

Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media. By Maria-Laure Ryan. Baltimore and London: Johns Hopkins University Press, 2001. xiii + 399 pp. \$45.00 (cloth).

How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics. By N. Katherine Hayles. Chicago: University of Chicago Press, 1999. xiv + 350 pp. \$49.00/\$16.20.

Until recently, discussion of electronic media among literary scholars has been framed in terms of poststructuralist theory (as in the writings of George Landow, Jay David Bolter, Stuart Moulthrop). Hypertext, the medium that has received the most attention, has been considered to exemplify the unmargining and intertextuality claimed by Barthes, Kristeva, or Derrida, and to facilitate the reader's emancipation as an author. This early phase of theorizing now seems to be waning as a new generation of theorists rethink the nature of electronic textuality. In *Cybertext* (1997), Espen Aarseth warned explicitly against applying existing literary theory to the new media, arguing that this constituted a kind of colonization. Janet Murray situated narrative within the current and futuristic framework of virtual reality in *Hamlet on the Holodeck* (1997). Now, in *Narrative as Virtual Reality* (2001), Marie-Laure Ryan, in perhaps the most detailed and thorough study to date, considers narrative processes across a broad range of texts from the traditional printed novel to such vehicles as electronic games, interactive films, as well as hypertext.

Ryan organizes her discussion around some key concepts. Like Murray before her, Ryan closely considers the experience of immersion in narrative media, and opposes this to interaction. Interaction has been a key term in these debates since the earliest hypertexts, although Aarseth rejects it as too imprecise, and Murray refines the concept into such aspects as agency and role-playing. Ryan's account of interactivity complicates our understanding by showing its problematic relation to narrative. She examines the currently popular metaphor of the game for our relation to texts, but finds this inadequate on several grounds (e.g., we do not so much follow rules during literary reading as transgress them; and our readings of texts do not have the clear outcomes that characterize most games). She suggests that hypertext fiction is more appropriately considered a kind of game, since our desire to figure out its structure or plot makes it competitive, a game of

defeating an obstructive author. But the design of hypertext is inherently limiting: “The effect is that of an amnesic mind that desperately tries to grasp some chains of association but cannot hold on to them long enough to recapture a coherent picture of the past” (229). Thus interactivity seems to be opposed to immersion: it undermines the coherence of narrative, suggesting that the interactive media of the future will be made up of little episodes, rather than an overarching narrative (330).

Interaction appeals to the postmodern sensibility, but immersion has on the contrary been deprecated, as Ryan points out: given the postmodern insistence on the visibility of signs in constructing reality, the transparency of text required by immersion represents a denial of “the importance of the medium” (175). Thus Ryan’s book is particularly helpful in paying extended attention to the neglected topic of immersion—that absorbed mode of engagement with a narrative that brings an imagined world into being. Ryan considers it in three perspectives: spatial, temporal, and emotional. These are examined in three corresponding sections on reader’s imagery and deixis, the experience of suspense, and the emotional involvement evoked by narrative events (the paradox of feeling real emotions for fictional matters). It is in these sections that Ryan’s treatment raises the most questions. Unlike interaction, which hinges on logical and explicit features built into electronic texts, immersion depends on more liminal psychological processes about which we still know rather little. Ryan’s treatment of imagery would benefit from the debate about the visual qualities of literature begun by Lessing and Burke, and taken up by Coleridge and Wordsworth; it is also worth pointing out that recent empirical studies have shown that readers generally invest little effort in picturing places when reading. The notion that literary reading can be transparent also requires closer examination. While Ryan is surely right to oppose it to interactivity, of the kind required by games or hypertexts, the medium of literary texts also offers a certain resistance which may make immersion a more qualified state. Ryan acknowledges this briefly late in the book when she notes that vividness (immersivity) and stylistic felicity are compatible, that is, that we can entertain a sense of presence at the same time as we wonder at the artistry with which it is achieved. Language, as she puts it, “may be spectrally present” to the reader (351).

For Murray virtual reality technology is moving towards a model of total immersion, in which interaction will be seamlessly accommodated. Ryan’s vision is rather different and suggests a more problematic future for electronic narrative: “The aesthetic criteria of interactive drama will not be

those of classical drama; the future of the genre will be as a game to be played and an action to be lived, not as a spectacle to be watched." But, she asks, "will this involvement be a source of aesthetic pleasure—will the game, in other words, be worth playing at all?" (328).

In either scenario, what is lost may be more significant than what is gained: not only immersion, but irony, aesthetic distance, limitation to first person point of view, and verbal felicity. This suggests that electronic narrative, while it may be a part of our future, will remain a marginal addition to current modes of art.

While Ryan pays brief attention to the body, acknowledging the influence of Merleau-Ponty, the body in her account remains a notional one, easily rendered virtual as it enters cyberspace. In N. Katherine Hayles's book, *How We Became Posthuman*, the body is a central theme, a defining (if problematic) feature of what it means to be "posthuman." Following the Cartesian split of mind from body, and its consolidation in the Enlightenment with the elevation of reason (a masculinist concept), Hayles's narrative shows how the concept of the body returned to haunt the cybernetics project. In a series of well-focused chapters, each centered on a particular moment in the history of cybernetics, she describes how its rationalist claims mutated in a thorough reworking of human embodiment, impelled both by the machine-body interactions and symbionts of emerging virtual life and a realization of the embodied nature of human thought. Her history chapters are interspersed with chapters on science fiction texts that parallel and elaborate the problems evoked by cybernetic theory, from Bernard Wolfe and Philip Dick to Richard Powers and Greg Bear.

The historical focus of the book begins with a review of the Turing test (showing how the body was effaced at this inaugural moment for computing theory), then deals with three phases of cybernetics: the Macy conferences of the 1940s and 50s, dominated by the work of Norbert Wiener and his paradoxical attempt to assert the values of liberal humanism; the autopoietic organisms described in the 1970s by Humberto Maturana and Francisco Varela that are seen as self-generating, closed systems, and in which the unity of consciousness is an illusion; and most recently, the generation of artificial life, principally computer- or robotics-based, in which complexity appears to emerge spontaneously, an approach which has been held to show that whether silicon or carbon-based "the essence of life, understood as logical form, is independent of the medium" (235). In these accounts Hayles's judicious critical focus points to some of the problems that have arisen from treating information as independent from the knower

or from a material context (she refers several times to the fantasy of Hans Moravec that human consciousness will one day be downloaded to a computer).

Finally, in resisting the postmodern notion that the body is a linguistic fabrication (a belief, says Hayles, that is likely to amaze future generations; 192), Hayles briefly reviews some recent accounts that have situated the mind squarely within the body: Antonio Damasio's neuropsychology, with its insistence on an affective, bodily substrate to thinking; and Mark Johnson's flawed but compelling account of the bodily metaphors that underlie all thought. Embodiment, she claims, is individual and performative, able to diverge in some respects from the body, as conceived by the hegemonic cultural constructs of the day. Moreover, embodiment is not algorithmic; it cannot be replicated by any computer or machine. The posthuman, then, seems to lie both in a rejection of the cult of information and disembodied rationalism that cybernetics encouraged, but also in embracing the extension of our agency as embodied creatures through our electronic prostheses. It is here, at the end of her book, that Hayles seems to call up the need for Ryan's virtual narrativity. In Ryan's book we find a critique of the forthcoming fourth stage of posthuman virtuality that enables us to trace the boundaries of computational aesthetics.

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