter issue with the radio

https://doi.org/10.1632/S0030812900109599 Published online by Cambridge University Press