

Commentary: The Search for the Human

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With such a rich collection of articles as this issue contains, the only excuse for a response must be the privilege that an overview bestows. Looking at the articles as a group, I am struck by the dynamic that emerges between recuperations into existing perspectives and openings into unexplored territories. If recuperation reassures because it references the security of established values, openings point toward the exhilaration of embracing the new. At stake are issues central to understanding what it means to be human in the twenty-first century, including the relation of humans to nonhuman others, the constitution of national borders and the construction of national identity, and last, but scarcely least, the enactment of narrative form. In shifting through the various arguments, texts, and contexts presented in the preceding pages, I think that a fuller, more accurate, and more humane picture emerges from the operation of the dynamic as a whole than is presented by any one article, excellent as they are as individual pieces.

The recuperative impulse is starkly evident in Niels Werber's comparison of Tolkien's *The Lord of the Rings* with Nazi ideology. In Werber's view, the parallels between Nazi propaganda and Tolkien's fictions, in which "purity" of blood is the premier qualification for imperial rule, help to explain Tolkien's wide popularity with German reading audiences. Surely the point is not that Tolkien functions as a proto-Nazi—a view that could scarcely be defended given his commitment to Englishness—but precisely because he is *not* a Nazi sympathizer, the familiar ring of "blood" consciousness in his fiction can be appreciated without the guilt that would attend it if presented in a Nazi framework. Although Werber's argument is not directly concerned with the new technologies, his article provides a useful context because it demonstrates the complex dynamics by which a repudiated past can be sutured onto an apparently disjunctive future.

A conservative stance toward the new technologies is perhaps most cogently articulated in David A. Kirby and Laura A. Gaither's "Genetic Coming of Age." The compelling issue they raise is the "impact . . . [of] the manipulation of one's genome by other humans . . . on the nature of

self-identity.” They instance fictional examples where characters find profoundly disturbing the fact that their genetic makeup has been the result of deliberate design rather than random chance. Underlying Kirby and Gaither’s analysis are a number of assumptions, including that identity is largely (although not entirely) the result of genetic encoding, that humans want to believe their identity is not determined by exterior forces, and most basic of all, that humans *have* a “self-identity” and believe this self-identity to be of inestimable value. The conservative thrust of their essay lies less in the conclusions they reach than in the questions they pose and the ways in which they ask and answer them. That popular fictions are concerned with issues of identity is scarcely news, but neither is it an indication how people in the future, living under significantly different circumstances than those that obtain now, will be likely to consider genetic engineering. Citing Jürgen Habermas and Bill McKibben, Kirby and Gaither seem to agree with these critics that genetic engineering infringes on informed consent and constitutes an unwarranted imposition, as Habermas puts it, of the past on the future.

In considering these questions, it would be helpful to distinguish between the *potential* of genetically determined traits—a theoretical limit inherent in the genome dictating, for example, the maximum height to which an individual can grow—and the realization of that potential. While the genome determines the limit, the actual genetic outcome is a complex blend of heredity and environmental factors; in the case of height, the height achieved is sensitively dependent on the nutrition available during the growing years. Conscientious parents who possess the resources naturally try to maximize the actualization of such traits as height and intelligence, activities that have most of their effects before the age of informed consent is reached. Parents who lack the resources, by contrast, will perforce be unable to help their children actualize their full genetic potential. No one can choose the circumstances in which he or she is born, a fact that in the context of world poverty and hunger virtually ensures huge inequalities in genetic outcomes for millions of people. The very act of identifying genomic manipulation as an important ethical issue presumes a context in which members of an affluent and technologically advanced society can determine, through acts of choice, the genetic composition of their offspring, implying a privileged perspective that overlooks the much more common and pervasive problems plaguing groups that lack the basic resources to realize the genetic potential of themselves or their children.

This is not to say, of course, that we should *not* be concerned with genetic manipulation. It is to point out, however, that the context in which such questions as informed consent are raised itself implies

certain assumptions about having the resources to actualize genetic potential. Asking the question this way suppresses the recognition of how crucial resources are in determining genetic outcomes. If a broader perspective were adopted, the issue of informed consent would play out very differently than it does in Kirby and Gaither's construction of the issue. Nevertheless, within the context they posit, they convincingly demonstrate that conservative beliefs in identity and self-determination continue to occupy prominent roles in the cultural imaginary and hence also in debates about genetic manipulation in humans.

That the identity, autonomy, and free will of the conscious mind are constructions rather than unambiguous truths is highlighted in Harold Fromm's analysis of how he writes. Writing is, he suggests, more than a technology to record and preserve conscious thoughts; it is a complex set of activities that involve conscious and nonconscious cognitive activities coming together to form articulations richer than the conscious mind alone could have produced. Choruses of writers across history have offered similar testimony. Fromm's discussion demonstrates in a practical way that agency is distributed rather than singular, that cognition is dispersed throughout the mind and body rather than situated solely in the neocortex, and consequently that "personhood" is always already a collective endeavor. Similarly, for those who would identify the crisis of the "human" as a distinctively late-twentieth-century phenomenon, Lisa Lynch turns to fictions written in the early twentieth century to demonstrate that the kind of challenge presented to conventional categories by the posthuman was already under way long before genetic engineering and nanotechnology burst upon the scene.

The recuperative impulse takes more complex form in the texts Priscilla Wald analyzes, particularly in the notion of "bioslavery" and the related turn to nationalism in popular fiction as an answer to bioslavery. Wald examines the arguments in the court case John Moore brought against the medical researchers who developed a cell line from his extracted, diseased spleen. His lawyers maintained that capturing and developing cell lines from Moore's spleen commodified his biological tissue. By analogy with human slaves who were treated as property, the appropriation and sale of these cell lines was then constructed by his lawyers as "bioslavery." Acknowledging that new technical practices can indeed change the definitions of such key terms as "human" and "slave," Wald makes the important point that "in fact the idea of human being is not now, nor has it ever been, universally defined. The definitions of what, socially as well as biologically, actually constitutes a human being . . . remain, as they always have been, unresolved and troubling questions."

Whereas Kirby and Gaither conceptualize the problem of the posthuman through categories that imply its recuperation back into

established values, Wald is skeptical of the turn to national identity in Robin Cook's *Chromosome 6* as a way to stabilize the meaning and value of the human. She argues that this plot development cannot adequately address the issues the novel has raised. Her critique implies that destabilization of identity at the level of the individual cannot be satisfactorily recuperated by appealing to a higher level of systemic organization, in this case the nation. At least since Thomas Hobbes's *Leviathan*, the construction of the individual has been seen as a model for and constitutive of the construction of the nation. But such foundational analogies assume that the boundaries of the nation, like the boundaries of the individual, can be clearly defined, recognized, and defended if necessary.

Colin Milburn's discussion of "nanosplatter" demonstrates how problematic these assumptions are when nanodevices can penetrate the skin's boundary as easily as gnats can fly through a chain-link fence. Research is already under way to develop nanodevices for surveillance on a scale never before possible. Once these devices are extensively deployed—an almost-here technology that Neal Stephenson vividly depicts in *The Diamond Age*—national boundaries will be similarly penetrable and permeable in ways that will have dramatic implications for national and personal security.¹

Contemplating such developments, security analyst and cultural critic Michael Dillon has suggested that the object of security ought not to be territory but rather life.² He thus makes visible an assumption that until now has not needed to be examined because it seemed so axiomatic: control of territory automatically means control of whatever lives and moves within that territory. But the new technologies imply that control of territory and control of life will no longer be synonymous with one another; one can be nominally in control of territory and still be subject to massive reorganizations of the life located within. The paradigm shift such thinking gestures toward has been formulated by Gilles Deleuze (referencing Burroughs among others) as a shift from disciplinary society, where sites of confinement are crucial, to control societies.³ Instead of basing power on the control of space, power will be generated, maintained, and expanded through control technologies that have the ability to penetrate any spaces.

Milburn's "nanosplatter" texts illustrate how the uncoupling of territory and life plays out. When nanodevices can reorganize life so that the body's form is broken down and the particles are rearranged to make other life forms, as happens in Wil McCarthy's *Bloom* and Greg Bear's *Blood Music*, human life may be ended but life and even consciousness continue, albeit in radically altered form.⁴ The operative distinction is not life and death, then, but human life versus "life itself." Milburn

interprets this move as opening human agency and autonomy to rhizomatic life driven by desire and subject to constantly shifting deterritorializations and reterritorializations. As Milburn notes, some of the characters in the texts he analyzes welcome this move, seeing in it not their imminent death but rather a release from the prison of supremely lonely selfhood into a fluid collectivity that far transcends the limitations of individual consciousness. If from one angle the relentless expansion of nanolife represents national, global, and even cosmic catastrophe, from another perspective it embodies the triumph of “life itself,” and even, as Milburn perceptively notes, the apotheosis of desire and love.

Milburn claims but does not really demonstrate that this new conception of “life itself” can also have consequences for narrative form. Narrative, having arguably coevolved with the human species, employs linguistic devices that correspond to the ways in which humans perceive and move robustly in complex three-dimensional environments, including (in Kenneth Burke’s analysis of narrative’s essential elements) agents, scenes, and trouble (that is, conflicts).⁵ However functional such representations are at the macro scale at which human life is lived, on the nano scale different kinds of interactions and distributions of matter and energy obtain. In Mario Vrbančić’s analysis, William Burroughs’s cut-up and folded narratives perform disruptions of conventional narrative order analogous to the disruptions enacted by life at the nano scale, with life forms mutating and transforming into something akin to Deleuze and Guattari’s deterritorializations and reterritorializations. Resisting Kathryn Hume’s suggestion that Burroughs’s *Cities of the Red Night* can be mapped according to desert, jungle, city, and America, Vrbančić insists that “the vast incessant intertextual flow leads us to new, undiscovered territories, not yet charted,” and to the even more radical possibility of flows that defy any kind of mapping whatever, heaping up “only piles of garbage-words. Nonsense. No maps, no territories.” The point is not to recuperate Burroughs’s spatiality into known geographical categories, he asserts, but rather to participate in the exhilarating anxieties of Burroughs’s fictions, following their lead as they burst through conventional mappings and redefine locale. Although Burroughs was writing well before nanotechnology became a realistic industrial possibility, his vision of life flowing and mutating under the influence of microagents presciently connects narrative form, and indeed articulations of any kind, with a vision of “life itself” both resisting and collaborating with its takeover by viral agents.

Set against Burroughs’s delirious prose, Torsten Hahn’s application of Ulrich Beck’s concept of a risk society to “medical thrillers” and “mind-control thrillers” sounds relatively sober. Yet Burroughs and Beck share

a mode of representation in which a possible future is enacted in the present in order to assess the changes to which society may be subjected. Moreover, the notion that present political institutions cannot adequately respond to future risks and so always lag behind resonates with Burroughs's rejection of conventional geographical mappings and the flows that he imagines crashing their boundaries, if not altogether annihilating them. Beck's view that the "subpolitics" of corporate and institutional interest groups such as the medical establishment largely determine policy—a determination intimately linked with risk assessment—implies that recuperation into existing categories such as the nation is beside the point. The revolution has already taken place, and its protagonist is not "We the people" but the contemporary corporation as a legal person.

Nicolas Pethes's article I have saved until last because he confronts most directly the important issue of what literature can contribute to contemporary debates about the new technologies. He argues that literature can be a form of experimental practice that mediates between the discourses of science, ethics, and philosophy. Serving as a "second-order observation" that need not presuppose the categories that will determine the outcome (which, as we have seen, is a problem in Kirby and Gaither's article), science fiction is capable of "forming abstract theses into actual images of new inventions and the people being confronted by them." While this strong claim is somewhat tendentious—one might argue, for example, that literary fictions considered as experimental practices are fundamentally different than scientific discourses because they are not subject to constraints imposed by the physical world—Pethes's argument is valuable because it convincingly demonstrates the power of literature not just to respond to the world but actually to help form it through imagined situations. Consistent with the future orientation of Beck's risk society, science fiction molds the present by enfolding it into a projected future.

The necessary and crucial dynamic enacted by all these articles as a group is the implied engagement of traditional values and safeguards with futuristic imaginations that refuse to be limited to existing categories. While wisdom gleaned from past experience ought not and cannot foreclose the possibilities emerging from the new technologies, neither should its countervailing weight be ignored. We would do well to remember these cautions as we contemplate a future that may be very different from the past.

That the future *will* be different seems to me undeniable. The new technologies, especially the convergence of biological engineering with the cybernetics of intelligent machines, are confronting us with challenges unique in human history. Without doubt what it means to be

human will undergo dramatic changes in this century. If our imaginations can possibly stretch as far as the new millennium, the conditions under which human life is lived may be so vastly altered as to be unrecognizable according to our present understandings of the human. Yet, as Wald observes, the meaning of the human has never been entirely stable or universally accepted. I suspect that if I climbed aboard a time machine and catapulted into the year 3005, I would be so astonished at the creatures I would find there that I would wonder what kind of beings they were, for surely by that time carbon and silicon, first cousins in the periodic table, would have become indissolubly wedded to one another. I will risk predicting their answer, which I interpret as pointing in two directions at once, back to past wisdom and forward into the radically new future: "Why, we are human persons!" And so are we all.

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NOTES

- 1 Neal Stephenson, *The Diamond Age: Or, a Young Lady's Illustrated Primer* (New York: Bantam, 2000).
- 2 Michael Dillon, "Security, Life, Terror" (lecture, Critical Theory Institute, University of California, Irvine, March 10, 2004); see also Dillon, "Network Society, Network-Centric Warfare and the State of Emergency," *Theory, Culture & Society* 19.4 (October 2002): 71–79, esp. 78.
- 3 Gilles Deleuze, "Postscript on the Societies of Control," *October* 59 (Winter 1992): 3–7.
- 4 Wil McCarthy, *Bloom* (New York: Del Rey, 1999); Greg Bear, *Blood Music* (London: IBooks, 2002).
- 5 See Kenneth Burke, *A Grammar of Motives* (1945; Berkeley and Los Angeles: University of California Press, 1969), xv, where Burke defines the necessary elements of narrative as the Pentad of act, scene, agent, agency, and purpose.